Development of a Caring Model Incorporating Yoga for Promoting Physical Recovery and Wisdom of People Living With Stroke in Nepal

Kalpana Paudel Aryal

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Nursing (International Program)
Prince of Songkla University
2019

Thesis Title Development of a Caring Model Incorporating Yoga for Promoting Physical Recovery and Wisdom of People Living With Stroke in Nepal

Author Mrs. Kalpana Paudel Aryal

Major Program Nursing (International Program)

Major Advisor

……..
(Assoc. Prof. Dr.Urai Hatthakit)

Co-advisor

……..
(Assoc. Prof. Dr.Nongnut Boonyoung)

Examining Committee:

…….....Chairperson
(Asst. Prof. Dr.Yaowarat Matchim)

……Committee
(Assoc. Prof. Dr.Urai Hatthakit)

……Committee
(Assoc. Prof. Dr.Nongnut Boonyoung)

……Committee
(Asst. Prof. Dr.Umaporn Boonyasopun)

……Committee
(Assoc. Prof. Dr.Kittkorn Nilmanat)

The Graduate School, Prince of Songkla University, has approved this thesis as partial fulfillment of the requirements for the Doctor of Philosophy Degree in Nursing (International Program).

……
(Prof. Dr.Damrongsak Faroongsarng)
Dean of Graduate School

This is to certify that the work here submitted is the result of the candidate's own investigations. Due acknowledgement has been made of any assistance received.

……...Signature
(Assoc Prof. Dr.Urai Hatthakit)
Major Advisor

……...Signature
(Mrs. Kalpana Paudel Aryal)
Candidate

I hereby certify that this work has not been accepted in substance for any degree, and is not being currently submitted in candidature for any degree.

……...Signature
(Mrs. Kalpana Paudel Aryal)
Candidate

Thesis Title	Developing of a Caring Model Incorporating Yoga for Promoting Physical Recovery and Wisdom in People Living With Stroke in Nepal.
Author	Mrs. Kalpana Paudel Aryal
Major Program	Nursing (International Program)

ABSTRACT

The study of caring incorporating spiritual practices has become subject of increasing scientific interest and inquiries for providing strong humanistic and holistic care to the clients in a hospital setting. Yoga, a spiritual practice has positive effect for stroke rehabilitation. The aim of the study was to develop a caring model integrating yoga for promoting physical recovery and wisdom of people living with stroke. The action research was used to develop the model whereas care, compassion, confidence, communication, courage, and commitment concepts of caring and yoga were used to guide the study. The study was conducted in a University hospital, Nepal. Sixteen nurses working in a neurology unit recruited as key participants whereas four physicians, sixteen stroke clients and their family caregivers were associate participants. Action research was used as a study design comprises of reconnaissance phase and two cycles of the action research. Data were gathered using group discussion and in-depth interview questionnaire along with observation and field note. Content analysis was used to analyze the data.

The findings of the initial phase of the study revealed that stroke clients were suffering from multiple physical problems, functional losses, psychological, emotional and spiritual distress along with lack of knowledge and skills about the stroke and caring to self. Likewise, nurses also had insufficient knowledge, attitude and confidence on caring related to stroke in acute stage. Similarly, medical model

was used for management of stroke with given more priorities of medical order and routine care. Aformentoned situations indicated that holistic approaches of care were lacking in the setting for management of the stroke clients as a whole being. Thus, there is a need of holistic approaches of care to improve nursing practices and client's health outcomes.

To address both issues of the clients and the nurses, a tentetive caring model incorporating yoga was developed. The tentative caring model was finalized through two cycles of action research process. The main theme of the first cycle was transitional phase from reluctance to confidence through direct involvement by the nurses into the nursing practice using the program. The first cycle of the action research focused on changes the perception of the nurses toward the program by helping them to increase knowledge, skills and experiences on caring and yoga practice which made them confidence on caring to the stroke clients in acute stage. The second cycle of the action research phase aimed to initiate and enduring the program by the nurses for its sustainability.

During the process of model development, nurses established caring relationship through application of cultural based caring compassion, communication and courage by involving the clients and their family caregivers in the care process. Gradually, all the contents of the program was implemented into the clients in accordance with 6Cs attributes of caring. Collectively, all of the caring actions helped hugely for promoting the physical recovery in terms of activities of daily living and wisdom of people living with acute stroke. The findings revealed that the expected outcomes of the caring model were achieved from nurse’s caring behaviors and actions by cultivating caring relationship using integrated caring program with yoga focusing on cultural specific approaches in nursing practice. Finally, the caring model

was benefited to the stroke clients and their family members for obtaining culturally congruent holistic care. The findings of the study can be used to any clients in a various sociocultural background.

Key words: Acute stroke, Physical recovery, Wisdom, Caring, Yoga, Nepal

ACKNOWLEDGEMENT

" गुरुर्ब्रह्मा गुरुर्विष्णु गुरुर्देवो महेश्वरः गुरु साक्षात परब्रह्मा तस्मै श्रीगुरवे नमः"

"The *Guru* is the God of Creation; The *Guru* is the God of Sustenance; The *Guru* is the God of Annihilation.
My salutation to such a *Guru,* who is verily the Supreme God."

In accordance to the above *Mantra f*rom *Bhagvat Gita*, the holy book of Hindus and great appreciation, I would like to acknowledge the supports and contributions of the following individuals to my success of this dissertation.

First of all, I would like to express my genuine gratitude to my advisor Assoc. Prof. Dr.Urai Hatthakit who provided me incomparable mentorship, inspiration and valuable support for the success of my dissertation and beyond, throughout my PhD program. Without her guidance and persistence help the study would not have been possible. I am very grateful to my co- advisor Assoc. Prof. Dr.Nongnut Boonyoung for her most generous advice, support and encouragement which gave me insight and strength I needed to complete my dissertation.

I would like to express my sincere thanks to the chairperson of the PhD in Nursing International program for kind support throughout the study. I would like to thanks to my examining committee and experts whose comments and suggestions were valuable to improve my work. I would also like to thank all the faculty members of the PhD program in Faculty of Nursing Prince of Songkla University for their willingness to teach me during my study period. I would like to thanks to the Thailand Education Hub for Southern Region of ASEAN countries funding support (THE-AC) scholarship and graduate school for the financial and research funding support.

Furthermore, I would like to express my gratitude to the Nepal health research council for granting me an approval letter to allow me to do study in Nepal. I would like to thank to the administration of the University Hospital Kathmandu Nepal for granting me authority to conduct the study. I would like to express my greatest appreciation to the head of department and entire team of the neurology of the study hospital for their continuous encouragement, support and spending their valuable time with me through direct and indirect participation in the study. I would be greatly remiss if I did not acknowledge with tremendous key participants nurses who volunteered their time to take part in the study. Their courage and faith have been a real inspiration and I am very thankful that they were willing to participate.

Importantly, I would express deep gratitude to my clients and their families. The study was not possible without their participation. Likewise, I would like to thank the Tribhuvan University, Institute of Medicine and Maharajgunj Nursing Campus for providing me the study leave. I would also like to thank my friends and relatives who gave me encouragement throughout my academic drive.

Finally, I am truly indebted to my beloved husband Mr. Narahari Aryal, loving daughter Neha Aryal and son Nirwan Aryal who have supported me with love, care, affection and big patience in long journey of my PhD study. My deep respect goes to my respected in-laws Gunanidhi Aryal and Shove Aryal as well as my beloved parent Hari Prasad Paudel and Bijaya Paudel and whole family for their support, patience, love and care throughout the study.

Kalpana Paudel Aryal

CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Background and Significance of the Problems

Stroke, a common and complex neurovascular disease, is the leading cause of death and disabilities worldwide (Feigin et al., 2016). Globally, its incidence remains high but is radically decreasing as much as 10-12% in developed countries whereas it is increasing at the same rate in developing countries (Feigin et al., 2014; Murray et al., 2013). Similarly, the rate of mortality and disabilities caused by stroke is 10 times higher in developing countries than in developed countries (Norrving & Kissela, 2013). Nepal is a developing country where a stroke is the fastest emerging health problem (Thapa et al., 2018) and leading cause of death and disability (World Health Organization [WHO], 2015).

In terms of illness perceived by stroke clients, they faced multiple problems related to physical, psychological, emotional and spiritual health (Clarke, & Forster, 2015). Basically, the physical problems were most obvious that interrupted normal body control and activities of daily living (Connolly, 2014; Yeung, Wong, & Mok, 2011) whereas psychological distress were invisible but affected profoundly in client's attitude and behavior as well as motivation to perform any activities (Haghgoo, Pazuki, Hosseini, & Rassafiani, 2013; Matsuzaki et al., 2015; Moorley, Cahill, Tunariu, & Scott, 2014). Equally, extreme emotional and spiritual distress affected hope, dignity, desire, joy, peace, confidence, self-identity, and inner strength (Crowe et al., 2016; Eilertsen, Ormstad, & Kirkevold, 2013; Huange et al., 2014) which amplifying the progression of recovery in a person with stroke.

This dynamic relationship among aforementioned problems caused by stroke indicated that a stroke affects not only the physical body of a person but also impacts

on a whole being that disconnected the mind-body-soul (Arnaert, Filteau, & Sourial, 2006; Schmid & Puymbrokeck, 2019; Zou et al., 2018). Likewise, stroke recovery itself is a complex and prolonged process (Satink et al., 2013). If it is poorly managed in acute stage, there is higher possibility of living with unresolved physical problems and uncertainty that deeply changes the client's life in long term (Simeone, Savini, Cohen, Alvaro, & Vellone, 2015). Ultimately, aforesaid situations adversely affected sense of self-identity and dignity resulting in struggling for complete restructuring of their daily life activities (Peterson- Burch, Reuter-Rice, & Barr, 2017), finding out the meaning of sense of new life, sustaining hope, ability to heal and maintaining inner strength (Chow, 2015; Chan, Wong, Yeung, & Sum., 2016). Consequently, all of the above explanations impacted negatively on the effects of rehabilitation interventions, physical function and quality of life (Kirkevold et al., 2018; Love, Sharrief, Chaoul, Savitz, & Beauchamp, 2019) of a stroke client. It resulted in an increased dependency on family caregivers in terms of daily living (Hogan, 2016; Schwarz, Coccetti, Murdoch, & Cardell 2018). Hence, holistic care is needed since the early stage of the disease to achieve the positive health outcomes by addressing the all human needs of a person with stroke.

Holistic nursing care unites body- mind-soul of a human being and enables them to deal with their illnesses by addressing clients' physical, emotional, social and spiritual needs (Jasemi et al., 2017). Likewise, it also enable them to accept and adjust the sense of new life because the primary concern of holistic nursing care is to fulfill the human needs (Adams, 2016) with more focus on the spiritual dimension of a human being as the main source of nursing practices (Watson, 2015). Therefore, it is necessary to provide holistic approach of care to the stroke clients since the initial stage of the disease for enhancing the positive health outcomes and making their new

life meaningful. However, existing evidences showed that current treatment and nursing practices to acute stroke clients primarily focused on medical stabilization and fulfilling the basic needs (Peterson-Burch et al., 2017; Winstein et al., 2016) rather than caring a person as a holistic being.

In nursing practice, caring is the main essence and widely used concept as a guideline for providing holistic nursing intervention (Andersson, Willman, Sjostrom-Strand, & Borglin, 2015; Drahosova & Jarosova, 2016). It was manifested in nursing actions and behaviors (Liu, Mok, & Wong, 2006) through building a nurse-client-family relationship. Research evidence revealed that integrated forms of caring with spiritual practices acted as a powerful holistic interventions. Such integrated intervention has potential to create a good caring relationship among nurses, clients, and families (Ismail, Hatthakit, & Songwathana, 2018). Through a caring relationship, active communication and information (Pajnkihar, Stiglic, & Vrbnjak, 2017), and a caring atmosphere (Setiawan, Hatthakit, Boonyoung, & Engebretsonare, 2010) were created that helps to connect a person as a whole being of body-mind-soul as well as leading to a successful health outcomes in terms of harmony (Ismail et al., 2018), perceived control and physical recovery (Mardiyono, 2012; Setiawan, 2010). Moreover, clients' autonomy, dignity, satisfaction, and comfort were enhanced among critically ill clients in the hospital setting (Ismail et al., 2018; Laerkner, Egerod, Olesen, Toft, & Hansen, 2019; Setiawan, 2010). However, existing nursing interventions on caring incorporating spiritual practices for critically ill hospitalized clients might not be applicable in the study context, Nepal due to different cultural backgrounds and spiritual practices where more than 80% of people belongs to Hindu tradition (Government of Nepal Central Bureau of Statistics, 2014).

Waldman et al., (2010) pointed out that Hindu clients also demanded from the health care providers 'to treat and care their spiritual needs' (as cited in Boreson & Askesjo, 2015). However, nursing practice for hospitalized clients in Nepal is limited within physical cares, routine tasks and technical skills (Joshi, 2015; Limbu, Kongsuwan, & Yodchai, 2019) and poor communication among nurses, clients and family caregivers (Joshi, 2015). Similarly, high level of functional dependency (Gajurel, 2014); poor knowledge and skills on stroke care (Sharma, Sharma, Lopchan, Thapa, & Rana, 2013); and a high caregiving burden (Bimali, 2015) were found among stroke clients and their family caregivers during acute and subacute stage of stroke. The above situations also indicated that stroke clients and their family caregivers may face difficulty to handle the physical problems and everyday life events caused by a stroke as well as a low level of wisdom to make their life meaningful post stroke. Similarly, nurses might also have inadequate knowledge and practices about holistic care when caring for a stroke client as a whole being (Limbu et al., 2019). Considering aforesaid realities, the researcher is going to incorporate yoga in caring aiming to promote physical recovery and wisdom of a people with acute stroke in Nepal.

Yoga is one of the ancient spiritual practices underpinning Hindu philosophy (Bower et al., 2014); a way of life and cultural heritage of Nepal (Kumar & Aanand, 2016). It is given national priorities by the government of Nepal for management of non-communicable disease including stroke (WHO, 2014). The above situation redirected that participants of the study also had some knowledge about yoga practice and some of them may use it in their daily life for spiritual/religious conduct and wellbeing. It is also evident that yoga, a self-empowering body-mind therapy has the same guiding principle of nursing as it involves caring for a person holistically by

achieving balance of mind-body-spirit (Manchanda & Madan, 2014). It has potential to affect neuroplasticity positively and enhance neural pathways (Ekusheva & Damulin, 2015) which helps to develop positive experiences of life by promoting mind and body connection to drive the dependent neuroplasticity that enhances functional ability and adjustment to new sense of life.

Some existing studies mentioned that participation in yoga interventions brought positive outcomes in multiple facets of health among stroke survivors, i.e., physical (Schmid, Miller, VanPuymbroek, & DeBaun-Sprague, 2014; Van Puymbroeck, Allsop, Miller, & Schmid, 2015), psychological, emotional and spiritual health (Garrett, Immink, & Hiller, 2011; Van Puymbroeck et al., 2015), and life satisfaction (Immink, Hiller, & Petkov, 2014; Mahmoud & Elaziz, 2016). Importantly, yoga enhanced motivation, positive attitude, and activity participation (Mahmoud & Elaziz, 2016; Van Puymbroeck et al., 2015) which were lacking in physical rehabilitation therapies (Morris, Oliver, Kroll, Joice, & Williams, 2017). Despite the facts of the effectiveness of caring and yoga for stroke recovery, there is still a clear gap of knowledge on caring and yoga in nursing practice for improving health condition on physical recovery and wisdom of the stroke client in acute stage.

Physical recovery is a concept relating to body structure and bodily functions resulting in independence in activities of daily living (ADLs) (Winstein et al., 2016). Independence in ADLs denotes the individual's ability to carry out daily tasks (Peeters, Dobson, Deeg, & Brown, 2013). For maximizing the physical recovery among stroke clients, conventional physical therapies have been given more value (Luker, Lynch, Bernhardsson, Bennett, & Bernhardt, 2015; Satink, Cup, DeSwart, & Nijhuis-van der Sanden, 2015; Winstein et al., 2016). However, it was evident that stroke clients felt disempowerment, boredom, frustration; fatigue and tired while

doing conventional physical therapy (Lucker et al., 2015) which may overwhelm the ambition of active independent participation in rehabilitation programs.

A qualitative study revealed that stroke clients were reluctant to accept their physical problems and were struggling to get to know their new altered body, handle their emotional reactions and new life situation until since early stage to six months following the stroke (Taule, Strand, Skouen, & Råheim, 2015). In addition, they developed an extreme level of negative emotions (Crowe et al., 2016; Huang et al., 2014b) due to the lack of knowledge and understanding the reality of life post stroke (Taule et al., 2015); lack of skill in self-care to overcome challenges caused by the stroke (Makela, Gawned, & Jones, 2014); and adjustment of a sense of new life (Connolly, 2014) in the acute stage of disease. Further, research evident revealed that a high number of stroke survivors faced difficulties to perform ADL independently, and that they were fully dependent on others (Parikh, Parekh, & Vaghela, 2018) in long term after disease. Aforementioned situations indicated that existing interventions for the stroke recovery had lack of potential to address the all problems of a whole being among the stroke clients. Whereas the stroke clients had low level of wisdom for handling the life situations and making the life meaningful post stroke.

Wisdom is a state of mind having positive life experience, practical knowledge and actions. The meaning of wisdom attributes to the right knowledge and understanding about the reality of life, emotional regulation, duty and work; insight and continuing the spiritual connection with self and with God (Jeste & Vahia, 2008; Shamasundar, 2008). Thus, people can accept their illness, suffering and endure as a part of life without lamenting and becoming upset. Ultimately, they try to accept the physical limitations and make their sense of new life meaningful post stroke. Yoga also has many physical exercises which could enhance physical recovery as well as

caring and yoga both can help to unite a client as a holistic being through optimizing the level of wisdom. Importantly, wisdom can be taught and learned for its progression towards a higher level (Jeste & Vahia, 2008) and cultivated through integrating spiritual practices in caring, i.e. yoga practices.

Indeed, nurses can help the clients to progress their physical recovery and wisdom through caring and yoga. Once the stroke clients gain wisdom, they can understand the reality of stroke life, and ways of overcoming the situation which has emerged. Thereby, without becoming upset, they will understand their own responsibility and be able to use knowledge, experiences, skill, and reflection to make right decisions and practice yoga actively to enhance their recovery and maintain their health and well-being. Thus, the caring model incorporating yoga is indeed beneficial to enhance the health outcomes of stroke clients in the acute stage. Hence, additional research is warranted to fill the existing gap of knowledge in the Nepalese context.

Objective of the Study

The objective of this study was to develop a caring model incorporating yoga for promoting physical recovery and wisdom of people living with stroke.

Specific objectives

1) To find out the relevant components of a caring model incorporating yoga for promoting physical recovery and wisdom of people living with stroke.

2) To evaluate the outcomes of the caring model in stroke clients.

Research Question

What is an appropriate caring model incorporating yoga for promoting the physical recovery and wisdom of people living with stroke?

Conceptual Framework

The conceptual framework for the study was based on two concepts as caring and yoga for enhancing the physical recovery and wisdom of people living with a stroke (Fig.1).

Concept of caring. Caring is a context-specific process of intentional connection (Finfgeld-Connett, 2008; Watson, 2015). Through this process, the professional relationship between a nurse and clients can be established which takes place every time and each moment within minutes or over an extended time. This relationship symbolizes an agreement between the nurse and clients to work together for the good of the clients (Sheldon, n.d). In addition, nurse-client relationship is also the fundamental needs of caring in acute care setting to meet the holistic need of the clients (Kitson, Dow, Calabrese, Locok, & Athlin, 2013). Finally, the relationship works as a therapy (Bridges et al., 2013) and contributes to the recovery of the clients. Therefore, the researcher found that the professional caring relationship can play a crucial role in enhancing the client's recovery process and adaptation to loss and impairments due to stroke.

For developing the caring model and making the model simple and applicable, modified version of Roach's 6Cs caring concepts (Baillie, 2017; Roach, 2013) was used as a framework in the present study. This is because caring is effectively expressed through attributes i.e. 6Cs which influences in building a caring relationship and process of care (Liu, 2006; Joolaee, Joolaei, Tschudin, Bahrani, & Nasrabadi, 2010). The 6Cs stands for: care, commitment, confidemce, compassion, communication, and courage.

It was evident that caring relationship might be more trustworthy and quicker using cultural specific approach of caring particularly compassion, communication

and courage. This is because ways of communication, respect and interaction are different through culture (Watson, 2015). In this regard, some cultural-specific caring approaches were used in the present study for demonstrating compassion, courage and communication to establish good caring relationship among the participants in an acute care setting in Nepal. Culture-specific caring actions were followed for cultivating the caring relationship in the initial phase of the intervention.

First, the nurses and the researcher visited the clients at their bedside; and greeted by using yoga *Namaste,* built good rapport by giving and taking introductions with culturally given respect and spent some time with them while listening and asking of their problems and needs. Second, face-to-face interaction and communication were used through asking them to practice *Aum* as well as involving family caregivers and stroke clients in the care process. Compassion was shown by paying attention, showing sympathy, concern toward problems and needs of the stroke clients and their family members. Essentially, nurses' professional competence and commitment, individual teaching and coaching facilitated the practice of yoga.

The above culturally integrated activities and interaction helped very much to create a harmonious environment and establish a trusting relationship by developing positive experiences among participants. This relationship might be enhanced faith, hope and confidence among nurses, clients, and family caregivers. In turn, stroke clients and family caregivers were more open and expressive about their belief, needs, and expectation as well as showed active participation in the process of care. Once, the nurse's caring relationship was communicated, it developed and preserved trust and belief among nurses, clients, and family caregivers and in turn clients felt cared for as a human, not an object. In these ways, the stroke clients, family caregivers and

nurses took responsibility equally for the development of the model with active participation in the research process.

Similarly, all the attributes of caring as care, commitment, competence, compassion, communication and courage were used while developing the system to implement the model incorporating yoga practices. Ultimately, the caring concept along with yoga settled on the importance of building meaningful relationships between nurses and stroke clients along family caregivers instead of making clients feel that they were a burden. Consequently, the caring intervention of the model helped improvement in terms of physical recovery and wisdom among stroke clients.

Concept of Yoga. The concept of *Patanjali Yoga Sutra* was incorporated in nursing care process for the development of a caring model. According to *Patanjali Yoga Sutra*, there are eight limbs of yoga. However, the three main components as yoga *Asana* (physical exercise), *Pranayama* (breathing exercise) and chanting *Aum* (meditation) were used in the study with some modification in order to match the acute stroke clients. The details about the components are described below.

***Yoga Asana*:** Yoga *Asana* is one types of physical exercise which is very important for stroke recovery due to high prevalent of physical inactivity after stroke among stroke clients particularly in acute stage (Grabara, 2016). In the *Patanjali yoga sutras*, *asana* involves specific body positions designed to bring balance and improvement to physical body: also allows a person to create a path to connect the mind and body and proceed toward a higher level of wisdom (Broad, 2013). Most importantly, it could be practiced by stroke clients because it is a safe form of physical exercise, can practice in a slow, rhythmic, static and progressive manner. It is assumed that it contributes for improving physical function (Bhavanani, 2013);

reduces the risk of complications as well as enhances the quality of mind through feeling peace, calm and a continuing spiritual connection (Cramer et al., 2013).

There are different types of *asana* poses. Some of the poses were adopted and modified for matching with stroke clients. They were 1) Base pose; 2) Yoga *Namaste;* 3) Joints movement (*Shukshma Asanas*): neck, hand, ankle and foot movement: flexion-extension and rotation of the neck, hand, and foot joint; 4) Bridge pose (*Setu Bandhasana*); 5) Bending forward pose (*Pastimomuktasana)*; 6) Big toe pose (*Padangusthasan*a); 7) Leg rise up pose (*Utthapadasana*), 8) Leg side by side movement pose; 9) Chair pose (*Utkasana)*; and 10) Corpse pose (*Savasana*) (Rice & Shetty, 2015; Schmid et al., 2014; Schmid & Puymbrokeck, 2019). However, clinical assessment is necessary before application of yoga because some of the stroke clients might suffer from other chronic diseases.

Pranayama. It is an essential part of yoga. For the study, unilateral nostril breathing (*Anulom-vilom*) was selected because it is simple and easy (Marshall, Basilakos, Williams, & Love-Myers, 2014). The client benefited directly and indirectly in many ways from this practice. Firstly, it supplies maximum oxygen to the entire body and exercises the lungs, stomach and its surrounding organs and that helps to increase the circulation to the entire body and reduce the risk of getting secondary complications, thereby enhancing early recovery. Secondly, it helps to activate and create a kind of balance in both the left and right hemispheres of the brain resulting in balancing the paralyzed side of the body (Rice & Shetty, 2015). Similarly, it also helps to relax the body and calm the mind as well as create the path toward wisdom through promoting the connection of people with joy, love, creativity, and the integration of body, mind and soul (Sengupta, 2012). Therefore, it might be benefited acute stroke clients in the hospital setting.

Chanting Aum. In Hindu, *Aum* is the sound of power, faith and symbol of God (Jain, 2016). It was selected to practice in the acute stage of stroke clients because it also has several benefits to clinically ill clients. Firstly, it allows the person to feel vibration, sensation, and awareness throughout the body while practicing it. Secondly, it helps to organize thoughts and mental consciousness, purify the speech, and protect the mind by maintaining a constant spiritual connection and allows the mind to connect with one's self and with God (Kumar et al., 2010; Saraswati, 2008).

It was evident that chanting *Aum* helps to manage stress and uncertainty among stroke clients (Schmid & Puymbrokeck, 2019). Moreover, chanting *Aum* produces deep relaxation and peace of mind by reduced sympathetic activity, vagal modulation and balancing the brain (Kumar et al., 2010; Telles, Kozasa, Bemardi, & Cohen, 2013) thereby enhancing the health and wellbeing of the stroke clients.

In conclusion, three main forms of yoga were incorporated in caring to get improvement in expected health outcomes among stroke clients in the acute stage in a hospital setting and they were practice continuously after discharge at home.

Methodological Framework

Action research as a research design and a post-positivism underpinning philosophy was used for the methodological framework of the study.

Action research. This study used technical action research based on Holter and Schwartz-Barcott (1993). For the study, the researcher came with an identified problem and specific intervention beforehand. The researcher agreed to facilitate for implementation of the intervention in collaboration between the researcher and participants. A tentative caring model was developed, and refining this model for improving the health outcomes of stroke clients through the action research process was the ultimate intention.

Action research process. The study followed Kemmis (2009) action research process of reconnaissance and four cyclic phases, such as planning, acting and observing, reflecting and revising. The process of the model was moving through a complete cycle of action research from planning, acting, reflecting and revising of the tentative model. In this phase, all participants were actively engaged as responsible and autonomous individuals in action and self-reflection for improving the care process thereafter changing the existing practice and in the same time improving the health outcomes of the stroke clients in Nepal.

Post-positivism philosophy. The Popperian model of post-positivist science was adopted for underpinning philosophy. This philosophy explored the meaning and nature of truth by giving more focus on individual perspective, which led to subjectivity in the results (Butts & Rich, 2015; Creswell, 2013). Post-positivist follows the concept of multiple realities and truths, so the researcher adopted rigorous methods i.e., interview, discussion, observation and field notes of qualitative data collection and data analysis using content analysis (Elo & Kyngas, 2008). Moreover, quantitative data collection tools were used to obtain new knowledge regarding study concepts.

Definition of Terms

Caring model. It refers to the model of care which was designed to deliver the nursing care to the stroke clients by nurses in the neurology unit of a university hospital. It was developed in collaboration with the participation of nurses, clients, and family caregivers as well as the input of the healthcare team. The concept of caring incorporated yoga used as a framework for development of the caring model.

Physical recovery. It refers to the recovery of functional ability resulted in independence in ADLs in stroke clients. Physical recovery was considered as an

outcome of the final caring model. The physical recovery resulted from intermediate and outcomes of the tentative caring model implementation were evaluated by using qualitative and quantitative methods. Interview and reflection guidelines (Appendix D and E) were used to measure the physical recovery in a qualitative approach. A Modified Barthel Index (Appendix J) and Complication Assessment Checklist (Appendix H) were used to measure physical recovery quantitatively to support the perceived physical recovery evaluated through qualitative ways.

Wisdom of people living with stroke. It refers to a positive life experience attributed with knowledge of life, duty and work, decisiveness, constant spiritual connection with self and God, self-contentedness, emotional regulation i.e., feeling peace of mind, sense of calm, relaxation, and comfort. In turn, clients developed positive experiences toward life thereby understood and accepted the reality of illness, suffering and enduring physical limitation caused by stroke as a part of life. Consequently, without becoming upset, they participated in the program for gaining positive health outcomes as well as maintaining health and wellbeing. The wisdom, as an outcome of the model, was measured by using reflection and interview guidelines (Appendix D and E). However, mindfulness was measured as an intermediate outcome by using a Mindfulness Inventory (Appendix I). Being mindful is the awareness on the present moment or paying attention. It is the first step or path of getting wisdom.

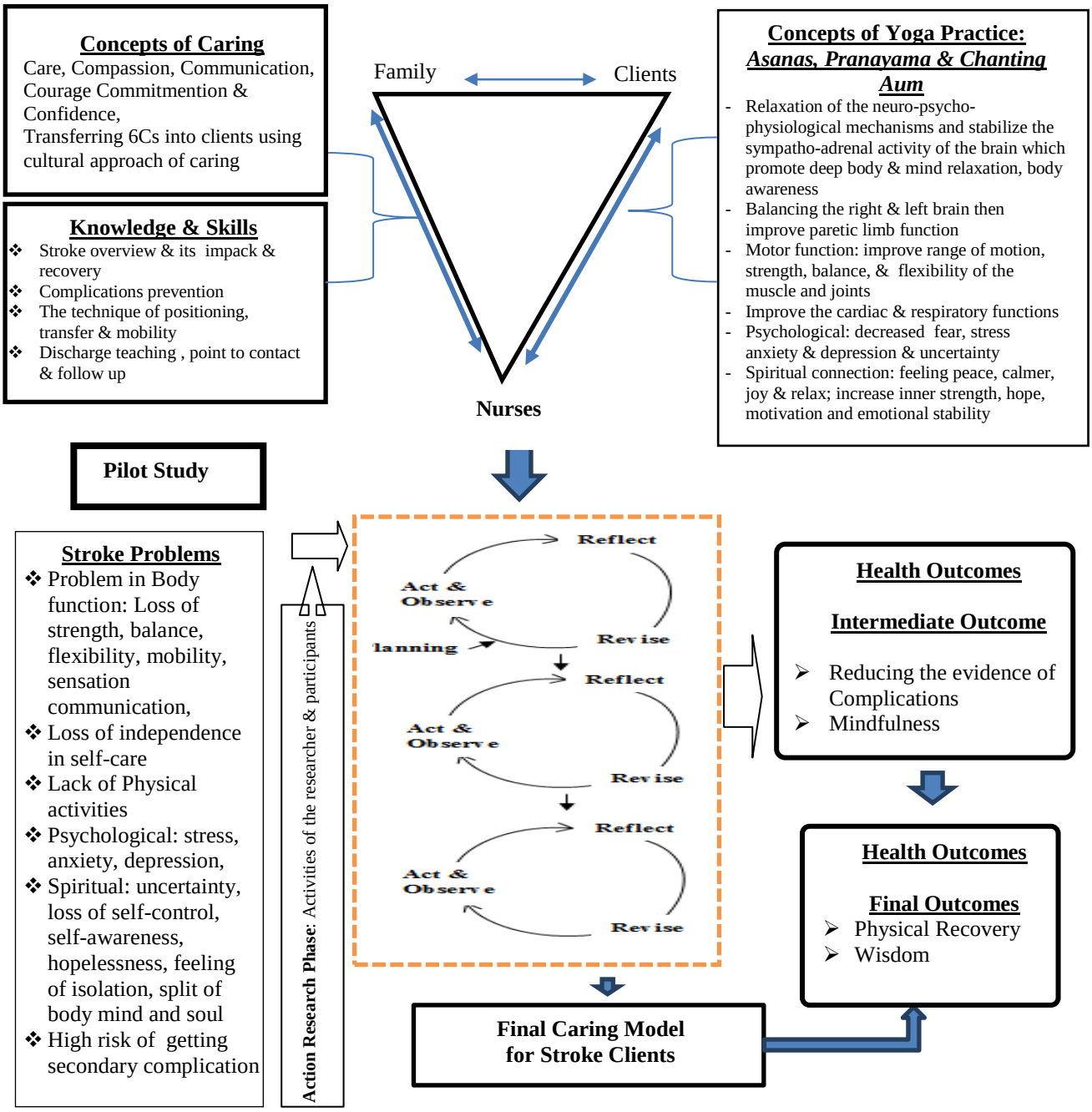


Figure 1. The Conceptual and Methodological Framework.

CHAPTER 2

LITERATURE REVIEW

This chapter explores the extensive literature related to the study concepts which helped the researcher to conceptualize the study concepts and provide a structure of interrelated concepts for formulation of the research study design, making the conceptual and methodological framework of the study. The searched literature involves the following:

1. Stroke and Its Care Continuum
2. Caring in Nursing Practices
3. Physical Recovery of People Living With Stroke
4. Wisdom in People Living With Stroke
5. Yoga for People Living With Stroke
6. Factors Influencing Physical Recovery and Wisdom in Stroke
7. Action Research
8. Summary of Literature Review

Stroke and Its Care Continuum

Stroke is a sudden attack life-changing disease. It occurs suddenly as a tragedy and brings devastating effects in a person's life in terms of physical, psychological, social and spiritual health and wellbeing in the long term (Clarke & Forster, 2015; Crowe et al., 2016). According to the World Health Organization (WHO), stroke is a "rapidly developing clinical sign of focal or global disturbances of cerebral function, lasting more than 24 hours or leading to death with the appearance of vascular origin" (Hatano, 1976). Likewise, it is an interruption of blood supply to the brain caused by a stoppage of blood flow to an area of the brain due to either blockage of blood vessels

that supply the brain or bleeding from blood vessels in the brain (World Stroke Campaign, 2019).

After the onset of a stroke, dysfunction of brain cells occurs very rapidly within seconds of the onset of the ischemia and permanent neuronal death occurs within 6-8 minutes (Saver, 2006). Initially, the warning sign "FAST" was experienced by almost all clients. The acronym "FAST" stands: Facial drooping, Arm weakness, Speech difficulties; and Time is critical so call emergency services. Beside, stroke brought devastating effects in a person's life in various aspects in long terms (Horne, Lincoln, Preston, & Logan, 2014; Taule et al., 2015; Zou et al., 2016). However, problems and needs of stroke on clients vary in each phase of stroke care continuum. Thus, this chapter included phases of stroke, and problems faced by stroke clients

Phases of stroke. Stroke care continuum is divided into three phases of care: acute phase until two weeks, sub-acute phase until three to six months and chronic phase after six months of disease onset (Kiran, 2012; Norrving & Kissela 2013). Similarly, World Stroke Organization's "Stroke Services Framework" (Lindsay, Furie, Davis, Donnan, & Norrving, 2014) and "Timing It Right" framework (Cameron & Gignac, 2008) also described the framework of stroke care continuum with various phases. Based on those frameworks, each stroke client moves through different phases of a care continuum in sequential order from acute care, sub-acute, post-acute then long-term care with specific timeframe after being afflicted from the disease (Fig. 2). Every phase of stroke care continuum is equally important for providing quality of care, in turn, getting positive health outcomes.

The first phase (phase I) of a stroke started once a person has a stroke and ends after that person is medically stable which generally takes about three days. In this phase, stroke care focuses on early diagnosis and stabilization of the client's

condition. The last phase is Phase IV (long-term care) where care focuses on adjustment in the client's home and community. However, phase II and III (pre-discharge and post-discharge) are key phases for stroke recovery where care has focused on rehabilitation with the main goal of recovery of functional ability and preparation for adjustment at home (Lindsey et al., 2014; Lutz, Young, Cox, Martz, & Creasy, 2011; Winstein et al., 2016). Most importantly, nurses play a vital role in these phases of care (Dalvandi, Khankeh, Ekman, Maddah, & Heikkila, 2013). The details of these two phases are described thus:

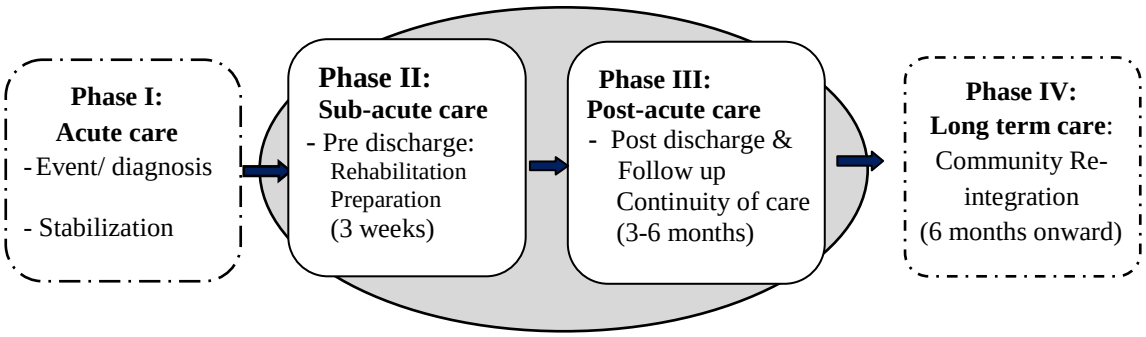


Figure 2. Phases of Stroke in Care Continuum.

Phase II: Subacute/ pre-discharge phase. This phase started once a clients was medically stable which generally ended after three weeks of disease. The main goal of care in this phase is providing rehabilitation services. The aims of the rehabilitation are firstly, maximizing the functional ability; secondly, minimizing the complications and disabilities in addition to prevent further deterioration of health condition; finally, preparation for the clients for early recovery and discharge (Teasell & Hussein, 2016). This phase generally takes around three weeks after the acute phase (Cameron, 2013; Lutz et al., 2011) and this is the best time for the client's preparation. The preparation enables the clients and caregivers to gain knowledge and information as well as the capacity and strength to be able to cope with the stroke crisis; regain lost functional ability and be able to adjust at home. Therefore, in this

phase, various intensive therapies are implemented for rehabilitation. However, clients need basic fundamental care as well as rehabilitation support for an recovery.

Phase III: Post-acute/discharge phase. This phase starts from the day of discharge and continues until three months following discharge where the responsibility of caring of stroke clients is totally shifted toward client and family caregiver (Cameron et al., 2014; Lutz et al., 2015). This phase is called the implementation phase because clients and family caregivers start to implement those learned skills in hospital for caring to the stroke clients at home.

Thus, these two phases are an important time for the initiation of any interventions for rehabilitaton and recovery. This is because firstly, interventions could have a greater impact up to 48-91% within three months (Lee et al., 2015) due to high flexibility (Wade, Wood, & Hewer, 1985) and neuroplasticity action of the brain (Ekusheva & Damulin, 2015). Secondly, this is the transition phase from hospital to home where the clients are at higher risk of getting secondary complications (Czerwonka et al., 2015; Lutz et al., 2011); as well as being overwhelmed with psychological and emotional distress, which then leads to difficulty in adjustment at home (Connolly, 2014; Lutz et al., 2011). Moreover, nurses help them to prepare for transition through education, support and care during hospitalization (Dalvandi et al., 2013; Schwarz et al., 2018) so they can take care of themselves at home after discharge.

Problems faced by stroke clients. Stroke is a disease of blood vessels in either the right or left hemisphere of the brain. Thereby, its function interrupted either side of the body and the clients thus sufferred from numerous problems. So far, these problems changed over time across the care continuum but the greatest risk lies within the first three months after stroke, which puts the clients in a vulnerable situation and

makes the recovery more complex. The common problems are categorized into physical, psychological, emotional-spiritual, cognitive, communication, sensory-perceptual and problems at home after discharge, which are presented as follows:

Physical problems. Around 70-80% of stroke clients suffer from various types of physical problems in the early stage of the disease. It was documented that in the first month, around 65-73% suffered from hemiparesis or hemiplegia (Dark & Sander, 2014; Teasell & Hussein, 2016); 80% upper limbs impairment (Knecht, Hesse & Oster, 2011); 85.5% muscle weakness and fatigue; 83% loss of balance and muscle strength; 35-45% urinary incontinence (Baumann, Bihan, Chau, & Chau, 2014; Gajurel, 2014) and upto 27% spasticity (Wissel, Manack, & Brainin, 2013). Consequently, every stroke client spent around 75-90% of their time in bed inactively in the early-stage (Bernhardt, Dewey, Thrift, & Donnan, 2004). The above condition may increase the risk of developing secondary complications.

The common documented secondary complications in the first three months after stroke were constipation 55% (Lim et al., 2015) followed by 20-50% dysphasia where 30% needed a nasogastric tube (Arnold et al., 2016); around 11-50% aspirated pneumonia (Brogan, Langdon, Brookes, Bugdeon, & Blacker, 2014; Schwarz et al., 2018); around 50% deep vein thrombosis (Khan et al., 2017); 21-48% falls (Denissen et al., 2018), 42% contracture (Wissel et al., 2013), 30% -36% chest infections and urinary tract infections (Brogan, Langdon, Brookes, Budgeon, & Blacker, 2015), around 33% pain (Kumar, Selim, & Caplan, 2010), 28% pressure ulcer (Amir, Halfens, Lohrmann, & Schols, 2013) and 5-15% recurrent stroke (Mohan et al., 2011). It was evident that lack of physical activities and secondary complications in the early stage are associated with poor functional outcomes and hence delay functional recovery (Arnold et al., 2016; Bustamante et al., 2016; Wong, 2015) as

well as increasing the dependency and burden on caregivers in the long-term (Ward, 2012; Lincoln et al., 2013). Significant impact on long-term functioning and reduction of the effects of rehabilitation are associated with psychological problems (Kirkevold et al., 2018).

Psychological problems. Psychological problems are seen because of pathophysiological changes and emotional reactions to deal with stroke tragedy as well as the inability to cope with crisis situations following a stroke (Lincoln et al., 2013). Around one-third of clients suffer from depression and anxiety which developed within hours or days and was highest during hospitalization and the first month after discharge (Kirkevold, Christensen, Andersen, Johansen, & Harder, 2012; Lincoln et al., 2013; Robinson & Jorge, 2015). Lincoln et al., (2013) noticed that the early stage depression is vulnerable to chronic depression in the long term if poorly managed during the early stage. In addition, depression and stress had a significant correlation with poor physical function (Matsuzaki et al., 2015).

Emotional-spiritual problems. In the acute phase of stroke, clients are vulnerable to develop emotional and spiritual distress that occurs due to sudden losses of normal daily functions and inability to cope those sudden losses (Connolly, 2014; Lamb, Buchanan, Godfrey, Harrison, & Oakley, 2008). Common emotional and spiritual distress, as experienced by stroke survivors in the acute phase were fears, loss of self, sense of seclusion and loneliness (Crowe et al., 2016); the shock of interruption of daily routine, transition to unfamiliar surroundings, life with uncertainty, and a journey for adjusting to new sense of self (Connolly, 2014); anger, helplessness, emotional imbalanced, feeling of insignificance, inertia and elation (Huang et al., 2014b). Spiritual distress is also attributed to feeling guilty, loss of dignity, the feeling of being worthless and a split of mind and body and disconnected

from God (Ellis-Hill et al., 2009; Tsai, Anderson, Thomas, & Sudlow, 2015). The expression of this situation raises the question on drastic life changes and attempts to learn what life will mean for them in future, and also find hope and spiritual strength to heal (Norris, Allotey, & Barrett, 2012; Ostwald et al., 2013). Moreover, that distress could increase their functional dependency and have a significant impact on long-term functioning and reduction of the effects of rehabilitation services (Kirkevold et al., 2018).

Cognitive problems. Cognitive decline is a major cause of disability in stroke survivors which occurs since the acute stage and over the long term after incident stroke (Levine et al., 2015). It is categorized as mild, moderate and severe based on mini-mental state examination. There is no correlation between cognitive function and functional ability during the acute phase of stroke clients (Ignjatovic, Semnic, Bukurov, & Kozic, 2015). Only severe cognitive problems can influence in a stroke clients' ability to perform ADLs.

Communication problems. Around one-third of clients had aphasia i.e., Broca Wrincke's and global aphasia (Dark & Sander, 2014). All of those problems hampered the ability of understanding and interpreting the commands from others, in turn, put difficulty in self-care activity of daily living (Dark & Sander, 2014). More importantly, a person with aphasia is prone to develop psychological and emotional problems, threatening identity, changes in interpersonal relationship and social isolation (Kirkevoid et al., 2018). It is indicated that a person's state of body mind and soul is grossly impaired for people with aphasia which negatively impacts on motivation and response to rehabilitation activities.

Sensory perceptual problems. Around one-third of clients experience visual problems which are less noticed but have a negative correlation with rehabilitation

outcomes (Sand et al., 2013). Similarly, loss of sensation may affect touch, pain, temperature, and vibration of the paralyzed part of the body. It was evident that somatosensory impairment has a highly negative impact on functional ability in daily activities, and participation in rehabilitation as perceived by the stroke clients (Carlsson, Gard, & Brogardh, 2018). Moreover, sensory-perceptual problems also affect all parts of the body in the acute stage of stroke (Kessner, Bingel, & Thomalla, 2016) and clients develop uncertainty about the recovery of affected limbs and their future. Uncertainty is a pervasive source of psychological distress for clients that not only affects the disease's progression and prognosis but also influences participation in rehabilitation (Ni et al., 2018).

Problems at home after discharge in the post-acute phase. Previous qualitative studies documented that clients had mixed experiences about the discharge to home within the first three months after stroke. On the one hand, stroke clients described being discharged as an important time to recovery, and felt glad to return home with a high expectation of a return to normal pre-stroke life (Connolly, 2014; Lutz et al., 2011). However, their return was challenging because they needed help even in doing a simple task, and felt puzzled in their own home (Connolly, 2014). Therefore, post-stroke clients defined the first month post-stroke as most difficult, disappointing and felt they were in a crisis.

The following metaphors as uttered by stroke clients may further described their difficulty at home: "being dead and dependent (Heuschmann et al., 2011), shade of gray; being trapped and lacking energy for simple tasks (Kouwenhoven, Kirkevold, Engedal, & Kim, 2011). Likewise, they felt dark about their recovery. This may be because they were unprepared and had inadequate information and support from healthcare professional (Kitson, Dow, Calabrese, Locock, & Athlin., 2013). Such

negative experiences of life reflected that their holistic needs were inadequately addressed in the acute phase which disconnected their state of mind or peace of mind. Such negative experiences had a negative correlation with physical function in daily living activities of the clients.

Caring in Nursing Practice

This topic includes an overview of caring, attributes of caring, the antecedents of caring and consequences of caring and factors influencing caring.

Overview of caring. Caring is viewed as a synonym of nursing (Wilkin & Slevin, 2004). Many theorists defined caring as a knowing a person by virtue of humanism (Boykin & Schoenhofer 2015; Locsin, 2016; Watson, 2015) through professional maturity (Finfgeld-Connett, 2008) or competent use in technology (Locsin, 2016); and cultivating the caring relationship and communication between the nurse and clients (Boykin & Schoenhofer 2015, Liu et al., 2006; Roach, 2013). Similarly, it is the essential attribute of nurses that is expressed in nurse's actions and behaviors (Andersson et al., 2015; Drahosova & Jarosova, 2016). However, the major concern of caring is to fulfil the holistic needs of the clients (Jasemi et al., 2017).

In nursing practice, caring is the main essence and widely used concept (Watson, 2015) as a guideline for providing holistic interventions (Andersson et al., 2015; Drahosova & Jarosova, 2016; Watson, 2015) through building nurse-client relationships and communication (Liu et al., 2006). Most of the study revealed that a caring relationship is essential for preserving the humanism by protecting, enhancing, and preserving the person's dignity, humanity, wholeness, and inner harmony (Watson, 2015). This relationship symbolizes an agreement between the nurses and clients to work together for the good of the clients (Sheldon, n.d). Ultimately, these relations work as a therapy, in turn, facilitate the healing process (Papathanasiou &

Kourkouta, 2013) and contributes to the recovery of the clients (Bridges et al., 2013). Therefore, effective nursing practice is based on relationships and the ability of the nurse to establish a relationship with the client (Wiechula et al., 2016). In this regard, nurses should have some fundamental attributes of caring in acute care for establishing the relationship with the clients.

Attributes of caring. A number of existing studies explored the fundamental attributes of nurses for creating relationship. For instance, Feo and Kitson (2016) suggested that being respectful, being empathetic, being compassionate, friendly, sensitive, skillful, responsible, being consistent and ensuring to set goals and continuity of care are fundamental attributes of caring needed in acute care. Being with physically and emotionally; attentive listening; authentic present and reflective responses (Blasdell, 2017); spiritual, supportive, protective and kind acted as caring behaviors as well as physical and emotional support (Adam, 2016; Newbanks, Rieg, & Schaefer, 2018) also necessary attributes of care which nurses should have.

Roach (2013) conceptualized caring as a human mode of being. She claimed that the essential characteristics of nursing are a helping discipline to a human being. Caring is a way of acting, relating, and being engaged with other people and expressing individual as human. Caring is efficient and expressed through attributes as 6Cs which stands for care, compassion, confidence, courage, communication, and commitment (Baillie, 2017; Roach, 2013).

Care: Care and caring are widely used in nursing practice. Of 6Cs, caring was considered the holistic and humanistic way of caring (Baillie, 2017). It is a separate value in caring because nurses cannot provide effective care without compassion, competence communication, courage, and commitment. Therefore, nurses should

provide care based on individual needs which meet the physical, psychological, emotional and spiritual needs (Baillie, 2017) using holistic nursing interventions.

Compassion: In the context of the 6Cs, compassion is defined as 'how care is given through relationships based on empathy, respect, and dignity and is central to how people perceive their care' (Baillie, 2017). It is the way of caring given through relationship based on empathy, dignity, kindness, and respect. It is demonstrated as the nurse attempted to understand what the clients may be experiences whether it is pain, sorrow, joy or comfort (Baillie, 2017; Roach, 2013).

Confidence. In the context of the 6Cs, confidence means all those in caring roles must have the ability to use knowledge and skills in knowing the clients' condition and explain these conditions in terms of that they will understand and prepare them for the forthcoming events (Baillie, 2017).

Courage. In the context of the 6Cs, courage is defined as enabling us to do the right thing for the people we care for, to speak up when we have concerns and to have the personal strength and to hold new ways of working (Baillie, 2017; Cummings & Bennett, 2012). It is also considered as a valuable human character trait to be moral virtue. Nurses need the courage to help clients in facing their own suffering and vulnerability and provide professional care (Baillie, 2017; Roach, 2013).

Communication. Of 6Cs, it is central to successful caring relationships and to effective team working (Baillie, 2017). Nurses should have communication skills because effective communication is the key to humanizing the relationship between people and protecting a person's dignity and respect (Drahosova & Jarosova, 2016; Duldt-Batteey, 2004). It is also necessary for involving the people in their care and providing the new knowledge i.e. caring about self and disease, education, as well as communication is necessary for building teamwork.

Commitment. Of 6Cs, it includes the commitment to improve the care and experience of clients (Clarke, 2014). It is feeling responsibilities and complex affective responses characterized by merging desires and obligations and deliberately acting on a choice to act in accordance with them. It is demonstrated by devotion to care for the clients (Roach, 2013).

Moreover, integration of spiritual intervention in caring worked as a cornerstone for caring as a holistic nursing intervention (Ismail, 2016; Ismail et al., 2018; Mardiyono, Songwathana, & Petpichetchian 2011; Setiawan et al., 2010). Cultural specific caring helps to develop a good caring relationship among nurse, clients and family caregivers because caring is located in a specific cultural context and different through culture even though caring is a universal phenomenon. In this regard, nurses should acknowledge and consider the client's cultural specific ways for cultivating a caring relationship which helps to deliver nursing action and behavior in an effective way.

Outcomes of caring. Caring is beneficial for both parties in terms of feeling comfort; promoting relationship, satisfaction, and happiness as well as physical and mental wellbeing (Finfgeld-Connett, 2008; Drahosova & Jarosova, 2016; Setiawan, 2014). Similarly, a caring relationship helped to alleviate pain, decreased anxiety and optimized the sense of recovery along with shorter hospital stays (Campinha-Bacote, 2013); enhanced sense of enjoyment, self-expression, hope, and confidence in self-care (Haugan, Moksnes, & Espnes, 2013); perceived control (Mardiyono, 2012); and harmony of body-mind-spirit (Ismail et al., 2018) for clients in the critical care unit. Therefore, caring is the central concept of nursing which also facilitates the nursing profession to grow its fullest potential by strengthening the core of the nurses as a nurse practitioner (Blasdell, 2017).

Factors affecting caring. There are many factors which may affect care in positive and negative ways as well as directly and indirectly. Basically, a nurse's personal and professional qualities may affect caring, such as a positive caring attitude and behavior; professional maturity; a good relationship between nurses and clients (Liu et al., 2006; Modic, Siedlecki, Griffin, & Fitzpatrick, 2016; Weyant, Clukey, Roberts, & Henderson, 2017). Importantly, it also affected by way of communication, attentiveness, support, religion and cultural belief (Drahosova, & Jarosova, 2016; Liu et al., 2006). Thus, a nurse's personality is a very important to clients in terms of caring.

Similarly, lack of technical knowledge and skill; inadequate nursing staff, unsupportive organizational culture and poor work environment, along with the medical model of care may limit nurses when caring (Drahosova, & Jarosova, 2016; Joshi, 2015; Limbu et al., 2019; Sharma, & Dhakal, 2008). Equally, a client's background, physical, psychological, emotional and spiritual health condition as well as state of mind of the clients might limit the caring behaviors of the nurses (Bridges et al., 2013; Drahosova, & Jarosova, 2016). Moreover, if a nurse had lack of caring 6Cs caring behavior, communicating skills, role, and responsibilities, it would also affect in caring (Liu et al., 2006).

Conclusion. The concept of caring is a content-specific interpersonal process, working as a holistic intervention which is manifested in the nurse's actions and behaviors in terms of 6Cs with the purpose of cultivating a sense of happiness. Similarly, the nurse-client relationship is an imperative to caring in an acute care setting which is directed toward healing and wellbeing. Fundamentally, the 6C's are essential attributes of care which are beneficial for establishing a caring relationship among nurses and clients. Importantly, some factors might influence caring, such as

cultural and religious backgrounds of the care providers and receivers. In addition, the state of mind of the clients also influenced directly in caring behaviors of the nurses. Therefore, caring incorporates spiritual practice might be more effective for developing a caring relationship, thereby providing holistic care even for acutely ill clients in a hospital setting.

Physical Recovery of People Living With Stroke

This topic consists of meaning of physical recovery, impact of stroke in physical function/ health; interventions for promoting the physical recovery for stroke clients and tools to measure the physical recovery in terms of physical function.

Meaning of physical recovery. The dictionary meaning of recovery is the act or process of returning to a normal state after a period of difficulty (Merriam-Webster Dictionary, n.d.). In general, stroke recovery refers simultaneously to the restitution of damaged structure and function after stroke (Jorgensen et al., 1995; Levin, Kleim, & Wolf, 2009). Similarly, physical recovery after stroke is a multidimensional concept covering mobility, large muscle functioning, fine and gross motor skills such as balance, strength (Ashburn, 1997; Levin et al., 2009); sensory (Ashburn, 1997) and physical function and ability to perform activities of daily living (ADLs) or instrumental activities of daily living (IADLs) (Matsuzaki et al., 2015; Mikami, Jorge, Moser, Jang, & Robinson, 2013).

Accordingly, the Client Reported Outcomes Measurement Information System (PROMIS) defined recovery in terms of physical function as "ability to carry out various activities that require physical capability, ranging from self-care (basic activities of daily living) to more-vigorous activities that require increasing degrees of mobility" (Cella et al., 2010) as well as recovery of physical, psychological and social domains of health (Dowswell et al., 2000; Kendall et al., 2007).

Physical recovery of clients with stroke was described in a number of ways from different perspectives. It can be concluded that two main approaches of recovery are applicable in an acute clinical setting as a biomedical model and rehabilitative model. The biomedical model mainly focused on viability and process of neural recovery and not the direct scope of nursing care whereas the rehabilitative model described physical recovery in terms of performance of activities of ADLs commonly called physical function.

In nursing, physical function is reflected as a client-oriented outcome in regard to functional ability (Wang, 2004) affected by nursing care (Liu et al., 2014). Also a common outcome in post-stroke rehabilitation (Liu et al., 2016). Functional ability is defined as an individual ability to perform the daily life activities required to satisfy basic needs, fulfill usual needs and maintain health.

To sum up, various studies conceptualized the meaning of recovery based on the nature of study objectives. Most of them used functional recovery for physical recovery. For the study recommendation, physical function conceptualized in terms of the rehabilitative model of recovery and congruent with study phenomenon. In the present study, the physical recovery was evaluated using qualitative method through interviews and reflections of the clients' direct experiences. The perceived physical recovery could reflect better the aspects of recovery per their concerns. However, the measurement using the quantitative method was also conducted to support the analysis of the qualitative results.

Impact of stroke on physical function. Physical function declined after stroke in relation to structural and functional integrity of the brain activities (Deb, Sharma, & Hassan, 2010). The primary impact of acute stroke is a loss of structural integrity of brain tissue which leads to neuronal death along with an irreversible loss

of neuronal function (Deb et al., 2010). The impacts of the loss of brain structure are neurological impairments, physical inactivity, and loss of independence on ADLs.

Neurological impairments. Motor and sensory coordination, balance, and strength are primarily affected by after stroke (Schmid et al., 2012). It further reduced physical functioning and increased fear of falling which resulted in being confined to bed (English, Manns, Tucak, & Bernhardt, 2014). It was evident that time in bed in the early stage is associated with a poor function and a higher risk of getting complications (Askim, Bernhardt, Salvesen, & Indredavik, 2014; Jonsson et al., 2014; Schwarz et al., 2018).

Physical inactivity. Evidence suggests that physical inactivity after stroke is highly prevalent which leads to sedentary lifestyles (Billinger et al., 2014). A sedentary lifestyle has been associated with increased recurrent stroke, poor mental health, reduced exercise and movement efficiency in already functionally compromised population (Hogan, 2016). Stroke is associated with lifestyle and behavioral changing disease, meaning that secondary effect of physical inactivity may worsen the already present symptoms of a stroke (Greenfield & Jensen, 2010; Langhammer, Lindmark, & Stanghelle, 2014). In turn, adversely impact on the performance of activities of daily living (Brogan et al., 2014; Schwarz et al., 2018).

Studies suggested that persons with a stroke need to do physical activity as much as the general population in order to maintain physical function and capacities (Langhammer, Stanghelle, & Lindmark, 2009). Therefore, physical exercise is very important for improving functional ability to perform activities of daily living and reduces the risk for subsequent secondary complications after stroke event.

Functional dependence in ADLs and IDLs. Similarly, the impact of stroke is well established in the loss of functional independence. Functional dependency is

closely associated with poor performance ability of everyday task (Raju, Sarma, & Pandian, 2010). Based on the American Heart and Stroke Association, independence or functional abilities are divided into five levels (Kelly-Hayes et al., 1998). They are 1) stroke people are independence in basic ADLs and IDAL, 2) stroke clients are independent in BADL but partially dependent in routine IDAL, 3) they are partially dependence in BADL (<3 areas) and IADL, 4) partially dependent in BADL (>3 areas) reflects clients cannot live alone and, 5) completely dependent in BADL (>5 areas) reflects that clients are unable to live alone and safety require full time.

The level of independence in ADLs and IDALs is associated with severity of disease after a stroke. For instance, the level of functional independence for stroke survivors was assessed by using the Modified Barthel Index (MBI) (Chan, Chan, & Wong, 2009; Kong & Lee, 2014). The result showed the degree of functional independence for the activities of daily living in a different time. The mean MBI scores increased significantly from 32.6 (*SD*,= 26.3) at admission to 49.4 (*SD* 33.6) at discharge (p = < .001). After discharge follow-up, the mean MBI score increased significantly to 62.8 (*SD* =37.2) in the first three months (p =.001).

It can be concluded that minimal recovery of ADLs occurs during acute stage whereas most recovery of ADL occurs by three months after stroke. Older age, disease severity, presence of secondary complications, presence of aphasia and tube feeding and recurrent stroke were a negative predictor of functional dependence after stroke where adequate knowledge and information about disease, good preparation about self-care at hospital, continuity of rehabilitation and home support by a health professional are the positive predictors of functional independence for stroke.

Interventions for promoting the physical recovery for stroke clients. Current evidence-based practices related to physical recovery for stroke clients are

categorized into four categories as technology-based rehabilitation, physical exercise-based rehabilitation, educational rehabilitation, and CAM based rehabilitation.

Technology-based rehabilitation. The available technology-based rehabilitation programs are more efficient to improve the physical functioning in stroke client. Some of them are 1) robotic-assisted, 2) visual reality system, exoskeleton, videogame, DVD, 3) tele-stroke rehabilitation like video call, video conferences, telemetry and telephone call, 4) functional electrical stimulation, 5) brain-machine interferences, 6) biofeedback, 7) music glove therapy, 8) treadmill exercise, and 9) electroencephalography (Prieto et al., 2014; Rubin, Wellik, Channer, & Demaerschalk, 2013; Veerbeek et al., 2014). However, a technology-based rehabilitation program usually allowed only 50% of stroke recovery in physical function like ADLs and independence (Paolucci et al., 2008).

***Physical exercise-based rehabilitation*.** Physical inactivity after stroke is highly prevalent (Billinger et al., 2014). Therefore, physical therapy is more valued by health care providers in acute and rehabilitation phase (Luker et al., 2015; Satink et al., 2015). However, clients felt fatigue and tired during physical exercise which may overwhelm the ambition of active participation in rehabilitation. In addition, these did not focus on preparing and adapting to the life situation and independence in ADLs of stroke clients as well as regaining roles and accepting realities (Satink et al., 2015). The common approaches for improving the physical function were exercise related to aerobic strength and balance training, walking, mobility, task-oriented, and ADLs focus (Klamroth-Marganska et al., 2014; Persson, Hansson, Lappas, & Danielsson, 2016; Veerbeek et al., 2014; Wolf, Chuh, Floyd, McInnis, & Williams, 2015). The improvement was achieved in the selected area except ADLs immediate after therapies without significant level.

***Educational rehabilitation*.** Education is the power/ fuel for rehabilitation which was extensively trialed as an independent rehabilitation therapy for stroke clients in the last decade. Educating clients and caregivers on a stroke may enable them to become taking a central role in rehabilitation through enhancing motivation, engagement and decision making during the rehabilitation process (MacDonald, Kayes, & Bright, 2013). The recent studies related to educational interventions focused not only clients but also family caregivers who acted within the right framework (Cameron, Naglie, Silver, & Gignac, 2013); were guided by technology, used verbal enforcement and a booklet (Eames, Hoffmann, Worrall, Read, & Wong, 2013). A skill-oriented educational program was integrated such as self-care skill training (Sahebalzamani, Aliloo, & Shakibi, 2009).

Complementary and alternative medicine (CAM) for stroke rehabilitation. Currently, the CAM is extensively examined for stroke rehabilitation, for instance relaxation, Tai Chi, massage, acupressure and acupuncture, mirror therapy, music therapy, and yoga (Hogan, 2016; Sarkamo et al., 2010; Shah, Engelhardt, & Ovbiagele, 2008; Thieme, Mehrholz, Pohl, Behrens, & Dohle, 2013; Zhang et al., 2015). However, it was found that a yoga-based program had more significant outcomes for stroke rehabilitation (Shah et al., 2008). Stroke is a disease initiated by physical problems but affects directly and indirectly in the mind and emotion of the clients. Therefore, they were suffering from the extreme level of psychological, emotional and spiritual problems. The above situation indicated that there is disconnection of mind and body among stroke clients which need a holistic approach of care for healing (Schmid & Puymbroeck, 2019). Yoga is a more effective method for rehabilitation because it incorporates physical, mental and spiritual element of care, and can bring the balance among bind, body, and soul of an

individual health by maintaining equilibrium of body-mind (Saraswati, & Stevenson, 2007; Sullivan, Moonaz, Weber, Taylor, & Schmalzi, 2018) and environment (Sullivan et al., 2018); and promotes physical, psychological and spiritual wellbeing. Therefore, yoga is a holistic practice (Field, 2016; Machanda, & Madaan, 2014) that might heal to the recovery of the overall health condition of the clients even in the acute stage. It is considered as a powerful mind-body therapy, CAM as yoga has the power to heal the clients.

To sum up, current evidence-based practices are shifting toward technology and CAM for stroke rehabilitation. Technology-based therapies have given more focus on physical recovery but a high number of stroke survivors have had difficulties to perform activities of daily living independently and, they required assistance and were dependent on others (Parikh et al., 2018). Likewise, those therapies are more expensive, need special equipment and setting for practice and do not heal the person as a holistic being. Importantly, stroke clients felt fatigued, tired, and felt a sense of disempowerment, demotivation, frustration and boredom while doing conventional physical therapy (Luker et al., 2015). In contrast, in reference to CAM, yoga can be practiced in any setting and improve holistic health as well as be more cost-effective, and safe compared to technology-based rehabilitation whereas education and physical therapies were used in integration with other therapies.

Wisdom in People Living With Stroke

This chapter includes the concept of wisdom in the Western concept, wisdom in the Eastern concept, and wisdom in nursing, presented as follows:

Wisdom in the Western concept. A number of theories and models described the concepts of wisdom in various disciplines in Western culture (Ardelt, 2004; Baltes & Smith, 2008; Brugman, 2006; Gluck & Blck 2013; Sternberg, 1998). Ardelt, (2004)

defined wisdom as a mental function which helps to tell good from the bad. It grips positive qualities such as self-integration and maturity, judgment, skills of getting along with others and a better understanding of life viewed as a key to successful human life where experiences (life crisis and obstacle) and realization of self as a truth that transformed into wisdom and makes the person wise (Ardelt, 2004). Similarly, in Brugman's wisdom model (2006), facing uncertainty is the core value of the model with given stress on behaviors, attitude, knowledge, openness to new experience and adaptability. Personal wellbeing is used as wisdom and given as an important goal of life. In addition, Jason et al., (2001) incorporated harmony, warmth, mysticism and spiritual elements in the definition of wisdom.

In the MORE model of wisdom life experience (negative) dealing with those challenges is the core value which plays an important role in the development of wisdom (Gluck & Bluck, 2013). In the model: 1) sense of mastery, 2) openness (alternative view/information, 3) reflective attitude, and 4) emotional regulation and empathy are used to describe as personal wisdom as a life goal. Acceptance of the realities which cannot be changed is the goal of the model. Likewise, the balanced theory of wisdom (Sternberg, 1998) and the Berlin wisdom model (Baltes & Smith, 2008) emphasized knowledge comprising decision making in life challenges, conflict resolution, finding the meaning of life as the core value of wisdom development. Wisdom is thought to be the synthesis between creativity and practical aspect of intelligence.

Bangen, Meeks, and Jeste (2013) conceptualized wisdom as characteristics of a wise man which is developed by two ways i.e. implicit and explicit theories. In the first implicit type, wisdom stems from the common sense approach and described in everyday language. In the second, explicit theories explain the behavioral

manifestation of wisdom. Regarding the components of all theories, nine components of wisdom were used to conceptualize wisdom namely 1) decision making and pragmatic knowledge, 2) personal attitudes, 3) reflection, 4) acknowledge and coping of uncertainty, 5) emotional homeostasis, 6) tolerance, 7) openness, 8) spirituality and, 9) sense of humor. They also pointed out that wisdom is related to better physical health and improved quality of life but it has given little clinical attention. Importantly, it can cultivate by using cognitive rehabilitation, psychotherapy, and mindfulness practices.

Bangen et al., (2013) described nine instruments to measure wisdom in three different forms: 1) interview-based measure used by the trained rater, 2) questionnaire format requires a participant to respond using a Likert-type scale, and 3) mixture of two formats. However, the entire instrument was developed in the United States, Germany, and Greece as well as being based on a mastery model. Commonly cited subcomponents of wisdom in the existing instrument included knowledge, social values, acknowledgment of uncertainty, tolerance lifespan, self-reflection, prediction flexibility, emotional homeostasis, spirituality, reverence for nature, openness, sense of humor, dialectical thinking and awareness of life uncertainty.

To sum up, experiences and knowledge of life are cores to develop personal wisdom, which can make life possible facing life's challenges and problems in an integrative and total manner. The common components of wisdom are knowledge, mastery, emotional regulation, acceptance, uncertainty, reflective attitude, and insight. All the wisdom theories imply personal well-being and successful life as a core outcome of wisdom where wisdom is found as the main subject of study in aging psychology. However, no remarkable studies found in another groups of people.

Wisdom in the Eastern context. Wisdom in the Chinese perspective and in Buddhism and Hinduism are included here and described as follows:

Wisdom in the Chinese perspective. This concept of wisdom includes having compassion toward all creatures in the world (Yang & Sternberg, 1997). The Chinese emphasize wisdom more strongly: a wise person is able to bring harmony to home and society. The ultimate goal of life is to bring peace and harmony, which one can achieve over cultivating one's personal life. In addition, they perceive harmony as not only a collective orientation but also as maintaining psychosocial homeostasis and relationships with others (Yang, 2001). According to Yang (2001), descriptions of wisdom in China have manifested through handling daily events, managing one's own life and contributing to social improvement and progress.

After putting these facets together, wisdom can be defined as the characteristics of a wise person who has the ability to deal with real life challenges by integration of reasoning, behavior and knowledge that can further actualize human possibilities in a positive direction to get the ultimate goal of life, peace and harmony.

Wisdom in Buddhism. Buddhism is a religion and philosophy surrounding a variety of traditions, beliefs, and practices largely based on teachings of Siddhartha Gautama, literally known as "Buddha". The ultimate goal of life is enlightenment, wisdom. The Buddha suggested that mindfulness is the first step in the journey to help people to attain the ultimate goal of life (Goldstein, 2003) which consists of four foundations namely: 1) mindfulness of the body: the physical body and the senses, 2) feelings: pleasant and unpleasant sensations and feelings, 3) awareness contents of the mind and heart, and 4) dharma: awareness of the laws that govern the mind and body.

Another teaching from the Buddha found in all the Buddhist traditions is called the Eightfold Noble Path, which teaches eight "right" ideas and actions for

example, “right speech, right action, and right mindfulness” (Goldstein, 2003). The practices and ideas behind the four truths and the eightfold path are called moral conduct (*Sila*), concentration (*Samadhi*), and wisdom or insight. However, Buddhists do not have any God but they believe in novel truth. Buddhists try to obtain the mind to be able to obtain the ultimate goal of life enlightenment through mindfulness meditation and spiritual training. Importantly, experiences and knowledge are required for gaining enlightenment but knowledge and action are inseparable and both must be realized by a person (Takahashi, & Bordia, 2000). The main barriers to the path of enlightenment are suffering resulting from the craving-and-aversion mechanism whereas mental balance and contentment bring peace and harmony into the lives of others (Joshanloo, 2014).

To sum up, from a Buddhist standpoint, wisdom is the ultimate goal of life which can be achieved in various ways. However, mindfulness is the first step of a journey and the basic way of getting wisdom. In Buddhism, suffering is the main barrier for obtaining wisdom whereas mindfulness is a way of getting wisdom which can be achieved by making mental balance, happiness; bringing mind peace and harmony through meditation and spiritual training. Essentially, human life experiences, knowledge and actions are vital for gaining wisdom.

Wisdom in Hinduism. Hinduism is a philosophy and a religion where *Vedas* and *Gita* are the oldest texts of Hinduism. The *Gita*, holy book of Hindus, provides a practical guide to the implementation of *Vedic* wisdom in day to day life (Jeste, & Vahia, 2008). The term wisdom, wise or sage (*Yogi*) is used to simultaneously describe wisdom in the *Gita*. According to Hinduism, wisdom is described as an associated way of life, knowledge of life, emotional regulation, control over desire,

decisiveness, love with or faith in God, duty, and work, self-connectedness, compassion, insight, and personal integrity or untying oneself.

In Hinduism, the whole life is seen as a preparation for achieving the ultimate goal of life the *moksha*/salvation and eternal enlighten. The end state of salvation is an egoless state of self with limitless compassion for the rest of creation. Only such self is regarded as the true self (Agoramoorthy, 2015). This self enjoys the highest state of consciousness or wisdom (Joshanloo, 2014).

Hinduism believes that a human being has a holistic entity which is interconnected and an inseparable dimension of body-mind-soul. A person who is suffering from physical problems is also mentally affected, and ultimately they exhibit the symptoms of disconnection of mind with the body because the mind is present in our every activity what we do (Desikachar, Bragdon, & Bossart 2005). The mind is the only the way to connect the body (outer world) through using sense organs and transfer this knowledge toward inner word: soul, the true consciousness. Thus, without mind, we are not able to perform any conscious work, even a simple task.

By changing the state of mind or a contented state of mind as key ingredients of a good life, it leads to progression of wisdom inside and with the outer world and makes it possible to overcome all problems of the human system (Agoramoorthy, 2015). This state of mind can be achieved by practicing spiritual activities, meditation, prayer and following the path of yoga. Furthermore, throughout the journey to salvation, experiential knowledge and intuition are needed to develop wisdom (Agoramoorthy, 2015; Jeste & Vahia, 2008; Joshanloo, 2014).

The *Gita* also described four levels of wisdom as:1) nil or negative is indulgence in “devil or dark ways; 2) low, as indulgence in 'passion or selfish and foolish ways'; 3) moderate as goodness, and 4) the highest possible or self-perfection

(with status of *'yogi').* Very few people can be a state of a higher level of wisdom (Jeste, &Vahia, 2008). More importantly, the *Gita* suggested that some elements of wisdom can be improved from teaching and learning that can facilitate achieving a progression from a lower to a higher level of wisdom as a yogi (wise person) (Jeste, & Vahia, 2008). Also, life experience played a vital role which can help one progress to a higher status of wisdom (Jeste &Vahia, 2008; Joshanloo, 2014). However, an active effort is mandatory to learn wisdom. Thus, any person at any age can become wiser and no person is considered hopeless from this perspective.

Wisdom in nursing and caring. With reference to the current literature regarding wisdom in nursing and caring, this can be traced from the American Nurses' Association (ANA) in 2008, since that wisdom gained attention in nursing by adding the concept to the definition of nursing informatics (NI). ANA defines the wisdom as 'the appropriate use of knowledge to manage and solve human problems, also it is a way of knowing when and how to apply knowledge to deal with complex problems or specific human needs' (ANA, 2008, p. 5). However, neither the current ANA Nursing Scope and Standards of Practice nor the Code for Ethics discusses the concept of wisdom. Moreover, there were two studies done by nurses to explore the meaning of wisdom for Korean elderly people (Sung, 2014); and on wisdom of American nurses working in the emergency department (Matney, Avant, & Staggeet 2016). From perspectives of elderly, human relationship, experiential action, emotional sympathy and problem solution were found. In contrast expertise, emotional intelligence, and advocacy were emerged theme from nurse's perspectives. Having said that, there are different views regarding the meaning of wisdom from clients and nurses but this is still not applied in the nursing profession.

Measurement of wisdom*:* Concerning wisdom as a nursing care outcome, some existing measurement tools for assessing wisdom were developed based on the Western concept as a mastery model which is quite different from the Eastern concept of wisdom (Bangen et al., 2013). In the Eastern concept, there was a lack of tools to exactly measure the term wisdom, however, the other concept which is closely related to wisdom such as mindfulness, spiritual wellbeing, the meaning of life, healing and harmony were measured by using qualitative and quantitative ways. Yoga has conceptualized terms of "mind-body" exercise a synergistic experience of emotions and physical experiences (Shelov, Suchday, & Friedberg, 2009). Due to this mind-body emphasis of yoga practice, it was hypothesized that a yoga intervention would enhance levels of mindfulness in individuals that had no prior yoga experience. Mindfulness is a way of getting wisdom, therefore it can be assessed by using mindfulness (Brensilver, 2016), as a quantitative assessment tool. In addition, it also measures by using a qualitative approach by exploring an individual's experience through an in-depth interview.

In conclusion, wisdom is a personality characteristic applicable to who can manage real-life challenges in a positive way by the integration of reasoning, behavior, and knowledge that lead to getting the ultimate goal of life. In Eastern philosophy, every culture has their ultimate goal of life but is described in their own ways using various terms i.e., wisdom in Hinduism, enlightenment in Buddhism, and harmony in Chinese culture. However, all the descriptions represent the state of mind and state/peace of mind achieved through mindfulness as well as spiritual nature. Therefore, it can be cultivated through mindfulness and spiritual practices, cultural and social works. Similarly, life knowledge, emotional regulation, insight, experiences, state/ peace of mind, focus on the common good, and compassion

commonly uses attributes for defining wisdom in Eastern culture in addition to faith in God in Hinduism. Yoga is the spiritual practice based on Hindu culture which literally unites the mind, body and soul resulting in a higher level of wisdom. However, at the present time, it is a popular practice worldwide for health maintenance and disease recovery. If people are acquainted with wisdom, they can deal with life challenges with the right understanding and by accepting the reality of present life, making right decisions as well as showing active participation in work and duty thereby living happily without becoming hopeless and ambivalent.

Factors Influencing Physical Recovery and Wisdom in Stroke

Enhancing physical recovery and wisdom is extremely challenging among stroke clients in acute stage. The following factors may serve as barriers and facilitators, and those factors are categorized into four types namely: 1) factors related to an individual client; 2) factors related to providers; 3) factors related to social support; and 4) factors related to the socio-cultural context.

Factors related to an individual client. Several factors related to stroke clients may influence their physical functioning and wisdom. The findings related to influencing factors from previous studies were an individual's characteristics, experiences and skills, functional and cognitive ability, psychological factors, and individual participation which are described below:

Individual characteristics. Some correlational studies showed demographic factors (age, gender, education, comorbidity); disease-related factors (strength of paretic limb, pain, incontinence, aphasia, loss of vision and cognitive function and evidence of complications are associated with stroke recovery (Ayerbe, Ayis, Wolfe, & Rudd, 2013; Bakken, Kim, Finset, & Lerdal, 2012; Carod-Artal et al., 2014; Dalvandi et al., 2013; Gajurel, 2014). For instance, a study showed that the stroke

clients, aged 75 years and above has a low level of functional abilities (Korpershoek, van der Bijl, & Hafsteinsdottir, 2011). Similarly, lack of extensive knowledge on strokes can lead to an unhealthy lifestyle with a poor recovery in stroke clients (Ellis, Barley, & Grubaugh, 2013). For instance, Arboix et al., (2012) found a negative correlation among the incidence of medical complications and stroke recovery in terms of adherence to therapy and length of recovery. In contrast, a client's and family's knowledge and understanding regarding a stroke, its causes, the process of care, recovery, and outcomes can bring significant effects for the success of recovery and rehabilitation.

***Experiences and skills*.** Experience is one of the powerful contributions to the development of physical and emotional skill for adaptation and acceptance realities of life (Klein, 2017). Similarly, skill is essential for recovery where experience contributors to the development of skills. Although some clients who have years of experience with a particular illness, they never develop skills needed for enhancing physical recovery. The challenge for health care professionals is to identify what clients have learned from experience, detect what is correct and facilitate in the development of skills that are necessary for enhancing the proposed study outcomes.

Functional and cognitive abilities. A client's perceptions toward recovery may be guided by the level of impairments and disability (Ellis et al., 2013). Similarly, a growing body of knowledge illustrates that chronic illnesses are commonly associated with cognitive deficits that can make performing daily activities challenging. It is evident that lack of physical abilities, cognitive and communication problems associated with a low level of self-confidence and vice versa in stroke clients (Anderson & Whitfield, 2013).

Psychological factors. Client's psychological factors could be a barrier and a facilitator for physical recovery (Salisbury, Wilkie, Bulley, & Shiels, 2010). The psychological factors such as depression, anxiety, perception of recovery influences the functional ability. The result of a meta-analysis reported the association of depression with baseline disability, follow up, and social isolation (Ayerbe et al., 2013). In addition, physical recovery is also strongly associated with feelings of uncertainty, loss of self-control, fear, frustration whereas depression increases the fear of dependency on others, loss of role and self-competence (Jones, Mandy, & Partridge, 2008) which directly influences happiness and wisdom of stroke clients during the recovery process (Danzl et al., 2016; Yeung et al., 2015).

Individual's active participation in care. Evidence shows that the post-stroke clients had a low level of involvement in the care process especially physical activities in acute and post-acute phase (Billinger et al., 2014). Consequently, this situation makes the clients passive and confined in bed, at a high risk of secondary complications and inability to gain progress in ADLS (Ellis et al., 2013). Likewise, a marker of independence on daily activities can symbolize a new stage in their progress and can provide reassurance of their improvement (Jones et al., 2008).

Factors related to providers. Recovery of stroke clients is often influenced by the provider's access to obtain care as well as their knowledge, skill, working experiences, interpersonal relationship with clients and caregivers. For instance, a systematic review found the positive relationship between continuity of care by health care providers at home and client's outcomes in terms of functional status and client's satisfaction (Van Servellen, Fongwa, & MockusD'Errico, 2006). In contrast, lack of appropriate support and follow up care by trained health care providers after discharge is associated with evidence of secondary complications, a decreased level of

confidence in the performance of ADLs which leads to delay in recovery (Akhtar et al., 2016; Ellis et al., 2013)**.**

Factors related to social support. Social support can be defined as any support given other than from health professionals (Kruithof, Van Mierlo, Visser-Meily, Van Heugten, & Post, 2013). Social support enables clients and families to be confident and capable in managing the client's health effectively. Northcott, Moss, Harrison, and Hilari (2016) found a significant relationship in physical function and social support (p =.01). Social support is a positive factor contributing to increase the self-confidence and thereby improves the ability to perform ADLs.

Existing studies noticed that family support is one of the best examples of social support. Similarly, having positive and encouraging family support can help to gain positive outcomes in client's recovery process (Barnsley, McCluskey, & Middleton, 2012; Jones et al., 2008; Lutz et al., 2011). Thus currently many stroke clinical guidelines endorsed the clients and family caregivers throughout the care process to work together in planning, goal setting, treatment, rehabilitation therapies and the care process (Lindsay et al., 2014).

In contrast, sometimes family involvement and their issues might delay the recovery of the stroke clients (Visser-Meily et al., 2006). For example, gatekeeping behaviors or perceived rules set by family members sometime restricted participation and decreased the level of confidence in the ability to perform ADLs (Barnsly et al., 2012). Lastly, the provision of health insurance or financial support is also considered as a social support where poor financial support hinders the utilization of services and could create a crisis situation in recovery (Dalvandi et al., 2013; Lutz et al., 2011).

Factors related to socio-cultural and contextual factors. A client's socio-cultural and contextual factors related to illness and caring may influence stroke

survivors. Lack of culturally accepted interventions could impede the uptake of self-care behaviors. In the Nepalese context, cultural belief and practices directly affect the study outcomes mainly 1) social context and spiritual belief, and 2) availability of alternative and complementary therapies in a local context.

Social context and spiritual belief. Physical recovery might be seen as highly important in countries and cultures where independence is valued. It may be of greater importance to show love and concern through care and attention when a family member is ill. A person's belief about his or her ability and capacity to accomplish a task to deal with the challenges of life is a key factor. It could be strongly influenced by self-care ability and acceptance of reality. A stroke client's motivation and willpower, self-belief, and own recovery goals are related to personal traits which significantly affect gaining confidence in functional ability and full recovery after a stroke (Frost, Weingarden, Zeilig, Nota, & Rand, 2015; Hartigan, O'Connell, McCarthy, & O'Mahony, 2011).

A client's spiritual belief influenced performing ADLs as well as an early recovery (Bays, 2001; Bright, Kayes, McCann, & McPherson, 2011; Lamb et al., 2008). Spirituality i.e., a person's self-awareness, strong sense of self-advocacy and hope could minimize the discharge crisis thereby enhancing the study outcomes at home. Moreover, spiritual and cultural care also helps to gain inner strength, self-connection and regain the meaning of new life after stroke (Norris et al., 2012) which may enhance wisdom.

Availability of complementary and alternative medicine/therapies. Evidence showed that seeking various alternatives influenced the recovery of stroke clients (Dalvandi et al., 2013). In Nepal, people seek a variety of alternative treatment for recovery from any disease, including a stroke along with modern medical treatment

because of its availability and popularity (Raut & Khanal, 2011). Among many, yoga is the most popular CAM in the Nepalese context.

Yoga for People Living With Stroke

This section includes the review of yoga focusing on an overview of yoga, philosophy, and components of yoga as well as yoga and stroke.

Overview of Yoga. The term, yoga came from *Sanskri*t word *Yuj* which means union among mind body and spirit (Mishra, Singh, Bunch, & Zhang, 2012). It is an ancient spiritual healing method (Bower et al., 2014) and a very popular traditional practice in Hindu culture mainly in India and Nepal because the majority of people in both countries are Hindu. Also, it has become common practice worldwide as a complementary and alternative therapy (CAM) for health maintenance and illness recovery (McCall, Ward, Roberts, & Heneghan, 2013). More interestingly, World Health Organization began to promote yoga in every country as a Complementary and Alternative Medicine (WHO, 20013) that directly addresses the use of yoga to manage and treat health problems. More recently United Nations (UN) has also declared that the 21st June to be the "International Day of Yoga", and so far, more than 170 countries have supported this move (Goyal, 2019). This is the added step for accepting yoga for health in the world.

Philosophy and components of Yoga. Yoga is one of the domains of wisdom described in the *Bhagavad Gita* the holy book of Hindus (Jeste &Vahia, 2008). It has been practiced for more than 5,000 years (Feurstein, 2003) as a means "spiritual discipline" in Hinduism with the goal of making the mind calm and promoting awareness of self, personal integration, and liberation from suffering- the ultimate goal of life in Hinduism. Later on, the *Patanjali,* a founder of yoga S*utras* synthesized its concept and practice by defining the eight limbed path of yoga (Garret, 1999).

According to *Patanjali*, the eight limb path is interconnected which basically acts as a guideline to human for 1) purifying the mind and body, and 2) how to live a meaningful life that leads to higher stages of health and awareness (Cameron & parker, 2004).

The first two paths, *Yama* and *Niyama* are considered the foundation of the remaining limbs comprising the fundamental ethical, behavioral and attitudinal recommendations. They guide people how to take care of themselves. The *Asana* and *Pranayama* serve to purify body and mind as well as prepare them for the inner journey of meditation. *Pratyahara, Dharana, Dhyana*, and *Samadhi* are various stages of the meditation journey. The eight limb path is considered a tool for progression of harmony/wisdom at a higher level. The ultimate goal of yoga is to achieve *Samadhi*, the higher level of wisdom in the *Yogic* state. Only very few people can achieve *Samadhi*, or a higher level of wisdom. However, the mind plays a vital role in achieving harmony (Desikachar et al., 2005). Therefore, people try to cultivate the mind to be able to develop wisdom by practicing yoga. In the study, only three components of yoga were incorporated to get positive health outcomes for stroke clients. The three components of yoga are described as follows:

***Asana* (posture)**. *Asana* means "posture" in *Sanskrit* which comprises standing, sitting, kneeling, lying, balancing, inverting, stretching, twisting and contraction and relaxation of muscles, producing a steady posture at a given time (Nayak & Shanker, 2004). According to *Patanjali,* it is the method to calm our mind, create healthful habits and move to our inner awareness. Thus, people can develop the habit of self-discipline and the ability to concentrate through *Asana*. The practice of A*sana* helps the body to gain more strength, balance and flexibility as well as stabilize mind and body. It also helps to establish a proper rhythm in neuromuscular

tonic impulses and improved general muscle tone. So, the impact of *Asana* is not only in physical dimension but it affects other dimensions of the human body such as psychosocial, emotional and spiritual (Desikachar et al., 2005, Mishra et al., 2012).

Pranayama (prana+ayama). *Prana* refers to both breath and to vital energy force of life. *Ayama* refers to length, expansion, stretching or restraint. *Pranayama* is an essential part of yoga. It also goes hand in hand with the yoga *Asana.* There are many types of *Pranayama*, however, unilateral nostril breathing (*Anulim-bilom*) is an integral part of *Pranayama* which is known to alter cardiorespiratory and autonomic parameters as well as improves attention and fine motor coordination (Ghiya & Lee, 2012; Singh, Gaurav, & Parkash, 2011; Telles et al., 2013). It is a very simple and easy breathing exercise which supplies oxygen to the entire body, exercises lungs, stomach, and surrounding organs as well as balancing right and left brain (Rice & Shetty, 2015). It helps to clear out the mind, induce calmness and balance oxygen and carbon dioxide in our body (Nayak & Shanker 2004).

Chanting Aum. Chanting Aum is considered under *Yoga Sutra* and used for *Dhyana* as meditation or it can practice separately as a spiritual pray by chanting other various *Mantra*s. According to Hindu philosophy, *Aum* is the sound of power, faith, and symbol of God (Jain, 2016). While practicing, it allows a person to feel the vibration, sensation, and awareness throughout the body. Similarly, it helps to organize thought and mental consciousness, increasing sensitivity to sensory transmission, purifies the speech, protects the mind by maintaining a constant spiritual connection and allows the mind to connect with the universe/God (Kumar et al., 2010). Moreover, praying by chanting *Aum* produces a deep relaxation of the mind through reduced sympathetic activity and increased vagal modulation as well as balancing the left and right sides of the brain, thereby achieving attention, self-

awareness, concentration, cognition, and intellect (Kumar et al., 2010; Telles et al., 2013). Therefore, the concept of chanting *Aum* is integrated for practicing yoga.

In conclusion, the eight limb path of *Patanjali Yoga Sutra* is considered a process to achieve a higher level of wisdom. However, it is not necessary to follow all the steps for getting its' benefits for happiness in everyday life and health purposes. The mind plays a vital role to create happiness by controlling the breathing which ultimately promotes the progression of wisdom at a higher level. There has been enormous scientific evidence reporting that people can get optimum health and live happily through the regular practice of *Asana* (Schmid & Puymbrokeck, 2019) and *Pranayama* and chanting *Aum* can serve to purify mind and body (Andrew, 2015; Rice & Shetty, 2015) as well asconnecting the body-mind-soul and with higher self as well as with God. This practice also helps to prepare for the inner journey to achieve a higher level of wisdom.

Yoga and stroke. Yoga is a popular, safe and widely used complimentary and alternative medicine in ill and good health conditions (Bayley-Valoso, & Salmon, 2016; Mishra et al., 2012). It has similar basic guiding principles of holistic healing approach (Bio-psycho-social-spiritual) as used in nursing (Dossey, Keegan & Guzzaeeta, 2005; Okonta, 2012). Thus, it is a well-known mind-body therapy which has the power to integrate all dimensions of health in various illnesses including stroke (Bayley-Valoso, & Salmon, 2016; Mishra et al., 2012). Therefore, existing studies claimed that regular practice of yoga can influence in varies functions of the human body having an acute clinical condition (Cramer et al., 2013; Toise et al., 2014).

In regard to the effect of yoga for stroke population, extensive literature has been searched by using the key term yoga and stroke from 2000 to 2016 AD. A total

of ten studies i.e.one meta-analysis, two systematic reviews, four randomized control trials, one case series, and one qualitative study were found. The effects of yoga on stroke were analyzed and presented on the basis of study variables of physical recovery and wisdom of strokes clients.

Yoga for physical recovery among stroke. The effects of yoga on physical recovery are well documented in the literature in terms of motor function, physical exercise, and symptom management/ relief. The details of the shreds of evidence are described as follows:

Yoga for motor and sensory functions/ physical exercise. Physical exercise is one of the basic components of yoga practice which involves standing, sitting, supine/ lying on the back, kneeling, balancing, stretching, twisting, contraction and relaxation of muscles. Yoga can produce steady posture at a given time, increase the tone of weak muscles, improve muscle strength, flexibility, mobility, transfer, and range of motion of the joints and ligaments in clients with clinical conditions (Bayley-Veloso & Salmon, 2016). Therefore, yoga may be potentially promising for physical activity and an improvement of motor and sensory function for stroke clients. The existing studies showed multiple physical improvements after the participation of a yoga program by chronic stroke clients. Those improvements have been significant to balance and coordination, range of motion strength, endurance, walking, perceived motor function, fear of falling, and body sensation (Immink et al., 2014; Schmid et al., 2012; Schmid et al., 2014). For example, Schmid et al., (2014) trialed eight weeks biweekly for an hour yoga session with an additional 40 minutes daily home session intervention for chronic stroke survivors. The results showed multiple physical improvements in the yoga group compared with wait-list control group such as neck ROM (p = .001), passive hamstring ROM (p = .001), upper extremity balance and

strength (p = .002). The study also found some improvement in endurance and average feet walk scores whereas no any changes occurred in the wait-list control group. Likewise, another randomized control trial in chronic stroke survivors by using the 10-weeks yoga therapy revealed significant improvement in motor function (p=0.04) and Stroke Impact Scale (p=0.045) in the yoga group (Immink et al., 2014). In addition, studies also noticed that stroke survivors often showed a high-level of motivation and adherence in the program as well as improved independence, mobility, self-efficacy, satisfaction and exercise capacity (Hogan, 2016).

Yoga for management and prevention of complications. Most of the chronic diseases are often associated with symptoms of fatigue, pain, weakness, insomnia, contracture, spasticity, loss of mobility, pressure ulcer and other impairments (Desveaux, Lee, Goldstein, & Brooks, 2015). Yoga is beneficial for improving the problems in those complications (Oka et al., 2014) such as musculoskeletal pain and autoimmune symptoms, disability and prevents contracture, spasticity and range of motion (ROM) of the joints (Field, 2016).

Regarding symptom management and relief for stroke clients, improvement has been seen in pain, fatigue, depression, anxiety, aphasia, blood pressure and insomnia and fear of falling after regular practice of yoga (Hogan, 2016; Immink et al., 2014; Lawrence, Celestino Junior, Matozinho, Govan, & Booth, 2015; Schmid et al., 2014). For instance, a meta-analysis on yoga therapy for stroke rehabilitation suggested that regardless of severity, age gender, episode or time of post-stroke, yoga causes significant improvement in anxiety, depression, and adverse events (Lawrence et al., 2015).

Yoga for the wisdom of people with stroke. According to Hindu philosophy, wisdom is considered a state of peace of mind or balance of mind-body-soul (Jeste, &

Vahia, 2008). It is a process of knowing oneself as the truth, self-awareness, and self-realizations as well as restoring the balance of body, mind, and soul through the application of experiences, insight knowledge, and understanding along with yoga practice. Therefore, the term wisdom is close to spiritual and emotional wellbeing (Bayley-Veloso & Salmon, 2016). The dimension of spiritual health includes faith, peacefulness, joy, hope, calm, self-control, a sense of life meaning and harmony of life (McClain, Rosenfeld, & Breitbart, 2013).

Basically, a stroke client felt disabled due to the physical limitation and other problems. Ultimately, they tried to withdraw themselves from daily and social activities. This situation can bring the risk of social isolation, feeling of worthless, hopelessness, hasten death and cause disconnection with the self and others, ultimately leading to poor coping with disease, maladaptation to one's self and increased caregiving burden (Chow & Nelson-Becker, 2010).

Yoga has been found to act as a buffer against emotional and spiritual distress by allowing participants to re-engage with their preferred activities and be more self-determined and more efficient (Alexander, Innes, Selfe, & Brown, 2013; Bayley-Veloso, & Salmon, 2016; McClain et al., 2013). The practice of yoga can contribute to gain pleasure and a sense of joy, calm, peace and self-awareness even with the limitation of physical health. For example, after completion of a 90 minute-weekly Iyenger class for 10 weeks a significant improvement on mood disturbance was shown, thereby practitioners gained more hope, motivation, peace, pleasure, and sense of joy in life even in illness (Duncan, Leis, & Taylor–Brown, 2008).

Furthermore, Alexander et al., (2013) conducted a qualitative study to measure the effects of eight weeks of biweekly 90-minute sessions with an additional daily 30 minutes home practice yoga for elderly people at cardiovascular risk. The results

reflected the multiple benefits of yoga: 1) physical function and capacity which is attributed to body awareness, overall fitness, stretching, strengthening and balancing body, deep breathing, enhance energy; 2) mental health attributed to relaxation, stress/ anxiety reduction; 3) spiritual health such as pleasure, sense of joy, tranquility and decrease reactivity and enhanced calmness; and 4) symptom relief, good quality of sleep dietary improvement and enhancing energy.

From a stroke clients' perspective, a qualitative study was conducted regarding the experiences and perceived outcomes of a yoga program (Garrett et al., 2011). At the end of 10 weeks weekly 90 minutes group class, and an additional 40 minutes daily home practice yoga involving movement, breathing, and meditation, chronic stroke survivors expressed their feelings in various aspects. The emergent themes are a greater sensation, feeling calmer and becoming connected. These themes respectively reflected perceived improvements in physical function in terms of strength, range of motion, walking ability, greater sensation, body awareness as well as wisdom in terms of improved mood, hope calmness, self-controlled and sense of reconnecting self with lost part, reduction of stress, understanding the realities and accepting one's self with a changed body and physical limitations.

After analysis of the above-mentioned evidence regarding yoga programs for stroke, most of the studies had found positive outcomes in terms of improving motor function and symptoms relief after yoga intervention in people with stroke. However, multiple tools were used for measuring those outcomes related to physical recovery. While wisdom is a consequence of yoga interventions, it has been reported in a different way, such as spiritual and emotional wellbeing (Bayley-Veloso, & Salmon, 2016), activity participation (Van Puymbroeck et al., 2015) and recovery (Alexander et al., 2013; Garrett et al., 2011) in qualitatively using the stroke client's experiences.

Wisdom related outcomes have not been used as an outcome to measure yoga studies. Even though, most of the yoga interventional studies were conducted on chronic stroke cases and not incorporated in caring. Literature also revealed that some gentle yoga poses are beneficial in the acute stage because the three components of yoga, such as *Asana*, *Pranayama* and *Dhyana* / meditation by chanting *Aum*, are also used in various acute clinical stages (Cramer et al., 2013; Duncan et al., 2008; Marshall et al., 2014; Toise et al., 2014). Moreover, a recent non-cochrane systematic review (Lawrence et al., 2015) and very recently Schmid and Puymbrokeck (2019) concluded that yoga can be used as self-administered practice for rehabilitation in any stages of diseases.

In nursing practice, spiritual and CAM therapy have been incorporated in nursing care to get better health outcomes (Ismail, 2016; Ismail et al., 2018). Also, yoga is considered as a spiritual therapy and a mind-body therapy under CAM. Therefore, it can be assumed that if we integrate the yoga interventions in caring practice in nursing, better health outcomes could be achieved in terms of functional ability and wisdom among stroke clients.

Likewise, it is obvious that stroke recovery occurs more quickly and effectively in the early stage of disease at the same time survivors are more vulnerable within three months after the stroke event. Yet, all the yoga interventions were conducted in the chronic stage, six months after adults with hemiparesis had a stroke. Hence, the dearth of studies had noticed that integrated yoga in nursing care improves physical recovery and wisdom in the early stage of post stroke. However, it was recommended that three forms of yoga as some yoga A*sana; Pranayama* and meditation by chanting *Mantra* can be applicable and benefit the survivor at any stage

of illness. Therefore, three components of yoga can be applied in the acute stage of with some modifications in the study.

Action Research

Action research has long been a milestone to develop a new modern form. In the beginning, action research developed from educational and social research. Typically, it begins with the ideas of social psychologist Kurt Lewin, the founder of action research in 1946. Recently, action research has had a mounting reputation in a variety of disciplines including health and nursing (McNiff, 2013; Vallenga, Grypdonck, Hoogwerf, & Tan, 2009). For deeper understanding and better application, literature has been reviewed regarding action research introduction, purpose, types, along with its philosophical foundation and process of action research.

Action research is an approach employed by practitioners for improving practice as a part of the process of change. Vallenga et al., (2009) described action research as both structure and method of research. As a structure, it permits practitioners to explore and assess their own work where researcher and practitioners work together for generating new knowledge and skills consequently simultaneously practice improved. Similarly, as a method, a health professional collaboratively engages with people to encourage and guide interventions. It involves action, evaluation and critical reflection that based on the evidence.

Purposes. The primary purpose of action research is to produce practical knowledge that is useful to people in the everyday conduct of their life. In the same time, it brings change in specific contexts so existing situation also changed. Similarly, it was also designed specifically to bridge the gap between theory, research and practice as well as incorporated both humanistic and naturalistic scientific traditions (Holter & Schwartz-Barcott, 1993; Vallenga et al., 2009).

In nursing, it was used for different purposes in nursing knowledge development as a methodology in nursing education and practice (Oliveira et al., 2015). In nursing practice, it was used firstly for improving and creating communication and relationships between nurses and clients as well as family (Bevan 2013; Ismail et al., 2018); secondly, in chronic disease management (Chukumnerd, Hatthakit, & Chuaprapaisilp, 2011), thirdly, for creating caring environment in stroke intensive care unit among nurses, clients and family caregivers (Setiawan et al., 2010); fourthly, for preparation of older adult to do daily living plan in hospital which facilitate for moving from acute hospital to home (Reed, 2005) and lastly for mental health recovery (Kidd, Lawrence, Booth, Rowat, & Russell, 2015).

Types of action research. Action research types can be seen as a developmental process over time from the more technical approach of testing theory in a real-life situation to a qualitative approach in participative and cooperative inquiries where researcher and practitioner collaboratively work together with a stronger focus on action (Vallenga et al., 2009). Holter and Schwartz-Barcott (1993), Tripp (2005) and Kemmis (2009) presented three different types of action research namely technical action research; practical action research and critical action research.

Technical action research. Technical action research, also called experimental action research, is guided by the goal of the researcher to test a particular intervention based on a pre-specified theoretical framework (Holter & Schwartz-Barcot, 1993) with aims to improve the outcomes of their practice in a more effective and efficient way. In this action research, the researcher came with an identified problem along with a specific plan of intervention beforehand and made an agreement to facilitate with the implementation in collaboration with the practitioner. The kind of knowledge that results from this approach is predictive knowledge and

major truth is in validation and refinement of an existing intervention model and for this reason, it is essentially deductive. The experiments are basically more descriptive analysis, attempting to study the effects of conditions by some way of measuring or bringing about certain changes under sufficiently controlled conditions.

Practical action research. In this approach, the researcher and practitioners come together to identify potential problems, causes, and possible intervention. In the end, the researcher and practitioners arrive at a new common understanding of the problems and its causes and plan for the change process. Therefore, there is a mutual relationship between researcher and participant. The practitioners remain open to views and responses from others because those experiences occur as a result of the practice. For example, the impact of treatment on a clients' family and the clients.

Critical action research. This type of action research is guided by an interest in emancipating people and groups from irrationality and injustice. It is undertaken collectively by people acting together in the first enhancement person as we or us. All decisions about change are taken collectively: for changing constraints and to change the system. It aims to change the status quoin a large scale of the whole group with a participatory and collaborative effort. It links the practice and theory locally as well as globally with mutual understanding and collaboration among participants.

The majority of nursing studies reported the use of action research under the technical approach followed by the practical approach. However, the critical approach of action research was a rare occurrence. For the study, the researcher used technical action research to generate new knowledge and at the same time improve the health of the clients.

The philosophy underpinning action research. Swepson (1995) suggested that a post-positivism paradigm for guiding the technical approach of action research.

Post-positivism is the one type of philosophy which explores the meaning and nature of truth by more focus on individual perspective which leads to subjectivity in the result (Butts, & Rich, 2015). Sir Karl Popper is a leading philosopher of post-positivism (Clark, 1998). Post-positivism is an attempt to exceed and upgrade positivism but it did not a rejection of all positivist ideas and postulates of the scientific methods (Adam, 2014). Post-positivism also claims about truth without knowing cannot say true or false, therefore, anyone needs to understand the problems of which it is the solution. The post-positivist believes that the goal of science is to move toward finding the truth, even though we can never achieve that goal (Swepson, 1995). It also does not reject quantitative methodology and adopts the modified experimental design. However, it attempts to harness it within a more complex research design and use multiple data collection methods and uses multiple levels of data analysis for rigor (Adam, 2014) by giving emphasis on triangulation as a way of falsifying rather than verifying a hypothesis.

Based on the assumption and attempt to the research questions for the study, the researcher planned to use the technical approach of action research which is closely grounded with the Popperian model of post-positivist science ideas of philosophy.

Process or cycles of action research. Action research is a systematic process, starting from the identification of problems and goal setting by posing questions such as how do we see the situation? how do we improve the situation? (McNiff, & Whitehead, 2006). Kemmis, McTaggart and Nixon, (2013) suggested the process of action research generally in a four-step cyclic spiral framework of planning, acting, observing and reflecting on these processes and consequences and re-planning, acting and observing and so on. This four steps of the spiral framework can be considered

for the basis for the modern process of action research (Vallenga et al., 2009). Prior planning, the initial phase of action research follows and completes the reconnaissance or fact-finding (Tripp, 2005).

Reconnaissance. It is a situational analysis which produces a broad overview of the action research context, current practice, participants and concern (Tripp, 2005). The researcher should examine the existing situation of research setting for problem identification through collecting data and generalizes perceived problems. Therefore, data should be collected by the researcher from her/his past work experiences, information from participants in related areas.

Planning. After identification of the needs of clients, plan of action should be made on the basis of perceived needs by clients, their family as well as nurses. The planned action should solve perceived problems. So, data can be collected from a written description of the problems of the participants. In this step, the role of both the researcher and participants will be presented and explained to all participants by the researcher. Furthermore, the researcher and participants view strategies to improve their practice. Additionally, the researcher should encourage and explain to the participants clearly and ensure that they can commit themselves to participate freely, honestly and sincerely.

Acting. The researcher will plan to start the session with a short introduction and brief talk from the participant. The researcher and the nurses implement caring interventions for individual clients in collaboration with caregivers. Similarly, the input of other health care providers are included during this phase. The researcher collected the data by using several methods of data collection.

Observing. Observation may provide a reasonable foundation of critical reflection. The researcher should take notes of every action and monitor closely for all

actions. Furthermore, the researcher uses the various methods for data collection such as diary and paper which remind the researcher more accurately what happens in action process**.**

Reflection. It means to analyze, synthesize, interpret, explain and draw the conclusion from the previously performed action. In action research phase, the performed actions are evaluated by collecting data from individual and focus group interview with participants then analyze the findings. After analysis, the findings need to be interpreted. The researcher should encourage the participants to reflect their practice individually and in groups for getting more responses. After the action, observation, and reflection, the developed plan should be revised by using the next cycle of action research. Some changes, addition, and exclusion may be needed on a previously developed plan.

Summary of Literature Review

Stroke is a sudden attack life-changing chronic disease. After the stroke, clients face multiple problems and live with physical residual impairment, uncertainty and fear. All of the problems are interrelated and interconnected which directly and indirectly affects the physical recovery and adjustment and acceptance of the life situation. Therefore, clients are physically and emotionally more vulnerable as well as they struggle for adjustment with their new life by searching for self-identity, dignity and meaning of life post stroke. Therefore, they need a holistic and humanistic care approaches. Similarly, needs and concerns changed overtime as they moved from one stage of care to another stage. However, the acute stage of care is the most important time initiation of any intervention program for recovery. This is because firstly, maximum recovery takes place within the first three month of disease onset due to maximum flexibility and neuroplasticity of the brain which starts from the 2nd day

after the stroke. Secondly, clients had a high desire and hope for recovery. So they can be motivated to practice if they are encouraged in a positive way. Thirdly, this is the transition phase from hospital to home care setting and maximum risk time of getting secondary complications. So, they need more support and care for recovery.

Even though, there is a rapid change of technology, basic caring integrating spiritual practices has been proved to be crucial and worth paying attention as important health resources for critically ill clients in both developed and developing countries in maintaining and promoting health. Yoga is a spiritual practice and way of life among Hindus people. It has a good effect in stroke rehabilitation, safe and cost-effective for any group of people. It has many physical exercises, meditation and breathing exercises which may help the stroke clients for gaining the physical recovery and wisdom. Hence, it was not integrated into caring among stroke population in the acute phase. In addition, nurses can play a key role in rehabilitation for achieving the positive health outcomes in stroke client using holistic caring incorporating yoga as a spiritual practice in daily nursing care.

This integrated caring practice was congruent with the Nepalese context because yoga is based on Hindu tradition. It is a way of life of Nepalese people and cultural heritage of the country. So, the researcher would like to develop a new caring model integrating yoga for promoting physical recovery and wisdom in stroke clients. The technical action research was used as a method to develop the new knowledge in a participatory way which helps to gain immediate results in the study context. It was used because of its potential ability to change the existing practice and in the meantime, improve clients' health outcomes.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the research methodology for this study. It was organized into various aspects as research design, setting and context, study participants, ethical consideration, research instruments for data collection, research process, data collection methods, data management and establishment of trustworthiness of the data.

Research Design

The design of the study was based on a technical action research paradigm (Kemmis, 2009; McDonnell & McNiff, 2016). This design was chosen due to its potential ability to bridge the gap between knowledge and practice of the participants ultimately improving the condition of stroke clients through achieving positive health outcomes and quality nursing care. The study was carried out from August 2017 to July 2018.

This approach of this research was selected as an appropriate method for this study due to a number of reasons. Firstly, the participants, especially the nurses, were limited in theoretical knowledge and technical skill because most of them were novices in caring for stroke clients and some of them only had a diploma level of education. Secondly, the researcher could play an important role in the identification of the problem and specific interventions with the collaboration of nurse supervisors, clients, caregivers as well as other healthcare providers. In addition, the model was implemented and modified through the action research process with the active participation of the researcher and all participants. Moreover, the results of this approach changed the practice and caring environment efficiently and immediately (Holter & Schwartz-Barcott, 1993).

Research Setting and Context

The study was conducted in a neurological ward of a tertiary level hospital in the capital city Nepal. The hospital was serving around 1,000 beds along with various specialty and super specialty acute care services. According to hospital records, the neurological ward has 35 beds and provides services to the neurological clients including stroke clients. To make the work easy, the total of beds was divided into three blocks: critical care beds (6), general beds (19) and cabin beds (10). However, there was no separate block only for the stroke clients where around 50% of cases were admitted due to stroke (Gajurel, Parajuli, Nepali, & Oli, 2012).

Since it was a central referral public hospital; clients came to this hospital for treatment from different parts of the country. The hospital had a system and some process to manage the stroke clients. When stroke clients arrived at its gate, the emergency department was the first site for management. In this site, management focused on life-saving treatment and early diagnosis. Afterward, stroke clients who did not need life support care were admitted in the neurology unit.

In the neurology unit, stroke clients received both acute care and rehabilitation until being discharged. The stroke services were provided by health care teams such as doctors, nurses, physiotherapist and different levels of medical and nursing students. The entire professional held the client's round together every day even though the formal multidisciplinary team has not formulated to manage the client.

Regarding the nursing staff, a total of 16 nursing staff were working in the unit including two unit in-charges and a nursing supervisor. Nurses worked in the unit round the clock (24 hours a day, 7 days a week). The duty hours was divided into three shifts in a day, morning shift (8 am- 4 pm); evening shift (12 noon -8 pm) and night shift (8pm -8 am). During the morning and evening shift, there was a 4-hour

overlap which was beautifully utilized into lunch/break time for the morning and evening shift. The role and responsibility of the nurses working in the unit was based on their position.

Basically, the nursing supervisor took overall responsibility of the unit, and coordinated with other health care providers and higher authorities as necessary. She also was involved the process of problem-solving for any issues which were not solved by in-charge nurses. Likewise, she was involved in the grand round with the multidisciplinary team which was held once a week as well as daily doctor's round as necessary. In addition, the supervisor prepared the duty schedule for all the nurses and ward assistants in the unit.

Two nurses in-charge took the responsibility in the morning and evening shift, one in each shift respectively. Nurses in-charge also had responsibility for managing the unit as necessary with regard to equipment and inventories. Similarly, they also assigned duties to the staff nurses every shift based on block and beds. Since there was no nurse in-charge posting for the night shift, a senior staff nurse was assigned the night shift and took all the responsibilities. Every duty nurse held overall responsibilities: holding the doctors round, providing total clients care, routines and paper work round the clock. In addition, the duty nurses handled all the activities at night but they could consult the floor supervisor as necessary in the night shift. During the night shift, a floor supervisor took responsibility for all the units located on that floor.

Regarding the nursing care for the stroke clients, it was based on total client's care which was given by the staff nurse. Even though staff nurses had responsibility to provide total client care, they focused only on routine bedside care, and completing the necessary tasks, as well as following the physician's instructions along with

teaching family caregivers about ADLs, especially, tube feeding, catheter care, skincare and use of diapers as necessary along with symptoms management like fever, vomiting, cyanosis, and tackling any emergency crisis.

Based on the pilot study, basic nursing care, i.e., tube feeding, skincare, catheter care and client assessments using the Glasgow Coma Scale, were outstandingly performed by the nurses. Even though nurses provided outstanding basic nursing care by involving the family caregivers in care practice, it was insufficient to meet all the basic needs of the stroke clients. Since there was no provision of special training or job entry training regarding neurology including stroke for nurses, nurses learned the new knowledge of care from day to day experience and role modeling. In addition, they used their own knowledge and skill to provide care to the stroke clients as they learned in their nursing study period. Also, there was no formal educational program and written materials such as booklets or pamphlets for clients and family caregivers or guidelines for the nurses. Moreover, because the shortage of nursing staff was a major issue in the unit, a family member asked to be involved in the care process as a substitute and thus reducing the workload of nurses rather than empowering them in client's care.

Regarding the outcome of the stroke recovery in the unit, it was found that the around 80% of clients were dependent in ADLs for one month after stroke (Gajurel, 2014). Similarly, some of the stroke clients were discharged home with physical impairment; Foley's catheter and nasal tube for feeding (see pilot study). The above situations reflected that support and continuity of care after discharge was needed. In fact, neither hospital prepared the clients and family caregivers to take care of clients at home nor home care services provided continuity of care to support them after discharge.

Since there is an underdeveloped home and community-based rehabilitation service system in Nepal, it was necessary to prepare clients and family members during hospitalization for taking responsibilities of care to clients at home following discharge. So, the nurse's role was vital in preparing and making them unable to take responsibility for managing the client's health during hospitalization and after discharge.

Study Participants

The participants were divided into two groups: key and associate participants.

Key participants: A total of 16 registered nurses working in a neurology unit of the hospital having a bachelor level of nursing education, voluntarily participated in the study. All the registered nurses, Hindus by religion and working in the neurological unit, including the unit nurse (in-charge) and unit nurse supervisor, were key participants of the study.

Associate participants. A total of 16 adult stroke clients and their family caregivers as well as one head of the department of neurology, three neurologists were interviewed as associate participants for getting information about the study concepts.

Stroke clients. A total of 16 adult clients were taken for the participants. The inclusion criteria were 1) diagnosed with stroke and admitted hospital ward; 2) aged 18 and over and Hindu by religion; 3) who had cognitive intact based on mini-mental state examination (MMSE > 20); 4) having hemiparesis; 5) back home after discharge and being cared by family members; 6) available by telephone call; and 7) agreed to join the program. Exclusion criteria were 1) length of hospital stay of the clients less than seven days; 2) unstable medical condition during the study period; and 3) signs of increased intracranial pressure and seizure during the research period.

Family caregivers. A total of 16 primary family caregivers aged over 18 years old and willing to participate in the study and able to share their experiences were included in the study. The family caregivers were family members like spouse, parents, children of the clients, and in-laws. They provided unpaid care to clients during hospitalization and continuity of care at home after discharge.

Ethical Consideration

All the relevant ethical principles were followed before conducting the study. Firstly, approval was obtained from the institutional research board (IRB) of the Faculty of Nursing, Prince of Songkla University. After that, the official permission letter was obtained from the hospital authority. Similarly, the approval letter was obtained from the Nepal Health Research Council (NHRC).

Written and verbal informed consent from each participant was obtained by using informed written consent form in the Nepalese language (Appendix A). At first, participants were explained about the study objectives, study process, and contribution of the study in the health delivery system in Nepal. After that, voluntary participation was encouraged. The participants had the liberty to withdraw at any time without any charge. The researcher maintained anonymity and confidentiality through keeping data secret and using data only for analysis. Any identities including photographic and verbal records were taken with the participant's permission.

Research Instruments

The study had used several data collection instruments which included screening tool, demographic information form, qualitative and quantitative data collection instruments. For the qualitative data, the researcher herself was a data collection instrument. Likewise, in-depth interview guidelines, reflection guidelines, observation form, the researcher's diary, camera and voice recorder were used. In

addition, during the research process, digital audio recording was used for all participants to collect the data. Likewise, the Modified Barthel Index, Freiburg Mindfulness Inventory, Daily Yoga Practice Assessment Tool, and Client's Complications Assessment Tool were used for quantitative measures to collect the data only from the clients.

A screening tool. Mini-Mental State Examination was used for selection of the stroke clients. It was valid, reliable and the most commonly used instrument for cognitive screening in a clinical setting for stroke clients (Lou, Dai, Huang, & Yu, 2007). It had 30 items totaling 30 with a cutoff point of 18. It consisted of seven dimensions which included orientation to time and place, registration of words, language, recall of memory, attention, and calculation, and construction. In a previous study (Wong, & Yeung, 2015), a cutoff point for cognitive competence with MMSE > 20 was adopted for providing in-clients rehabilitation care and the clients with MMSE > 20, which could show active participation in the care process (Appendix B). The same level was used in the study.

Demographic Information Form. The Demographic Information Form was used for gathering the personal information of all participants. The forms consisted of general characteristics of the key and associate participants in addition to disease-related information for the stroke clients (Appendix C).

Qualitative assessment measures. It included in-depth interview guidelines; reflection guidelines, observation form, camera, and digital audio-recorder.

In-depth interview and focus group discussion guideline. To gain understanding of the situation and the process of the development of a caring model and yoga concept, the researcher conducted a series of in-depth interviews with clients and family caregivers by using separate guidelines. Group discussion and in-

depth interviews were conducted with nurses and an in-depth interview with other participants. All interviews and discussions were recorded in a digital audio recorder (Appendix D*).*

Reflection Guideline. The main purpose of this method of data collection was to get the real experiences of participants after the intervention. This helped to explore their views on perceiving physical recovery and wisdom. Separate reflection guidelines were used with the nurses, stroke clients, and family caregivers after completion of each cycle of the action research process, and the digital audio recorder was used to record their views (Appendix E).

Observation Form. The main purpose of this method of data collection was to observe and carefully note any changes, events, and progression of the participants in a natural setting during the research process. The researcher used this observation form during the whole study (Appendix F).

Camera. A camera was used by the researcher to capture the significant actions, events, and situations

Digital Audio-recorder. This was used by the researcher to collect narrative data during the in-depth interviews and focus group discussions and group meetings after getting the permission of the participants.

Quantitative data collection instruments. This included the Modified Barthel Index; Freiburg Mindfulness Inventory; Daily Yoga Practice Assessment Tool and Client's Complications Assessment Tool that were used for quantitative measures to collect the data only from the clients. All tools were used only on the stroke clients to assess the physical recovery and wisdom by the researcher.

***Modified Barthel Index*.** This was used to measure physical recovery in terms of functional ability in daily living (ADLs). It has become a popular and widespread

used scale for measuring the functional ability and disability outcomes for stroke clients. Regarding neuro-rehabilitation, it is a highly valid and reliable tool with alpha = 0.89 to 0.90 (Harrison, McArthur, & Quinn,, 2013; Quinn, Langhorne, & Stott, 2011; Wade, & Collin, 1988). It has been used with rehabilitation clients to forecast the length of stay and to specify the number of nursing care needs. It was developed by Mahoney & Barthel in 1965 and explained an index of client's independence ability with neuromuscular disorder clients. This tool measures the level of independence in ADLs in 10 areas namely feeding, bathing, dressing, grooming, bowel and bladder, toilet use, transfer, mobility, and stairs. The score ranges from 0-100 with higher score indicate lower dependency. The items were weighted and scored according to the client's perceived importance and usually summed to give a total score. It was administered via interview of the client. This scale was used at baseline, before discharge, 4-5 weeks and 8-10 weeks after discharge (Appendix J).

Freiburg Mindfulness Inventory (FMI). It was used for measuring the wisdom in a quantitative measure for supporting the qualitative data for wisdom in stroke clients. The FMI was a useful, valid and reliable questionnaire for measuring mindfulness. The 14 items covered all aspects of mindfulness. It rates 1-4 responses from rarely (1) occasionally (2) fairly often (3) almost always and (4) and the short description about mindfulness was presented as follows. Mindfulness is an important part of yoga practice. Yoga has conceptualized terms of 'mind-body' exercise a synergistic experience of emotions and physical experiences (Shelov et al., 2009). Due to this mind-body emphasis of the yoga practice, it was hypothesized that a yoga intervention would enhance levels of mindfulness in individuals that had no prior yoga experience. It was used at baseline, before discharge, 4-5 weeks, and 8-10 weeks after discharge.

Daily Yoga Practice Assessment Tool. A yoga practice checklist was used to monitor and assure that the client practiced yoga regularly and adequately. The checklist consisted of yoga *Asana, Pranayama* and chanting *Aum.* The practice was recorded as 'yes' or 'no' response where 'yes' represents that clients can perform and 'no' means cannot perform the yoga. In addition, reflection was included in the assessment tool for finding out the feeling after practicing yoga. The tool was used by nurses in the hospital and by family caregivers at home. It was also be observed by the researcher. The checklist was used daily by the nurses in the hospital. However; the researcher regularly observed and checked the practice skill form daily in the hospital and, 4-5 week and the 8-10 week after discharge. Therefore, the researcher asked the patents/family caregivers to it use at home and bring it at the time of the follow up visit at the hospital (Appendix G).

Client's Complications Assessment Tool. This form was used to record all complications that developed in the process of treatment/care during the study period in the hospital and at home following discharge. The researcher used the form and recorded information during hospitalization. It was obtained from the client's assessment, observation and client's record file by the researcher regularly at baseline, before discharge, and 4-5 weeks and 8-10 weeks after discharge. The complications assessment tool included pressure ulcers, infections (urinary & chest), constipation, insomnia and pain (Appendix H).

The researcher. The researcher was an important instrument for data collection because the background of the researcher may influence data collection. The role of the researcher was as an insider to implement the action research method along with nurses to produce mutually agreeable outcomes. The researcher-led and guided the whole research process. Similarly, the researcher organized a one day

workshop and meetings. To accomplish these, the researcher adopted many different roles as necessary at various stages of the process, such as acting as a tool for data collection, facilitator/supporter, trainer/ care provider, and synthesizer/reporter.

A tool for data collection: the researcher helped the nurses to identify stroke clients' problems, existing potential and needs, causes, barriers, and possible solutions. The researcher listened to the clients' and caregiver's concerns to understand their views, experiences of care and social context. Similarly, the researcher asked questions to the clients and caregivers. She observed the situation for collecting data as necessary. She took the focus group discussions and in-depth interviews with key and associate participants.

***Facilitator/supporter*:** the researcher worked as a facilitator and supporter during the research process by building a trusting and caring relationship, listening to the concerns of key participants and providing care, suggestions, and encouragement to the nurses, clients and family members as necessary.

Trainer/care providers: Firstly, the researcher trained the nurses to make them knowledgeable, skillful and competent for implementation of the program through seminars and training workshops; coaching, demonstration, and re-demonstration; holding group meetings and providing booklets. She was also involved in clients care directly and indirectly in any kind of usual care and the care related to the program.

Synthesizer reporter: The researcher synthesized all related information for finalization of the model by analysis of all collected data.

The relevant educational background, personal and working experiences have supported the researcher to play the above role actively. The researcher is a clinical nurse as well as a nurse teacher in a university. During her career, she spent around 15 years as a clinical nurse at different public hospitals from primary to central-level

hospitals. Besides clinical practice, she has had experience in teaching and guiding students in the clinical area of medical and surgical nursing including neurology.

For personal life experience, being Hindu by religion, the researcher practiced chanting *Mantras* in her daily life as a part of her religious duties. Besides chanting, she has experience of yoga *Asana* and *Pranayama,* meditation and spiritual activities related to Hinduism. She gained her knowledge on yoga by self-practice, participation of the yoga program, observing the practice of yoga in a yoga center as well as watching the yoga programs on national and international television and websites. Regarding the academic knowledge on yoga, she studied 'Holistic Health and Eastern Therapies' including yoga while completing her PhD study at Prince of Songkla University and took a short course training regarding yoga in Thailand. Therefore, she used her knowledge and experiences in the research process for the development and evaluation of a caring model incorporating yoga.

Research Process

The research process consisted of three phases 1) preparation/ preliminary phase, 2) action phase: reconnaissance, planning, acting, observing and reflecting, and 3) evaluation phase.

Preparation/ preliminary phase. The main objective of this phase was to develop a tentative caring model incorporating yoga for stroke clients. The researcher carried out some steps for preparation. The steps were 1) building rapport with the participants, 2) developing a tentative caring model, 3) recruiting and preparing the research assistant (RA), and 4) obtaining approval and permission letters from relevant authorities.

Building rapport. This was the first step for the study, in order to establish a good inter and intrapersonal relationships with nurses and the health care team (HCT)

in the neurology unit. The researcher used some strategies as firstly, she obtained an authority letter from the hospital administration and introduced herself as a researcher. Secondly, she presented the purpose of the study among nurses and the entire health care team of the neurology as well as tried to embed herself as a team of the health care in the unit. Thirdly, she spent around two months in the ward during her pilot study. So, the researcher was able to establish good interpersonal trusting relationships among nurses and the health care team in the proposed study setting.

Development of a tentative caring model. The model was developed based on two main steps: literature review and pilot study along with the researcher's own experiences.

Literature review. For the development of the tentative caring model, a comprehensive literature review was performed regarding stroke, yoga, and the concept of care. The source of the literature review was based on books and journals from the electronic database and libraries. The model development was based on a concept of general caring based on culture-specific caring relationships, behaviors, and caring actions. In addition, yoga *Asana*, *Pranayama*, and chanting *Aum* were incorporated while providing care. The developed tentative caring model was described in Figure 2. The tentative caring model was more abstract in nature. For making the model more applicable, a program for the tentative caring program was developed. The content of the program was shown in Table 1 below whereas a detailed teaching plan was described in Appendix K-1.

Pilot study. A pilot study was conducted with five stroke clients and their family caregivers in a university hospital (the same setting as the study). The purpose of the pilot study was to understand the study context and test and refine the tentative caring model. The process of the pilot study was followed only one cycle of the action

research in a 6 to 8 weeks time-frame. The tentative caring program as mentioned in Table 1 was implemented and data were collected by the researcher.

Lesson learned from the pilot study. The researcher was able to establish good rapport and trusting relationship among the health professionals. She also learned about the participants' and understood them better including the context and nursing care. The researcher better understood the approach of implementation of intervention for the stroke clients which was more challenging in the beginning. However, stroke clients and caregivers showed their interest in yoga practice. They used it with comfort and easily accepted it. Similarly, improvement was also noticed in some aspects of physical health particularly in voice, physical exercise, and movement. More importantly, the clients looked more cheerful and happy while practicing yoga. This indicated that they really liked the program, and were attracted to the interventions and showed good manners and attitude. Also, they may have felt some benefits and changes within themselves and in their recovery. Therefore, they were excited to join the program. In conclusion, yoga could be incorporated in caring for an early recovery of the stroke clients. The findings of the pilot study were incorporated in the refining of the tentative caring model and contents of the program as described in Table 1, below.

Table 1

Contents of Tentative Integratwd Caring Program for Stroke Clients

Part-I Essential care: Education and information	Part-II Specific care: Yoga for rehabilitation/ recovery
1. Overview of stroke knowledge	1. Overview of yoga
2. Complications prevention and management	2. Components of yoga:
3. Discharge reconciliation: medication regimen, point to contact and follow up	a. *Asana* (physical exercise); b. *Pranayama* (breathing exercise)
4. The technique of positioning, transfer, and mobility	c. *Aum* chanting (meditation)

Recruiting and preparing research assistants (RA). Two RAs were recruited for the study. The RAs held a bachelor in nursing with previous experience in research or data collection process. One of the research assistants was recruited from nursing staff in the neurological ward and another from the lecturer of the university campus. The researcher provided a one-day orientation training course for the research assistants. During the training, the researcher explained the objectives, protocol, and process of research as well as visiting client at home after discharge. The research assistants had been provided an explanation about their roles and responsibilities during the process of the study. They helped the researcher in the whole research process such as holding a meeting, seminar, and workshop. In addition, they were involved in data collection from the participants. Furthermore, the research assistants recorded the in-depth interviews by using a tape recorder as well as taking pictures during those activities.

Action research phase. This phase was divided into reconnaissance and the four-steps repeat spiral of plan, act, observe, and reflect. A complete four-steps was considered as a cycle based on the modern definition of action research.

***Reconnaissance*.** The researcher established a positive relationship with key participants for a better understanding of the context and practice of nurses in the neurology unit. To proceed with the research process, the researcher followed some activities as described below.

Firstly, the researcher presented her proposal and research process to the staff of the neurology unit. For this, the researcher organized the one-day meeting. Participants for the meeting were the nursing staff of neurology ward, nursing supervisors, and the head of the department of adult nursing and the neurology unit of

the hospital. The researcher asked all nurse participants to sign the consent form to enroll in the study. A research assistant assisted the researcher in the process.

Secondly, the researcher gathered data through in-depth interviews and group discussions with the help of the research assistants, which were conducted with key participants (nurses) for obtaining their views regarding nursing care for managing their problems and fulfilling their needs. Similarly, an in-depth interview was conducted with the physician for more information which helped to explore and obtain a better understanding of the current situation for enhancing the physical recovery and wisdom of stroke clients. Additionally, the researcher observed the situation regarding context in the ward through participant observations for gaining more understanding about the client's present problems, expectations, needs as well as resources and support.

Finally, the researcher visited the stroke clients and their caregivers in the unit to select them for the study on the basis of inclusion criteria with the help of the nurse in-charge of the unit. The clients, who met the inclusion criteria were informed of the research objectives, and research process and asked to sign the consent form. After taking consent, the researcher and the research assistants assessed the clients' socio-demographics and disease-related information. All baseline data were gathered by using the assessment tools. All gathered data of this phase were analyzed and interpreted to gain an understanding of the situation of nursing practice as well as the health condition of the stroke clients. All the findings from this phase were incorporated into the tentative model and planning step of the action research.

Planning. In this phase, the tentative caring model was introduced among the key participants and associate participants by holding a group meeting. In this step, the researcher and the key participants expressed their views, made objectives and

strategies to implement the caring model successfully. Similarly, the researcher explained and encouraged the participants clearly to ensure their commitment to participate freely, honestly and truthfully. Moreover, based on the contents of the interventions, a teaching plan and a booklet were prepared and translated into Nepali language with the help of the key participants.

Similarly, the researcher organized a one-day seminar and training workshop on concepts of caring and yoga for all neurological nursing staff, and other related professionals as needed e.g., all physicians working in the neurology unit, one neuro-surgeon, two physiotherapists and all the faculties of adult nursing, head of department of fundamental nursing and community nursing from the nursing campus. The training was hosted by the researcher, where one neurologist, two nurses working in the neurology, one yoga teacher and the researcher were key speakers. The researcher and nursing staff of the neurology unit had taken all responsibility for the workshop whereas the researcher facilitated the nursing staff in this work.

Acting and observing. First of all, the model was implemented in the hospital; however, the study was continued at home to follow up until 10 weeks after discharge. In the hospital, the tentative model was used as a clinical guideline for providing care to the stroke clients in collaboration with nurses, clients, and family caregivers.

The researcher guided the nurses as well as clients and family as necessary in the care process by providing education and yoga practice to the clients. She also maintained a collaborative relationship with other health care team for implementing the model. The nurse's role was being involved in the care process as well as observing and followed the clients whether they were doing practice properly or not. Similarly, the role of the stroke clients while at hospital was being involved as they

could in the care process whereas the role of the family caregivers was being involved actively and providing support in the care process to the clients.

***Reflecting*.** Reflection was performed with both key participants along with clients and family caregivers about their perception; a sense of satisfaction for evaluating the outcomes of the model by using reflection guideline was achieved. Following the action, observation and reflection, the researcher and nurses compared the initial plan with the findings and situation and made a conclusion by holding a meeting. Afterwards, the plan was revised for using next cycle. The plan was constantly revised, modified until generating an appropriate model for enhancing the positive outcomes.

Evaluation phase. The model implementation was evaluated for investigating and determining what outcomes were achieved and what outcomes were not be achieved along with barriers and facilitators for implementation of the caring model. The research outcomes were part of the model evaluation. Therefore, the outcomes were evaluated by a qualitative and quantitative method. The evaluation was given in a different time-frame such as baseline, at the time of discharge, and 3-4 and 8-10 weeks following discharge from the clinic and a home visit. In addition, the telephone calls were done to obtain the information of the clients and solving the problems as necessary after discharge during the study period.

Data Collection Methods

Data collection and data management were conducted simultaneously in each phases of the action research. For the study, individual interviews, focus group discussion, observations, field notes and client's relevant recorded documents were used for data collection methods. In addition, a digital audio recorder and camera were used to gather the data during the process of the study.

In-depth interviews were conducted for understanding the situation of the ward in the reconnaissance phase and for gaining information and suggestions during reflection for the model implementation in each cycle along with evaluation of the model from the all participants. Similarly, a focus group discussion (FGD) was conducted to understand the existing situation of nursing practice in the reconnaissance phase from the nurses. It was also used to explore the nurses' experiences regarding model implementation and model evaluation of the action phase and evaluation phase of the study.

Observation was conducted to get the real experiences of participants after involving in the intervention. Participant observation was conducted during the acting and observation phases in each cycle of the study. With this method, the researcher observed carefully along with noting any changes, events, and progression of the participants in a natural setting during the research process. Moreover, diary was used for field notes in each phases to note special issues, communication and information related to the process of the model development. In addition, a digital audio recorder and camera were used for recording the dialogues and also to capture the nonverbal clues which could show the participants and the researcher's valuable moments and detailed experiences during the study.

Data Management

This included data management in each phase: data analysis, data translation, and establishing the trustworthiness of the data.

Data analysis. Descriptive statistic were used to analyze the demographic data, disease-related data, physical recovery based on Modified Barthel index, mindfulness and complications of the clients. Similarly, content analysis was used to analyze the qualitative data gathered from in-depth interviews, focus group

discussions, observations and reflections. The process of analysis was done from the beginning of the data collection. The steps of content analysis from Elo and Kyngas, (2008) were followed and are described as follows:

Initially, the researcher transcribed the audio recordings of the interviews and observations. Secondly, transcript dialogues were read several times so the researcher became immersed in the data for selecting. Afterwards, the researcher selected the unit of analysis. The unit of analysis refers to the part of the text that was abstracted from the transcript verbatim. Thirdly, codes, subcategories, categories, and themes were developed. At last, the relationship of the themes was analyzed and linked to expose the structure of the study concepts for enhancing the care process. Issues of data translation were managed by the researcher.

Data translation. When a qualitative study needs to be translated from source language to another English, there may be consequences related to the trustworthiness of the data because a concept in one language may have different meanings than another language. Likewise, there may be some words in the original language which may lead to loss of meaning which in turn reduces the trustworthiness of the qualitative data (Elo et al., 2014). Therefore, the researcher used the process of data translation described below.

The Nada and Tiber Linguistic theory (Van Nes, Abma, Jonsson, & Deeg, 2010) was followed for translation from the source language (Nepalese) to the target language (English). The translated text was verified by consulting two bilingual persons who had experience of qualitative data analysis and translation. The first one was an associate professor in the faculty of nursing and the second one was a professor in the faculty of public health. The strategies of translation were rich description with use of quotes of participants and special attention was paid for

metaphor translation. The researcher and translator discussed possible wordings, and translation was done since the early phase to reduce effort and refine the translation for the later phase.

Establishment of trustworthiness. In establishing trustworthiness, Lincoln and Guba created four criteria in qualitative research, known as credibility, dependability, confirmability, and transferability (Lincoln & Guba, 2085). In the study, the researcher has established trustworthiness by using the above four criteria as follows:

Credibility. This is related to the accuracy of the description of the phenomenon. For the study to establish credibility, the researcher applied prolonged engagement, persistent observation, referential adequacy, triangulation methods, and peer debriefing according to Lincoln and Guba (1985).

Firstly, prolonged engagement was maintained by spending a prolonged time (around one year) in the field with the participants by the researcher to become oriented with the situation and work together with nursing staff to build trust, learn context and minimize distortions. Secondly,persistent observation was done by the researcher for the sake of identifying silent factors during the whole period of the fieldwork. Thirdly, referential adequacy was maintained by using various materials to records the raw data i.e., digital audio recorder, camera, papers and diary. These tools were used for rechecking and confirming the accuracy of the data. Fourthly, triangulation, data were gathered by using multiple methods including interview, reflection, observation and field notes from different groups of people (nurses, clients, family, and physician) at different times from the same people. Finally, peer debriefing was done by consulting the thesis advisor. The researcher consulted and

discussed the whole data analysis with the thesis advisor who has more experience in a qualitative study.

Dependability. It refers to the stability or reliability of the data over time over condition (Lincoln & Guba, 1985). In the study, dependability was enhanced through describing the rich description of the study participants and methods i.e. the exact data collection method and analysis process i.e. code and recode of findings and triangulation of data. In addition, to enhance stability over time by repeated observations of the same events. For the audit, the researcher checked the whole research process and tracked the raw data, recoding data reduction. Similarly, the researcher compared, refined, revised and coded the data many times as well as verified the interpretation of data with the thesis advisors and rewrote.

***Transferability*.** This refers to the verification and generalizability of the findings (Lincoln & Guba, 1985). In the study, transferability was ensured through selecting the participants using purposeful sampling and making inclusion and exclusion criteria and providing a final report with a thick description of the data including demographic information of the participants. Similarly, the researcher explained and described enough details of the research process, study context, participants and justification of applicability of the findings of the study. Analysis and interpretation were logical and based on data. There was referential adequacy of interpretation and comparison with existing literature for increasing the transferability.

Confirmability. This refers to the objectivity of data and is related to the conformability audit of the data to examine the findings, interpretation, and recommendations which were supported by the data. The inquiry should be free from bias. It was maintained through explanation and implementation of transparency of

the research process. All the documents and records were kept by the researcher. Confirmability was accomplished, and credibility, transferability, and dependability were achieved.

CHAPTER 4

FINDINGS AND DISCUSSION

The study entitled "Development of a Caring Model Incorporating Yoga for Promoting Physical Recovery and Wisdom of People Living With Stroke in Nepal" was conducted among nurses, stroke clients, and family caregivers by using action research as a methodology. Nurses were used as key participants whereas physicians, stroke clients, and their family caregivers were recruited as associate participants. Findings are presented as follows:

1. Demographic data of the participants

2. Disease-related information of the stroke clients

3. The development process of a caring model incorporating yoga for promoting the physical recovery and wisdom of stroke clients.

3.1. Reconnaissance phase of action research

3.2. Action research process. It included the stages of planning, acting, observing and reflecting to develop a caring model incorporating yoga for promoting the physical recovery and wisdom of people living with stroke.

4. Final evaluation of the model

5. Components of the Caring Model Incorporating Yoga for Stroke

Demographic Data of the Participants

Nurses. All the nurses (16) working in the neurology unit were included as key participants. They were 13 staff nurses, 2 nurses in-charge and 1 nurse supervisor. All key participants were female and Hindus. Their ages ranged from 24 to 55 years and most of them were between 24-30 years. The majority of the participants hold a bachelor in nursing and three had a diploma in nursing. The majority of them (10) had less than five-years of working experience while only three participants had more

than ten years' experience in neurology. However, none of them had special training in stroke care. All the nurses know about the term yoga as being good for health. However, only six nurses practice some yoga components at home. The summary of the key participants' characteristics is given in Table 2.

Table 2

Demographic Characteristics of the Nurses (n=16)

Characteristic	Description	Number
Age in years	21- 40 age group	13
	41- 60 age group	3
Education	Diploma in Nursing	3
	Bachelor of Nursing	13
Position/ Designation	Nurse supervisor	1
	Nurse-in-charge	2
	Staff nurse	13
Working experiences in neurology ward	Less than 5 years	10
	5- 10 years	3
	>10 years	3
Special training on neurology	Yes	2
	No	14
Special training on yoga and stroke	Yes	0
	No	16
Yoga practice at home	Yes (not regular)	6
	No	10

Family caregivers. A total of 16 of nine male and seven female family caregivers were participated in the study. The ages ranged from 18-60 years. The majority of them had basic education and were married. Regarding the relationship with clients, the majority (9) of them were children (son and daughter); five spouses and only two parents. Of 16, only three family caregivers used to practice some components of yoga in their daily life even though almost all of them were familiar

with the term yoga. The summary of family caregiver's characteristics is given in Table 3.

Stroke clients. Sixteen stroke clients (M 9: F 7) participated in the study where the majority of them (9) came from the Kathmandu valley. The age of the clients ranged from 28 to 80 years; four were in age group 28-40 years, five were in age group 41-60 years and seven were in age group 61-80 years, all of them were married and around half of them could read and write. The summary of demographic characteristics is given in Table 3.

Disease-Related Information of the Stroke Clients

Of the16 stroke clients, the majority of them (14) had an ischemic stroke and only two had a hemorrhagic stroke while seven were right-sided and nine left-sided but only three had no history of co-morbidity. Regarding the disease awareness, only six clients knew that the brain is affected by a stroke. More surprisingly, half of them believed that it was happened due to ill spirits (*Lageko*) whereas five said due to high blood pressure.

Similarly, main warning signs FAST (F: face drooping; A: arm weakness; S: slurred speech) were experienced by all but none of them were aware the term "FAST" as warning signs of a stroke. Of 16, only 1 client came to the study hospital within four hours of symptoms though nearly half of them came from the Kathmandu Valley. Likewise, the duration of hospital stay ranged from 8-24 days; the majority of the clients (9) were discharged within 8-14 days; six were discharged within 15-21 days whereas only one client was discharged on 24 days of admission.

Table 3.

Demographic Charecteristics of the Clients and Family Caregivers

Characteristics	Description	Number	
		Client (n = 16)	Family (n = 16)
Age in years	18- 40	4	9
	41-60	5	7
	61-80	7	-
Sex	Male	7	9
	Female	9	7
Marital status	Single	-	3
	Married	16	13
Address	In Kathmandu		
	valley	9	9
	Outside valley	7	7
Education	Read and write only	7	2
	Basic education	8	9
	University level	1	5
Occupation	Household	5	4
	Farmer	2	2
	Service/ teacher	4	4
	Business	5	4
	Foreign employ	-	2
Relation with Clients	Spouse (husband/wife)	-	5
	Children (son/daughter)	-	9
	Parent (father/ mother)	-	2
Habits	Smoking	10	5
	Alcohol	8	7
	Physical inactivity	13	10
Yoga	Known the term yoga	16	16
	Yoga practice at home	3	4

Table 4
Disease Related Information of the Stroke Clients (n=16)

Variables	Characteristic	Frequency
Types of stroke	Ischemic stroke	14
	Hemorrhagic stroke	2
Site of paralysis	Right	7
	Left	9
Comorbidity	Hypertension	9
	Heart disease	3
	Diabetes mellitus	3
	Family history	1
	None	3
Awareness of disease related to brain	Yes	6
	No	10
Awareness about causes/ risk factors of stroke	Evil spirits (*Lageko*)	8
	High BP	5
	Low BP	1
	Weakness	1
	Drug side effect	1
Awareness on term "FAST"	Known	0
	Unknown	16
Seeking first help after symptoms onset	Traditional healer	8
	Medical shop	4
	Hospital	4
Time for presentation at TUTH	Within 4 hours of disease	1
	After 4 hours of disease	15
Duration of hospital stay (Range: 8 -24)	8 -14 Days	9
	15-21 days	6
	> 21days	1

Process of Developing the Caring Model

The study followed the action research process for developing the model which consisted of 5 steps: reconnaissance and four spiral action research cycle of plan, act, observe and reflect. The process moved through a complete cycle of action research from planning, acting and observing, reflecting and revising of the tentative model.

Reconnaissance phase. Reconnaissance was conducted to ascertain the existing situations of stroke clients and nursing practice for stroke clients at a neurology unit of the hospital through in-depth interviews; group discussions with the

participants; observations and field notes. Similarly, it was conducted to establish a positive and trusting relationship with nurses and faculties of the neurology unit by visiting personally and in a group, as well as spending time together with them for a better understanding about the current context and relevant nursing practice. The findings were categorized into two parts: 1) understanding the real situation of the stroke clients, and 2) understanding the real situation of nursing practice for stroke.

Understanding the Real situation Related to the Stroke Clients.

Some problems situations related to the clients were extracted by data analysis from the collected data. The emerged themes were 1) experiences difficulties from sudden onset physical problems on the body; 2) overwhelm by negative feelings in the mind; 3) lack of knowledge and understanding the stroke and care for self; 4) difficulty in coping and acceptance of the problem situation; and 5) motivation, hope, and desire.

Experiences difficulties from sudden onset physical problems on the body. The theme explored the client's problems related to the physical body and its losse of function. Every client expressed stroke as a sudden onset life-threatening situation in their body which occurred unexpectedly, interrupted daily normal life and put them in an emergency condition. However, the number and severity of physical problems were varying among each individual. The theme is supported and can be described by the client's experiences as "living with losses and limitations." It is divided into three categories 1) experiences of physical symptoms; 2) activity limitation; and 3) loss of self-care ability.

Experiences of physical symptoms. the theme reflected the physical symptoms as the stroke clients experiences after getting stroke. Facial drooping, arm weakness, speech difficulties were the most common physical symptoms faced by

each stroke clients at the time of disease onset. Besides, they faced other physical symptoms which were not common to all clients i.e. dizziness (mild-severe), headache (mild-severe), the heaviness of tongue, vomiting, tingling or loss of sensation, tinnitus and loss of hearing, and dribbling of saliva from the mouth. Most surprisingly, vomiting was experienced only by female stroke clients. To make the theme stronger, a client expressed his/her experiences on physical symptoms as follows:

"Initially, I felt severe headache and vomiting. Now I feel dizziness and still have a headache but not severe."(P-5)

A family caregiver stated his/her feeling about physical problems

"At night, suddenly, my mother's limbs did not move on one side, completely "blocked." Her voice was not clear. She drooled from one side when speaking." (F-3)

Activity limitation. After the onset of disease and having life-threatening physical problems, daily physical activities altered as they normally performed before. All the participants expressed their feelings about the reason for activity limitation of the clients. It was found that clients became shocked and gave up body control after having sudden symptoms even though they had paralysis either side of the body. Indeed, they took complete rest in bed without any movement. The main reasons for activity limitation as expressed by the clients were feeling safe in bed, fear of falling, feeling discomfort and pain, no energy, and having many tubes attached i.e., catheter, intravenous infusion, feeding tube and so on. Family caregivers also suggested to the clients for taking bed rest due to illness. Most importantly, they had no idea whether clients could move or not in the acute stage. A family caregiver mentioned their observations of their clients. To support the theme, a client expressed his/her experiences on physical symptoms as follows:

"Today is the 4th day, my mother has paralysis. She is lying in a bed since she got a stroke. I don't know whether it is better to take out her or not. I was just thinking that she may need a rest and should not be moved out." (F-3)

"My mom, couldn't even sit, stand, lost mobility of both legs. She gave up control over her whole body. She shouted.....aa.....ya..... ya like having severe pain."(N-6)

A young female client preferred to stay in bed and felt safe. She stated:

"I also have a fear of falling when I try to walk. Thus, I do not want to walk anymore and wish to lie on a bed. I felt more comfort and safe while lying down in bed." (N-4)

Loss of self-care ability. After having a stroke, normal day function was hampered suddenly and unexpectedly as expressed by all participants. Thereafter the clients became fully dependent on others particularly on family members for basic needs i.e. eating, brushing, toileting, dressing, grooming, walking and so on. A family caregiver (daughter-in-law) expressed her feelings as follows:

"*Yesterday, at the time of admission, I made tea for her and gave it to her. She can drink it nicely. In that time, she can move left leg properly. Today, since the morning, she is just lying down on the bed without any movement of limbs. I prepared tea for her and asked to drink. She replied she could not. She cannot even sit on the bed and lost body control. I haven't forced her to eat."(F-8*)

A nurse participant described the client's lost ability as follows:

"Stroke patients lost their mobility and self-care to fulfill their basic needs. So, they were totally dependent on their family."(N-4)

On the researcher's observation, around half of the stroke clients were lying on the bed having a feeding tube, urinary catheter, and intravenous line. Some of the family caregivers used a bedpan and diaper for urine and stool. Family caregivers gave a sponge bath and combed the client's hair. Some of the family caregivers spoon-fed their clients even though the client could sit and eat themselves.

Overwhelm by negative feelings in the mind. This theme reflected that a stroke affected not only the physical body but also it equally affected their state of mind and spirit. Indeed, they were overwhelmed by negative feelings i.e., uncertainty

and fear regarding life and future. Because of this sudden onset, they did not get time to be ready to tackle the situation. Indeed, the theme was supported by 1) experiencing profound psychological and emotional distress; 2) feeling disconnected; and 3) feeling burdened. The entire situation had a negative impact on the stroke client's state of mind.

Experiences profound psychological and emotional distress. The subtheme represents that the stroke clients suffered from a number of psychological and emotional distresses. They were stress, anxiety, worry, crying over small things. Such problems affected the client's mind profoundly and often manifested in their behavior, attitude and facial expression. Stress and anxiety were the most common psychological distress expressed by all clients. A young client expressed his/her psychological distress due to stroke. SHe stated:

"I was very stressed when I had the problems and I still worry looking at my hand and leg. I couldn't feel touch, pain, hot and cold over there."(P-2)

Another statement expressed by a family caregiver about her husband to support the above theme is:

"Initially, he was anxious. He was very worried. He may think that he would be remained like this; he couldn't walk; he cannot speak. he would remain disabled forever."(F-13)

Feeling disconnected. The theme reflected that the stroke clients were disconnected with their self, body, mind, others and with God. Indeed, it shows that the client's mind was deeply disturbed due to the stroke. The theme was expressed in the client's dialogues. A client talked about disconnection with her/himself as follows:

"*Even then, throughout the way, it kept coming to my mind: What happened to me? I was conscious; I knew all that was happening. I felt I had an empty heart and a vacant brain. I lost myself even until."(P-12)*

The other client also stated the same as feeling as disconnected to self and mind. He stated:

"When it happened, I thought my life was gone, stopped everything of life. I would be disabled for a lifetime."(P-15)

A female stroke client explored her feeling about being disconnected with God and said:

"I was fasting for worship to the goddess "Swasthani Pooja" for seven years. This is the last month to complete the pooja. But it couldn't be completed because of this disease (expressed with a loud cry). My mind is not feeling peace. I am not feeling good and worried about my present and future life along with my family because of this disconnection with worshiping and praying to God."(P-4)

Feeling burdened. The theme showed the clients perception toward others and self as a feeling burdened due to uncertainty and fear of being disabled for a long time. Some of the clients particularly elderly were felt burden to themselves, their spouse, children, family and society. They felt worthless to live as well as expressing the desire to die. Indeed, they wished to die because of fear of being disable and dependency on others for their activities of daily living. This theme was supported by the following dialogues given by the participant:

"I have tension, definitely have tension because I cannot do anything myself. My son has to take care of me. Therefore, he cannot go to work."(P-16)

"I cannot move my hands and feet; I cannot perform activities of my life. I need to be dependent on others. Therefore, I wish that death comes to my life."(P-8)

Moreover, all the above situations played a vital role in losing self-confidence, inner strength and hope for recovery and future life after having a stroke, ultimately; they lost their emotional control. This situation may be due to perceiving the disease negatively and poor knowledge about the recovery process of the disease and its impact on life.

Lack of knowledge and understanding the stroke and care for self. In the study, lack of knowledge and understanding was intensely observed and mentioned. The theme reflected that the knowledge of the nature of a stroke, its warning signs, causes, its consequences and recovery process as well as skills related to caring were

grossly lacking among stroke clients as well as their family members. Because of lacking such knowledge, they could not understand the disease and recovery process in the right way. Indeed, they had difficulty to select the right place for treatment and went to the traditional healer rather than the hospital. They also developed confusion and worry about recovery and future life management as well as worry about present life situation. A male client expressed about his understanding of disease as follows:

"Initially, I thought I could not walk due to weakness. Then, thinking that it was due to evil spirits (भूतप्रेत), I had the shaman (धामी-झांकी) treat me. I did not get well. Then, thinking that "pressure" had struck me, I was taken to this hospital, only the next day."(P-7)

Basically, almost all clients and family caregivers were totally unaware about the technique of self-care, particularly the techniques of mobility, transfer, interaction, doing exercise and communication. A senior nurse highlighted that because of lack of knowledge and awareness, many clients were readmitted due to secondary complications as follows:

"We have many re-admission cases of stroke due to secondary complications. They are readmitted to the hospital even within 10 days after being discharged. For example, now in bed no 45, a lady who is admitted in serious condition due to aspirated pneumonia." (N-3)

The above explanation indicated that clients and family caregivers had a lack of knowledge about the nature of the disease, its recovery, and impact as well as self care. This lack of understanding causes them profound psychological, emotional and spiritual distress that is certainly negative to their state of mind. Such negative feelings further hampered the coping ability of the clients.

Difficulty in coping and acceptance of the problem. The theme represents the denial and shocked phase of the clients. Basically, nurses mentioned that clients were in the denial phase at the acute phase of the disease even until discharge. This is because they did not cope and accept the tragedy and sudden loss. The denial and

shocked phase led toward negative thoughts and prolonged silence, and becoming irritated and aggressive, unable to sleep and big cry over small things as well as being bedridden. A daughter of an old stroke victim mentioned that her father remained silent because she did not understand his voice.

"My father likes to talk to me. He wanted to express his feelings. But I laughed when I heard his voice. His voice was mumbling so couldn't understand what he meant. So he became irritated with me and remained silent without doing any activities even though he could move his right side."(F-2)

A daughter of a female client explored her feelings about the denial phase of her mother. She stated*:*

"Initially, she did not sleep well for 4-5 days. She took much "tension" of house, much "tension." She would not talk and would keep silent. She would not talk with visitors, friends and other persons; she would keep silent. Her face seemed quite a bit gloomy."(F -9)

Motivation, hope, and desire. Regarding motivation and hope, nurses reported that clients had no motivation and no hope initially. In the case of family caregivers, it depended upon their level of understanding about the disease. If educated with previous experience, like re-stroke, they were hopeful and gave reassurance to the clients. In contrast, every client who had a first-ever stroke and was uneducated, was totally hopeless and restless. They became more hopeless to see their own condition, such as the inability to walk, to do activities and inability to express feelings. A nurse mentioned about no motivation and no hope of the client as follows:

"Clients have no motivation and no hope. This may be due to the inability to express their feelings verbally so they became distressed. They did not show interest and neglected everything, no matter what we taught them, nor the spent time or effort. They exhibited negative behavior like I will not recover more than this."(N-12)

However, some nurses mentioned about their client's level of hope. The explanation is given by a nurse in her own words as follows:

"Regarding hope, initially, clients were hopeless. However, once they started to get improvement, they were hopeful. If family members are supportive, clients develop hope gradually. When we calculated the hope into 100%; 80% still hopeless

after getting a stroke for recovery and life even the time of discharge. Also, they do not have the will."(N-4)

The similar experience about hope was reported by clients and family caregivers. They said that they were hopeless in the beginning but hope was created after investigation and initiation of the medical treatment. A family caregiver mentioned his hope about recovery:

"My client felt dizziness; I thought that because of weakness; concern wasn't that it was a stroke. She has more stress than me like may not be able to work as before. But I have hope that she will recover because of the advancement in technology such as CT scan;MRI and other investigations are helpful for an accurate diagnosis. So clients can get treatment in time accordingly. They may completely recover."(F-4)

A point of note is clients had a strong desire to recover from the illness, get back mobility and gain ability to care for themselves. Family caregivers had similar expectations of recovery. A female client reported her expectation about desire in her own dialogues as follows:

"Now, I wish to take care of myself. I wish to go back home by walking on foot. I want to stand by myself, go to the toilet independently; wear dresses and mobilize my hand and leg."(P-3)

A daughter of a male stroke client expressed her feeling about recovery as:

"I want that my father will be able to care for himself, meaning move his hand and leg, go to the toilet and have no need to use a catheter and feeding tube. He still cannot speak properly. So I also want to get back his voice."(F-1)

On the other hand, regarding the desire for recovery, nurses also have the same feelings about the clients and their family. All the nurses really wanted the client's faster recovery and for them to be self reliant in ADL. Supportive dialogues are mentioned:

"When I see a stroke client, especially a recent case of stroke, I really want to get early recovery by providing good nursing care from my side. So they can care for themselves independently. This is because clients arrived with a lot of physical problems such as a loss of mobility and balance due to hemiparesis and were totally dependent on the family member even at a young age."(N-5)

Because of strong desire and hope for recovery, they sought a prognosis related knowledge and skills that could mean an early recovery. A nurse also explained family caregivers' and clients' desires about recovery as follows:

"Basically, clients, as well as family caregivers, are more anxious about recovery. In my experience, clients, particularly family members pay more attention to the prognosis of the disease and its recovery-oriented knowledge or information. In this regard, if they found any new knowledge or information related to prognosis, they tried it immediately with the clients."(N-6)

A son of an male client followed suggestions obtained from relatives as:

"In the village, people used herbs (Jadibuti). But I am not sure it can be beneficial for recovery. For example, bitter garden, leaf and a low-salt-diet are used for reducing high blood pressure. My relatives also suggested that I use such a diet for my father. Then, I will give a better garden vegetable without salt to my father here. Also today he ate the same vegetable."(F -7)

Regarding the observation, on the one hand, clients had a high desire to get mobility, voice/communication and ability to do self-care which they lost due to the stroke. Almost all clients lay in bed without talking any more, looking sad and anxious. Most of them cried with the researcher during the time of the interview.

To sum up, a stroke affected a person both physically and mentally. The problems related to the body are divided into three parts: physical problems, activity limitation and loss of ability to do physical care. They wanted to clarify what happened to them that caused them to be in a life-threatening condition. However, they had a strong desire to comprehend post-stroke-life, and get back to normal. Indeed, in the acute stage of the disease, they had reasonable hopes for recovery but the motivation was very poor in this stage. Client's experiences directly influenced what the nurses did in terms of care. Therefore, it is necessary to find out how the nurses cared for their stroke clients in the study setting. That helps to ascertain the gap in caring practice and the unmet needs of the clients. Summaries of theme, subtheme, and categories of the client's situation are presented in appendix K-1.

Understanding the Real Situation of Nursing Practices for the Stroke Clients.

The findings reflected the situation about the nursing practice given by the nurses for the recovery of the clients. The findings revealed four subthemes: 1) huge demand for basic health care needs and needs for physical recovery; 2) lack of awareness "stroke as a holistic being"; 3) lack of caring: care given to the stroke clients limited in routines; and 4) nurse's perspectives on caring for stroke clients.

Huge demand for basic health care needs and needs for physical recovery. The subtheme is supported by three statements as 1) disruption of brain function and loss of functional abilities; 2) shortage of nurses and other health care providers; and 3) lack of facilities: services, resources, and not friendly environment or setting.

***Disruption of brain function and loss of functional ability*.** With disease onset, clients faced a number of losses related to body functions due to disruption of brain function. These losses led them to depend on others for doing daily simple tasks. Being dependent causes every client to feel a burden to others and to oneself. A client expressed his feelings with a cry about his existence in an acute stage of life as:

"I didn't think I would die after getting this disease, but I felt that I would be lame. How can I work at home? At home, I need to go up and down; I need to walk to the water source. I would be disabled forever. I felt the rest of my life would go like this."(P-9)

Aforementioned situations reflected that daily function had given more focus by the clients but they did not accept the current situation of losses. Consequently, they became emotionally and spiritually distressed which were manifested in various forms as fears, worry, tension, confusion, hopeless, aggressive, agitated and so on.

From the above explanation, it is implied that functional losses were the most concerning problem for each client. Also, family members had the same concerns as clients. Nurses and physician's main concern were also congruent with the clients as independence in self-care was needed as soon as possible. Although gaining the

functional recovery is the common goal for all parties, basic health care support and nursing activities for gaining functional recovery were still insufficient, lacking and delayed in the setting.

According to the nurse participants, the important care needs in the acute phase were routine care, exercise, and mobility, diet, support in ADLs, education, communication, psychological and emotional support as well as counseling. They also explored the reasons for not fulfilling those basic health care needs as they mentioned as essential for the clients with stroke. The reasons were heavy workload due to 1) shortage of nurses and other health care providers, and 2) lack of facilities: services, resources, and not a friendly environment or setting.

Shortage of nurses and other health care providers. The dialogue given by the nurses is presented verbatim to support the reasons for the huge demand for basic care needs and needs of functional recovery. They mentioned that they knew the essential needs of the clients and had some knowledge about basic care for stroke. However, they could not apply it properly for stroke care because of lack of time, hectic workload, shortage of nursing staff and increasing number of stroke clients in the study setting. Two novice nurses gave their reasons as follows:

"We nurses are always busy to finish the routine care such as medication, taking vital signs and assessing GCS. We know that clients need more than routine care but because of a heavy workload and a limited number of nurses, we just focused on finishing the routines."(N-3)

"It is necessary to talk with clients and counseling to them, but we haven't done anything for these because of lack of time, shortage of staff and busy scheduled work."(N-9)

Nurses also mentioned that clients did not get proper physical exercise which was essential for stroke recovery. This was because of a shortage of therapists and heavy workload and they needed to take care of many clients in a limited time.

Lack of facilities: services, resources, not a friendly environment or setting. The theme reflected scarce resources i.e., staffs, services, resources and setting for providing basic health care for stroke recovery. Neurologists mentioned that a proper rehabilitation service was the basic health need for stroke recovery in the context of Nepal but it was still lacking. A neurologist stated his experiences to clarify the statement as follow:

"Rehabilitation is the backbone of stroke care in our context because stroke clients often come to hospital at a very late stage after having a stroke where acute care is not possible. Unfortunately, proper rehabilitation services are lacking in our context."(Dr-2)

All the nurses and physicians highly demanded a separate unit or setting only for stroke clients. The statement was clarified by a nurse:

"In this unit, around 50% of cases are admitted due to stroke but we do not have a separate unit only for stroke clients. It is time-saving to provide care to similar cases in the same unit for the nurses."(N-3)

Regarding resources, there were only two wheelchairs, one cane, and one walker which were kept in a locked room which was not sufficient based on the amount of clients. The physical set up was not friendly to the stroke clients.

Lack of awareness "stroke as a holistic being". The theme reflected the current stroke management as well as a caring environment for stroke clients in the study setting. Basically, stroke management was based on a medical model. Similarly, nurses worked in a frantic environment, and were under too much pressure to finish routines and medical orders, and faced a hectic workload. Also, there was a shortage of staff and limited time to provide care for the stroke clients. Such environment put them in machinery mode of care rather than a humanistic approach of care. This situation might indicate that humanistic care i.e., looking at the client as a whole person or a complete human being was totally missing. Consequently, human to human relationship, not only among nurses, family caregivers, and clients but also

among health care providers was poorly established. A staff nurse mentioned her experiences supporting the statement as follows:

"Basically, the clients are living silently without talking anymore, right. The family members also stayed silently beside the clients thinking they could not speak anymore. Therefore, they haven't had any interaction with each other. Then, we nurses also hardly talk with the clients because we know they have aphasia and cannot speak. The clients also didn't like to speak, and turned their head to the other side and stayed silent. In this regard, we talked with family caregivers, not to the clients if we needed to ask or make suggestions."(N-11)

A physician also gave his/her view about management based on the biomedical model as:

"Primarily, medical management is being provided to the stroke clients even we know that they need other management too. The available therapies in here are only physiotherapy and speech therapy but these services are also insufficient and not specific to stroke because of the lack of health professionals, we just provided medical treatment that is finished on the day of discharge."(Dr-3)

From observation it was noted that nurses working in the neurology unit hardly gave information related to mobility and preferred to talk with family caregivers than the clients. They did not have any formal education program or material for family caregivers for providing holistic care. But, nurses expected the family caregivers to provide care for their sick family members without providing the adequate information about caring. Family caregivers were considered as a source of care in the current situation where the shortage of nurses was problematic.

The situation reflected poor practice on "stroke as a holistic being." It means that there might be a lack of caring in nursing practice for stroke clients.

Lack of caring: care given to the stroke clients limited in routines. Nurses explored a number of basic health care needs which were vital for stroke recovery. However, nurses were not satisfied with care given to the clients as they provided. They knew that routine care was essential but it never covered all the needs of the

clients. Therefore, two main subthemes emerge: 1) lack of skill and confidence in caring; and 2) nurse's attitude toward nurse's and non-nurse's role.

Lack of skills and confidence in caring: The lack of skills and confidence was supported by professional and personal experiences of the nurses. For instance, more than half of the novice nurses were working in the unit while none of them obtained specific training about caring to the stroke clients. Also, they used some phrases for explaining their lack of skill and confidence while taking care to the clients i.e. feeling unpleasant, hopeless, puzzle, confusion, hesitancy, fear, complex, difficult, emotionally painful,and feeling pity. In addition, they highlighted that caring was impossible without the involvement of family caregivers. However, some of the nurses mentioned that they had good theoretical knowledge obtained from academic study and reading text from different sources such as the internet, books and so on. To support the statement, a nurse explained her experience about caring as follows:

"I have no experience with caring for clients. So I have a lack of confidence in the practical area. I felt hopeless and confused when I was assigned in critical care thinking that how I can provide care to them. Also, I felt hesitation even for simple tasks like intravenous infusion, taking vital signs and so on even though I have good theoretical knowledge."(N-7)

Nurses' attitude and perception in the nurse's and non-nurse's role. The nurses' attitudes regarding care and their perceptions were very important to see the nurse's and non-nurse's role which was lacking in the study; for instance, looking at rehabilitation as a non-nurse's role or non-nursing activities. They did not want to get involved in the rehabilitation i.e., physical exercise for the clients. While, there was a limited number of physiotherapists, nurses expected to get involved as a part of holistic care. Some of the nurses' dialogues are presented to support the above statements:

"As a nurse, I just think that doing exercise for the clients is the responsibility of the therapists, not nurses. Always, we nurse and family caregivers waited for a

physiotherapist for doing exercise even though we had free time. Physical exercises were not included in our care plan."(N-3)

Similarly, nurses perceived only the routine care as a nurse's major role. Thus, they paid more attention to the routine even though they knew the importance of these activities such as psychological support, communication, counseling, being present, listening and so on. The dialogue below may clarify the statement:

"After finishing my routine task, I felt comfort and a sense of accomplishment of all the responsibilities as a nurse."(N-14)

The aforesaid perception of the nurses indicated that they might have a lack of knowledge and skills about caring for stroke clients as well as a false perception of a nurse's role; and care was limited to only routines. It is necessary to explore the perspective of nurses about caring for clients with stroke.

Nurses' perspectives on caring for stroke clients. The theme reflected the types of nursing practice given to the stroke clients in the acute care setting. Nurse participants clearly mentioned three types of care. Those practices might reflect the importance of the nurse's role in caring for stroke. They were 1) routine nursing care; 2) functional nursing care; and 3) supportive nursing care

Routine nursing care. As mentioned by the nurses, providing routine care was mandatory and a major responsibility of nurses and given only by the nurses. The main routines for neurology clients included taking vital signs, assessing the level of consciousness by using the Glasgow Coma Scale, medication, care of intravenous lines, maintaining intake output chart, conducting doctor's rounds and obeying the doctor's prescriptions along with completing the admission and discharge procedure and documentation. Most importantly routine care had to be finished in time and within a shift. Therefore, nurses accepted only routine care as their major role.

"My first priority of care for stroke clients is routine care because we have to provide it in time and need to finish within a shift. Therefore, I spent more time to

accomplish the routine care such as taking vital signs, medication and holding daily doctors round and carry out doctor's prescription."(N-10)

Functional nursing care: Functional care for the stroke clients was also provided by the nurses but those cares were more specific and went beyond the routine. However, functional care helps to fulfill some of the needs of the clients but not fulfill their holistic needs. Those cares were 1) basic needs and symptom management: feeding, pain, fever; care of catheter, wound dressing and so forth; 2) coordination and consultation with other health care professionals and departments: therapist, dietician, pharmacy and administration; and 3) tackling emergency situations which might arise any time during duty hours. The functional care is provided only by nurses or by consultation and coordination with other health care teams.

***Supportive nursing care*.** Nurses often mentioned supportive care needed to be provided to the stroke clients but they expected that from family members. Nurses just supported the family caregivers in the beginning then after family caregivers accomplished those tasks. The supportive nursing activities included 1) activity of daily living (ADLs) i.e., feeding; toileting, maintaining personal hygiene, grooming, and bathing; 2) prevention and management of complications i.e., skin care, positioning and wound dressing in case of bedsore; 4) support in rehabilitative care: use of assistive devices, mobilization, transfer and physical exercise; and 5) psychological and emotional care: counseling, reassurance, spending time with them, talking and listening to them. Nurses stated their view as:

"In the beginning, we taught the family caregivers about the technique of tube feeding, catheter care, and skincare, changing positions and so on. After that, we asked the family caregivers to perform as they were taught." (N-6)

"My focus of care for the stroke clients was giving suggestions for proper positioning such as a 2-hourly position change and not to compress the paralyzed part, and use the wheelchair if clients could sit." (N-8)

The above explanation explored the nurse's perception and priority of care given to clients. They mainly focused on routine care. Likewise, nurses had a lack of awareness about stroke as a holistic being. The aforementioned situation indicated that there is a lack of caring behaviors among the nurses while caring for the stroke clients.

To sum up, the existing situation of the stroke clients reflects that a stroke affects a person not only in the physical, but all domains of health, such as psychological and spiritual health, and they are all interrelated. All of these signified a disconnection of body and mind. On the one hand, the disruption of psychological and spiritual health may hinder physical recovery of the clients, which is the major issue. On the other hand, a clients' state of mind influences the caring process of the nurses. Therefore, nurses should know the clients as a holistic being to optimize the recovery through demonstration of good caring behaviors in their day to day nursing practice. However, in the study setting, nurses lacked awareness to see the client as a holistic being. Likewise, a lack of caring behaviors i.e., confidence, knowledge, skill and experience, communication and compassion, in caring were found among nurses.

Since there was poor nursing practice and supportive hospital policy, strategy and action plans to encourage the nurses were not found for improving their caring practice and the clients' health conditions. Additionally, physicians usually did not show much concern regarding how to improve nursing practice. Ultimately, such caring practices might work as a main barriers to fulfill the needs of the human being and improvement of the clients' health condition. The aforementioned situation indicated that there is need to develop the caring model that unites a person as a holistic being of mind, body and spirit. In the meantime, the most concerning problem

(physical recovery) will be improved. It could be possible through the application of a holistic intervention in nursing practice.

It is evident that caring serves as a guideline for providing holistic care. It becomes more powerful if integrated with spiritual practices even in the critical stage of clients. (Ismail et al., 2018; Mardiyono, 2012). Since yoga is based on Hindu tradition and all the participants were Hindu, majority of the study participants had knowledge about yoga as being good for health. Some of them used it in their daily life for religious duty and also health maintenance (refer to Table 1 and 2). But the problem was that nurses never used it into their professional practice for improvement of the client's health outcomes. As, there was discussion and interaction between the researcher and the participants during the pilot study and reconnaissance phase, there was the possibility to incorporate yoga into their clinical practice. However, nurses might be overwhelmed by the practice of incorporating yoga due to their hectic workload, lack of nursing staff and time constraints.

Thus, the tentative caring model incorporating yoga was developed with the purpose of achieving the expected health outcomes such as physical recovery and wisdom. The details of the tentative model is shown in Appendix K-3. The tentative caring model was finalized as a final caring model using the spiral action research process which is described in the next step.

Spiral Action Research Process for Developing the Caring Model Incorporating Yoga.

In the critical phase, stroke clients were suffering from a disconnection of body, mind and spirit. State of mind may hinder physical recovery, as in the case of the present study. Holistic interventions aim to achieve a whole being by balancing the body, mind and spirit of a client. This could be achieved through incorporating

yoga in caring, which connects the mind and body of stroke clients. However, the information and intervention should be simple and relevant to the overriding problems of the individual client because of the complex nature of a stroke. Thus, the model was designed to manage the physical problems as well as unite a person as a holistic being of body mind and spirit. This integrated being could proceed toward achieving a higher level of wisdom. This also involves for humanization of the health care.

The process of model development started through a spiral action research cycle by considering the above situations. This research process comprised the stages of planning, acting and observing and reflecting to develop the caring model incorporating yoga. It was conducted with the participation of the researcher, nurses, clients, and their family caregivers. The model was developed into two cycles of action research. Both cycles are the same in terms of intervention but the nurses were totally reluctant to use the new program. This might be because of the lack of attributes of caring behaviors and attitude toward program implementation. Therefore, the theme of cycle one was “transitional period from reluctance to confidence through nurse’s direct involvement into the practice” and cycle two was “initiation and enduring the program by the nurses for the sustainability of the model”.

Spirial Action Research Process Cycle 1: Transitional Period From Reluctance to Confidence Through Nurses' Direct Involvement in the Practice. The initial stage of cycle one, the nurse participants were reluctant to use the tentative model. They explored a number of problems for implementation. Their most common concerns were heavy workload and not sufficient staffs. Likewise, they might be scared that the program could be increased their workload and make their routine more complex. Similarly, they did not realize that they had attitude problems nurse and non-nurse roles in clinical practice.

On the one hand, it was found that they had a lack of confidence in caring due to insufficient knowledge, skill, and experience. On the other hand, there was a lack of support in terms of hospital policy, strategy or action plans to encourage the nurses to go beyond their routine. Likewise, physicians expected the nurses to complete all tasks as they had ordered. Notably, there was no active interaction between nurses and physicians as a health professional team, e.g., no formal conference in the ward to discuss, exchange ideas, new knowledge and practice. Additionally, physicians usually did not show much concern on how to improve nursing practice. Such conditions affected the nurses and making them reluctant to use the new program.

However, the cultural acquaintance with yoga of Nepalese people along with a realization of its significance for stroke rehabilitation, may encourage nurses to participate in the program. Although the program seemed to be very new to the nurses, they might have had experience and some knowledge of yoga from their daily life. Thus, the program might not be too difficult to implement or not time consuming.

The researcher assumed that the nurses will show interest after gaining confidence through practice, and experiencing the benefits of the practice. Therefore, some strategies were developed which could be beneficial to turn them from reluctant

to confidence to participate in the program. Thus, the main goal of this cycle was a transition from nurses' reluctance to confidence by using the action research cycle of planning, acting, observing, reflecting and revising the plan.

Planning Phase.

In this phase, the researcher developed some strategic plans with the purpose of changing the attitude of the nurses through 1) making the intervention program simple and easy to practice; and 2) upgrading knowledge, skills and experience of the nurses. Their direct experience from self-practice and the practice of incorporating yoga would help the nurses experience the benefits of yoga and insight gained from the practice. Afterward, the nurses might find that the program was not time consuming and did not cause any burden to them. In addition, it led to huge benefits to the client's recovery and that helped reduce the demand for health services. Thus, some strategies were developed to meet the purposes for the actions of the first cycle.

The strategies were: 1) exploring the existing knowledge and skills on yoga of the nurses; 2) conducting the nursing seminar and training workshop about stroke, caring and yoga; 3) coaching the act of caring while incorporating yoga for enhancing physical recovery and wisdom among the clients; 4) conducting a daily yoga practice session; and 5) introducing the booklet and teaching plan. Ultimately, the nurses could gain confidence in caring through direct experiences, gain knowledge and skill from training and guidance, self-practice as well as witness the positive outcomes. Indeed, both parties benefited from the program.

Acting and Observing Phase

Based on the above strategic plans, activities were conducted by the researcher with the coordination of the key participants before and during the implementation of the program into the clients. Those actions are described as the following:

Exploring nurse's knowledge and skills of yoga. It was necessary to explore the nurses' existing knowledge and skill, particularly concerning yoga. It helped the nurses to recognize and realize their yoga ability and its benefits for health. Also, it helped the researcher to deal with their reluctant attitude. For this, the researcher asked of the nurse's personal experiences. Afterwards, the researcher clearly understood their knowledge, experience, and level of skill. Then, she explained all the benefits and ways to practice; this step helped them to perceive the importance of yoga for their own practice and for the client's health. All of the nurses were familiar with the concept of yoga, and had experienced chanting *Aum* and used it for religious purposes. However, the problem was that they never used it in their clinical practice. This indicated that yoga was not very new for them as well as not being difficult to teach to the clients.

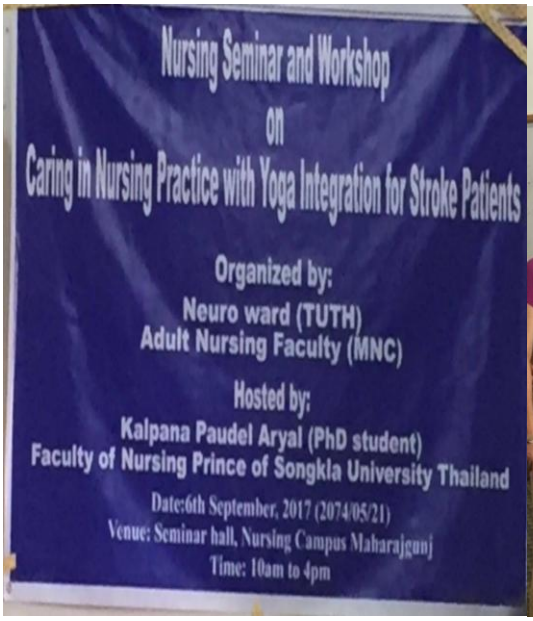
Conducting the nursing seminar and workshop about stroke, caring, and yoga. A one-day nursing seminar and training workshop was conducted. The main objectives were to 1) increase the knowledge, skill, and understanding about three main concepts as stroke, caring and yoga; and 2) involving them into the program as a nurse helping to the clients for caring with the researcher. The theme of the seminar was "Caring in nursing practice with yoga integration for stroke clients". The workshop was divided into three sessions 1) opening session; 2) knowledge session; and 3) yoga and caring practice session.

In the opening session, all the key authorities like the nursing director, the hospital director and chief of nursing campus; head of department and faculties were invited. A total of 52 participants contributed in the seminar whereas 25 participants participated in the workshop practice session. In the second session, knowledge about stroke, yoga, and caring was delivered by three experts such as a neurologist, yoga

teacher and the researcher respectively. Most importantly, the researcher also asked and guided the two senior nurses to explore the existing practice for stroke clients. They presented the nursing practice as they provided to the stroke clients by highlighting the importance of caring for stroke in terms of meaning, advantages, and ways of application into the practice.

The workshop session was led by the researcher and the yoga teacher. Before the session, the booklet was provided. Similarly, raised problems and concerns about the program were addressed by the speakers. All the nursing staff of the neurology unit had participated very actively by taking full responsibility. At the end of the session, the researcher collected responses about the seminar and the booklet by self-reflection in verbal and written form. Everyone who participated in the seminar showed their keen interest in the topic and appreciated the work. They expressed best wishes for success with the expectation of knowing the final result of the study.

At the end of the session, it was concluded that the workshop was very fruitful in terms of making the key authorities aware of the situation in terms of knowledge, caring and yoga. Essentially, the key participants had a chance to gain the experience of practicing yoga by direct involvement through the workshop. Moreover, the program might have helped much in developing the nurses' positive attitudes. In turn, it enhanced their confidence and commitment toward program implementation.



Coaching the caring incorporating yoga to the nurses. Following the seminar and workshop, the researcher organized a short meeting among key participants with two objectives: 1) introducing the final tentative caring model; and 2) obtaining specific feedback and level of understanding in term of implementation of the program into the reality. For this, the key participants expressed that they wanted to learn about caring, some yoga practice relevant for stroke recovery and ways to incorporate yoga into care through caring, and some basic nursing skills for stroke, i.e., a technique of proper positioning, transfer and mobility. Therefore, two sessions of skill demonstration classes were organized. The researcher described the ways of incorporating yoga through caring and some basic nursing skills through demonstration into real clients. Re-demonstration was done by the key participants. Afterwards, they felt more comfort through direct experience which helped them to gain confidence for program implementation.

Conducting daily yoga practice session. Based on the nurse's interest to practice yoga, a daily yoga session was organized. The aim of the session was for gaining understanding, insight, and skill as well as experiences about yoga practice by

direct involvement in self-practice which in turn helped for creating the positive feelings toward the program implementation from reluctant to the confidence. Therefore, the researcher led the program for 30 minutes, six-days a week for the first month. Nurses working in the morning shift participated in the session. Basically, nurses had two hours (12 noon to 2 pm) for lunch break so that the time for yoga session was managed at 12 noon before lunch.

Introducing the booklet and teaching plan. To make the model applicable, the researcher developed the booklet and teaching plan. The main purpose of the teaching plan and booklet was facilitating the program. The teaching plan was used by nurses as a facilitator for program implementation. Likewise, the booklet worked as a good facilitator to both nurses and clients along with family members for obtaining the right knowledge and skill related to disease and yoga practice. Thus, nurses implemented the program more confidently and effectively. The details of the booklet and teaching plan are presented in Appendix L-2.

Implementation of the program into the practice. Prior implementation of the program, the establishment of good interpersonal relationships and communication are essential among the participants and with the researcher. For this, the researcher 1) coordinated with the senior nurse supervisor, head of department and faculties of neurology, doctoral and master students in the neurology for better understanding and gaining support to implement the program; 2) asked and requested the nurses to be involved attentively for implementation the program; 3) asked the nurses to be involved in the practice session when the researcher initiated the program for the clients; 4) asked the nurses to start the program from the very simple and known practice of yoga as well as using simple caring behaviors in each shift; 5) explained the roles of each participant along with the role of the researcher for

implementation of the program; and 6) ensured them of her presence as an active facilitator during the implementation of the program in the first cycle.

After accomplishing the above activities, the next step was facilitating the nurses to implement the program for the clients. For effective implementation of the program into the practice, it is essential to create a caring relationship among nurses, clients, and family. Therefore, the researcher facilitated the nurses to establish a caring relationship through employing cultural-based caring behavior i.e. compassion, communication, and courage in their actions and behaviors. In the meantime, the researcher also facilitated them for employing confidence and commitment in their practice by incorporating cultural-based care i.e. yoga. In that way, nurses incorporated spiritual care i.e. yoga into their daily nursing practice. The detailed teaching plan about the technique of implementation of the program incorporating yoga is depicted in Appendix L-1.

In addition, the researcher observed the activities of each participant in terms of their responses while implementing the program. Also, observed the impact of the program on caring behaviors of the nurses; feeling and behaviors of the clients and family caregivers along with improvement in selected health outcomes of the clients.

Reflection Phase

The reflection was obtained from the key participants as well as clients and family caregivers during and after completion of the program implementation in the hospital. The whole contents of the program were organized to be implemented into the clients within seven days in the hospital and continued until discharge. However, the reflection was obtained from the key participants until two months after program implementation. This was because firstly, only two to three new cases were admitted in one week which was not enough for obtaining the confidence for 16 nurses and

secondly, every nurse did not get the chance to be involved directly for implementation of the program within a short time period.

The turning point from reluctant to confident among key participants was a different time for each. During that time period, they practiced together with old and new clients because the duration of hospital stay of the clients ranged from 8 days to 24 days after implementation of the program. Moreover, the program was continuously going on from one group of clients to another group of clients into another cycle. The results of the reflection were presented as experiences of all the participants.

Nurse participant's experiences after implementation of the program. Nurses reported their own experiences from direct involvement to self-practice and practice with the clients. The main points involving their understanding, interest, and is reflected in their experiences of the program, as collected by the researcher. That was categorized into five subthemes as: 1) perceived the immediate result of the program into the clients i.e., change in appearance, voice, some physical improvement, and change in feelings; 2) not time-consuming and easy to implement; 3) gaining trust from the clients; 4) understanding their own role and the client's role in the program; and 5) receiving verbal compliments from others such as a physicians, a nurse teacher, and different groups of students who were posted for clinical practice in the unit. Interestingly, yoga was practiced by other conscious clients who were not stroke clients and family members in the same unit.

The majority of the key participants started to express their confidence and interest in the program by comparing feelings before and after implementation. Most of them shared their experiences of participation with excitement, a smile and a cheerful face that reflected their confidence in the program implementation. However,

some of them gained confidence quicker than others and some of them relatively delayed in gaining it. Therefore, the turning point from reluctant to confident was varied. Some of the dialogues are presented here verbatim to support the above statement:

"Now, just opposite than previous thoughts. This is very simple, easy to implement and practice. Clients and family caregivers are using it without any difficulties. Once we teach them in the beginning, they are able to follow every activity properly. Afterwards, we just observed whether they can do them properly or not."(N-7)

"In fact, we were scared that it might increase our workload and make routines more complex. In reality, it was easily applied. Clients, as well as family caregivers, took initiation themselves once we taught. Then, it did not put an extra load on us but made it easy."(N-2)

"Previously, I never thought about interaction as a part of care. But now we are often talking with clients. Now, I am enjoying talking with clients while providing routine care. I listen to them, pay attention to them, make eye to eye contact, touching them and asking to do yoga and other activities as well. I feel quite different than before."(N-5)

"Actually, in Nepal, most of the people are familiar with the term yoga and know well about its benefits, even heard the term yoga in their day to day life. Therefore, they feel easy to practice. This booklet also helps to understand it nicely."(N-3)

"It is very interesting. Those who are living nearby and suffering from stroke or not, they also voluntarily or involuntarily repeated the chanting Aum and practiced yoga Asana, right. I think it is great to work as we observed and heard during this time here."(Dr-1)

"Actually I haven't asked a question directly to the clients about the changes but I observed, how you teach the practice to them, the way they do exercise and chanting Aum Mantra. When they chant, there is some glow seen on their face, they are looking cheerful and happy."(Dr-4)

Of 16 nurse participants, some of them who worked only on the night shift did not have the chance more direct participation in the program implementation. Therefore, they just agreed and accepted the program by following it in duty shift. A nurse explored her experiences to support the above statement as follows:

"Umm, in the beginning, as I get an introduction about the program, this was a very new concept for me. I like it. However, I haven't got the chance to participate

in the morning shift for implementation because I only do night shift duty. Even, I remembered women who are always being chanted Aum. As I observed in my night duty, she started to chant Aum since early morning and also at night time until fall asleep. Her vocal has been improved very fast. Since that time, I extremely believe that Aum chanting can bring vocal improvement faster." (N-12)

Later on, three staff nurses left the job before the implementation of the program into the clients while coaching sessions were running. In the meantime, two new staff nurses joined. Therefore, they did not get a chance to participate in the seminar and workshop. One nurse shared her interest in the implementation of the program as follows:

"When I started my job here, the program was already started. So I brought a booklet and read it thoroughly at home. I like the booklet. After reading; I came to know all the techniques of caring, yoga and about stroke. In this way, I prepared myself and dedicated to the client's care. I found that is very easy to practice, not time-consuming. The client's condition was also improving for instance the voice, once we taught them; they follow every activity with excitement accordingly."(N-6)

The above statements indicated that most of the nurses were interested in and developed confidence to use the program and ready to continue the program. Most of the staff nurses including the nurse-in-charge and nurse supervisor gained more confidence for implementation of the program after direct involvement. However, a few staff nurses just agreed but did not get the chance to be involved in the program.

Clients and family caregiver's experiences. The stroke clients and their family caregivers spoke of their experiences and perception about caring with yoga while practicing it. Most of them replied with a smiling and cheerful face when asked. They expressed their happiness and satisfaction in terms of the nurse's behaviors like being supportive, being present, interactive, polite, prompt responsive, kind and compassionate. They also expressed their feelings and experiences in terms of feeling cared for, having hope and inner will, feeling secure and safe, feeling comfort, being active in the care process and a feeling of improvement, feeling happy, peaceful,

calm, and refreshed. Some of the dialogues by the clients and family caregivers are presented to support the statement as follows:

"We got sufficient information, suggestions and more ideas about disease and caring practice. We also got the booklet and even a phone number. We can ask you by phone if we get any problems. A sister taught me about the technique of transfer, walking and so on. Most importantly, you taught us about yoga. We got a chance to learning new things. Now I am being able to provide care to my mom. As a result, we achieved an early improvement in my mom. Her condition is improving."(F-3)

"I am very happy to get such a good practice given by the nurses during my illness. I am practicing yoga daily for a long time. I know it is very good practice. Then I became happy to practice yoga in a hospital bed. Therefore, I am extremely happy, I feel very lucky."(P-5)

"Nurses, not only here but everywhere are in tension. They behaved rudely with the clients and family caregivers. If we asked any questions, they replied in an impolite manner like they don't know anything. But now I found very soft and polite behaviors here. If we ask any anything, they replied nicely with a smile. I feel that now they are being knowledgeable and skillful."(F-4)

A father of a young stroke explored his feeling after getting the program as*:*

"He understands all the things written in the book, but couldn't speak. I tell my son: "God's name is written in this book. Read it. Say Aum Do alternate nostril breathing (अनुलोम-विलोम). It's a good thing. Sister has taught us good things. He is doing it. Good things are remembered more."(F -10)

Barriers faced during the first cycle of the program implementation. The researcher noticed some barriers from the observations, field notes, and interviews regarding the program implementation. Those barriers are described as follows:

Barriers related to clients. High emotional lability, a feeding tube into the nose and low self-esteem (feeling of hesitancy and embarrassment) and feeling of a sense of disturbance to others were the main barriers during implementation in the study. A female client stated:

"I chanted Aum in the early morning for a while then stopped. You may not know many family members were sleeping on the floor. I feel that I might be disturbing them with the sound Aum while chanting although they haven't complained to me yet. I will chant Aum loudly in a separate room at home. Nobody will be disturbed by the sound." (P-3)

Another mentioned about hesitancy for chanting *AUM* in front of others as:

"I do not have any problems doing any practice. However, I felt a little bit of discomfort and hesitancy while Aum chanting in front of many people because they may notice my deviated mouth."(P-9)

A nurse expressed her feelings about emotional lability of the client as a barrier for implementation program as following:

"Actually, there is no specific barrier while providing care using the model. However, some clients are being more emotional and cried initially. This emotional situation made me discomfort to ask for doing yoga exercises. I feel that the emotional lability do obstacle to some extent for the first 1-2 days. Therefore, we have to give more attention to the first 2-3 days after starting the program."(N-11)

Some nurses, clients and family caregivers felt that the feeding tube was a barrier for alternate nostril breathing; one space in one nostril was partially blocked due to the tube.

Barriers related to nurses. Insufficient staff, hectic workload and personal interest, the language of the client and often changing family caregivers were barriers faced by the nurses during the program implementation. A junior nurse expressed her feeling hectic routine task and personal interest as barriers for implementation of the program as following:

"Sometimes we have limited time and we were busy for routine works that need to be finished in time like intravenous medication. In that condition, we cannot teach the client even we want to teach about the program. The other thing is self-interest. If I have self-interest in the program, I can manage time to implement the program even if I am in a rush."(N-7)

Some dialogues of the nurses are presented to support the above statement:

" I noticed some of the nursing staff didn't have the interest to implement this program in the beginning."(N-1)

"I faced language barriers. For example, those who came from the Terai region, they even could not talk Nepalese. The other barrier is family caregivers. Sometimes, a family caregiver changes so we have to teach them again about the program. These two conditions I faced as barriers for implementation of this program effectively."(N-3)

Facilitators in the first cycle of the program implementation. Facilitating factors perceived by participants based on analysis of interviews and observations.

The facilitators for program implementation were 1) being an ideal role model and support by seniors; 2) nurse caring behaviors; 3) clients and family education; 4) support from a family member and the self**;** and 5) marking of subtle positive health outcome.

Being a role model and support from seniors. The seniors acted as a facilitators for the program implementation and so acted as role-models. A nurse-in-charge spoke of her experiences to support the above statement as follows:

"As being an in-charge, I did individual counseling and asked them to implement it properly for those juniors who never showed interest in the program implementation. Another point is role modeling by the senior. We seniors have to take the initiative so that juniors can easily follow us. If I take the initiative and become involved directly in the program implementation, they are automatically motivated and show active involvement."(N-1)

Nurse caring behaviors. Nurse participants expressed some caring behaviors during practice in the first cycle. They paid attention, listened, and showed concern about the client's problems and belongings with giving some suggestions and guiding and asking them to practice using written material (a booklet) and observing their practice as well. A nurse stated:

"We have to give more time, pay attention, observe and facilitate them for 2 to 3 days at the beginning to be competent."(N-11)

Other nurses also expressed their experiences about facilitators as follows:

"Even though they are doing all practice accordingly, it is better if we can give them encouragement, counseling, and motivation in between, which I am doing right now. For example, you are doing better; your condition is improving because all those practices." (N-2)

"When the client was crying, I quit the program for a while and made them relax and diverted their mind. I asked to take a long deep breath. Then after some time when the client seemed to be calm, I continued the program." (N-7)

Similarly, the clients and family caregivers also viewed nurse caring behaviors as facilitators. They were being presented, talked, paid attention, counseled, and were

concerned about problems and improvement, using compassion, praise, and encouragement.

Clients and family education. It worked as a primary facilitator. The need-based education, ways of teaching methods and use of teaching materials and availability of written documents facilitated the program implementation. A nurse-in-charge noticed that simple to complex teaching was more effective and clients easily followed. To support the statement she mentioned as following:

"If we teach them all the activities at once in the beginning, they may feel it is a puzzle to practice. We should teach and coach them gradually from simple to complex. For example, the technique of greeting (Namaskar) and AUM chanting at first because clients can memorize both practices easily. Then after, gradually teaching the knowledge and other basic skills i.e., transfer and mobilization along with asana and pranayama." (N-1)

The other nurse pointed out that multiple methods and repeated practice were good for long term memory among the clients. A nurse said:

"I found that clients, as well as family caregivers, do not give the interest to use the booklet only by reading themselves. They may have confusion and difficulties to understand it if we distribute without any demonstration like the technique of alternate nostril breathing. I also feel that they need repetitive practice for long term memory."(N-6)

Support from a family member and the self. A supportive family was one of the most essential facilitators in the study. Involving the family caregivers together with clients in care by educating them and explaining ways of recovery was vital for successful implementation of the program. It was also helpful for gaining positive outcomes among stroke clients. This was because every nurse, as well as clients and family caregivers, highlighted their vital role in the client's recovery. For more clarity, a nurse's dialogue is presented verbatim as follows:

"Most of the family caregivers were supportive of client care. Family caregivers are the main person who helps the clients to practice by using more effort. It was observed that the family caregivers, who will continue the care at home after discharge, took the responsibility seriously and helped the clients continuously."(N-13)

Besides family support, stroke clients used their own physical and mental effort by increasing inner strength, hope and believe through practicing yoga asana, pranayama and chanting *Aum* independently or with verbal and nominal physical support. Also, all the participants explored some reasons for developing positive feelings as 1) connected with God and feel secured, 2) feeling peace and calm, 3) gained more strength and hope while chanting *Aum* and doing yoga. All of the above activities helped them to understand the disease and its ways of care to self after having a stroke. As explored by a client in his/her own words as follows*:*

"Initially, I felt I will not survive anymore. Now I feel, I will survive because I am able to walk even having a weak leg. I can walk around the corridor by dragging my weak leg with the support of my son, I can eat and chew properly myself because my right hand is good. The good leg and right hand provide me much support."(P-3)

Marker of subtle but quick positive health outcomes in clients. By using the program, clients noticed a prompt but subtle change in their physical body. These subtle changes acted as a good facilitator by creating will power, hope and self-confidence for the clients. A nurse noted the experiences to support the above statement as follows:

"For gaining improvement in the critical stage of the client, we do not need huge improvement in gaining hope, even small notable changes can play a vital role in creating hope and will power in recovery and improvement. For instance, when clients can offer Namaste by using the disabled hand with the support of good hand, they may feel some achievement in independence. That is the point to create the hope inside the clients."(N-6)

Suggestions from participants for the next cycle of action research. All the suggestions were abstracted from the experiences of the participants which helped to address the barriers and run the next cycle smoothly.

Suggestions from key participants. Before, entering into the next cycle, some suggestions were collected from the key participants. They were 1) nurses have to show more caring behaviors such as paying attention, praising their success even in

small, interactions, and supervision; 2) provide counseling and encouragement to the clients by showing the similar cases; 3) the program should be included as part of nurses' regular clinical practice like taking vital or assessing level of consciousness using Glasgow Coma Scale; 4) need to review the booklet by adding benefits of the yoga components in the booklet for better understanding; and 5) it is better to conduct a refresher class to the nurses which made them more competent in caring.

Suggestions from clients and family caregivers. The majority of the clients and family caregivers mentioned that they were benefited from the program. It was very easy to use. Through this model, verbal and nonverbal communication among nurses, clients and family caregivers has been improved. It also created the homely environment in the hospital. The suggestions as they provided were 1) it is better to teach thoroughly in the first time by the nurses then the family caregivers/clients follow it easily; 2) distribute of the booklet with explanation is better; 3) clients have to try it, do it, and not to give up, letting go oneself; 4) need counseling, praise and encouragement as well as showing concern from all providers in each shift so clients may feel being cared for and motivated; and 5) being presence, concerning clients' progress and problems, continue to follow up and supervision are most important for boosting up the hope, inner will and motivation in the clients.

In conclusion, nurses as well as stroke clients and family caregivers, mentioned number barriers as they faced during practicing the program in the first cycle. However, they noticed some facilitating factors and suggestions which may help to overcome those barriers; and thus run the program smoothly in the long term.

Revised Plan

For the next cycle, only four plans were set as 1) revising the booklet; 2) promoting the use of the tentative model by the nurses; 3) employing more caring

behaviors, and 3) addressing the existing problems and barriers while practicing the program. A summary of all the above activities and findings of the first cycle of action research is presented in Appendix K-4.

Spirial Action Research Process Cycle 2: Initiation and Enduring the Program by the Nurses for the Sustainability of the Caring Model

In cycle one, nurses had ample chance to gain self-confidence and understanding through seminar and workshops, coaching, self-practice, direct involvement in client care using the program and being eye witnesses of the client's improvement. Gaining such experience might indicate that their attitude changed from reluctance to confidence. The evidence of changes in attitude from reluctance to confidence is presented in five themes as 1) the program is not time-consuming and easy to implement; 2) gaining trust and belief from the clients; 3) understanding own role in the program; 3) receiving verbal compliment from others, and 5) gaining eye witness of some improvement in the client's health such as inner strength, motivation, movement, balance and voice and changes in facial appearance and expression among the clients.

The researcher also observed some improvements in the client's daily activities and health conditions especially, feeding, toileting, grooming, positive feelings, changes in facial expression, and improvement in voice and communication. Most obviously, the caring relationship among nurses and clients as well as family caregivers was increased which reflected in their verbal and facial expression i.e., looking cheerful and happy while practicing and sharing experiences with the researcher, greeting with a smiling face, responding to others and showing more concern toward each other.

The above situation reflected that the majority of the key participants developed positive attitude/feelings and were ready to initiate the program. However, some problems and barriers still existed which might hinder initiation as well as continuity of the program in the long term. Hence, some facilitators and suggestions also brought about an improvement of the practice and dealing the barriers so the program will run smoothly. The detail on problems, experiences, barriers, facilitators, and suggestions was presented in cycle one described in Appendix K-4.

Therefore, the main goal of cycle two was to initiate the program for the nurses for its sustainability. The second cycle followed a complete spiral action research process of planning, acting and observing, reflecting in order to drive the participants to achieve the goals and expected health outcomes.

Planning Phase

The planning process was done by the key participants and the researcher. The main goal of this phase was to strengthen the confidence of nurses, in turn, helped for enduring the program in the long term. To achieve the main goal, the strategic plans were set as 1) revising the booklets; 2) promoting the use of the tentative model by the all key participants; 3) employing more caring behaviors; and 4) addressing the existing problems and barriers in model development.

Acting and Observing Phase

Based on previous plans and strategies, the researcher organized a meeting with the key participants to discuss the achievement, barriers, and facilitators, as well as suggestions for continuity and sustainability of the program. The main objectives of the meeting were to discuss: 1) the achievement in cycle one, and 2) the implementation of the revised plan activities accordingly. Based on the discussion, two refresher classes were conducted for the staff nurses with the coordination of

nurse's supervisor and nurse-in-charge. The staff nurses in each session participated and gained more confidence. For this, each staff nurse took initiation for starting the program in each shift in new clients where the program was facilitated by two in-charge nurses one in each shift as morning and evening. The overall supervision and follow up were done by the nurse supervisor and the researcher. All the activities were performed in collaboration and active participation of the key participants. All the planning and activities were done to strengthen the caring relationship with the aim of making the model sustainable. The activities were described as follows:

Revising the Booklet. Initially, the booklet was developed for the clients and family members to facilitate the program implementation by the researcher. Before implementation to the clients, it was refined and translated into the Nepalese with the help of the participants through the workshop and personal feedback. However, some suggestions were received in cycle one for clear understanding and providing complete information as well. In this regard, some information related to stroke and yoga practice was added. The added items were benefits of yoga, the modified yoga *Namaste* pose and a simple breathing exercise and additional yoga exercises as necessary and the way of teaching.

In the first cycle, simple *Namaste* was used for greeting but it was observed that *Namaste* as a good stimulator, self-motivator along with increased hand movement and hope as well as a good source of spiritual connection with self, others and God. Therefore, in the second cycle, the modified yoga *Namaste* pose was added for the purpose of greeting and regular exercise of both hands. Similarly, simple deep breathing exercise i.e., *Vastrika* was added for practicing at the beginning instead of alternative nostril breathing (ANB). In addition, ANB and additional yoga pose like cycling, butterfly, child pose, chair pose, and mountain pose were practiced by some

clients. Similarly, the way of teaching was also revised like individual coaching, used of multiple teaching methods, the principle of simple to complex learning. For instance, yoga *Namaste*, and chanting *Aum* were practiced at first through demonstration, distribution of booklet, explanation, then gradually proceeded toward other exercises and knowledge about disease and yoga.

Promoting the use of tentative caring model by nurse participants. For promoting the use of the model, two in-house refresher demonstration classes were conducted for staff nurses by in-charge nurses in the coordination of the researcher. The main purpose of the refresher class was to increase the key participant's self-confidence and competency in caring by using caring and yoga. In the meantime, the revised plan, strategies, and booklet along with their roles were explained. The staff nurses showed agreement and being ready for implementation of the program. After that staff nurses initiated the program whereas two in-charge nurses worked as facilitators. The researcher engaged in supervision follow up activities and facilitation as necessary.

Employ caring behaviors. For this, key participants were asked to show their caring behaviors in terms of being close with the clients and knowing them through assessment, communication, interaction, and observation, eye to eye contact, touching, demonstration, encouragement, praise, supervision and follow up, pay attention and concern toward their problems and belongings. For this, nurses were asked to continue communication and interaction with clients and family caregivers using professional care along with spiritual care practices as necessary. Essentially, the continuity of the program was observed and recorded on each shift by the nurses. More importantly, clients were encouraged to practice yoga and other activities by

showing similar success cases as well as praising their subtle improvements even the movement of a finger or sitting balanced and so forth.

Addressing the existing barriers for effective implementation of the practice. For these, yoga *Namaste* was used for greeting and initiation of the program. Interaction, regular counseling, supervision and follow up by asking questions whether they were practicing the exercise or not we have done in each shift while providing routine care or other activities. Likewise, clients and family members were an encouragement for taking responsibilities seriously. In case of emotional distress during program implementation, quitted the program for a while and made the clients calm by asking to take deep breathing. In the case of feeling tired during yoga, the clients were helped to do 1-5 minutes *Savasana* for revitalizing the body.

Regarding language difficulties, an interpreter, such as a family member or visitors of nearby clients who could understand the language of the clients was used. Most importantly, nurses and family caregivers used "no hard and fast**"** for time (No time-bound) for yoga practice so they can use or teach the practice in own pace and suitable time. In this way, nurses were able to manage their free time even in a busy and hectic schedule for continuity of the program during the hospitalization.

Reflection Phase

Reflection was conducted with the nurses to find out whether their experiences related to confidence after initiation of the program. In addition, reflection was also carried out with the clients, and family caregivers to assess their feelings, confidence and satisfaction as well as outcomes of the model. The results of the reflection were presented in terms of nurses, clients, and family caregivers.

Nurses experiences after initiation of the program. Nurses explored their own experiences about the caring incorporation yoga while implementation of the

program into the stroke clients. Many changes were found in their perceptions after implementation in the second cycle of the action research. The reflected experiences were presented in two main themes as 1) willingness and being positive; and 2) perceive changes.

Willingness and being positive. Being interested and having positive feelings are the basis for the nursing profession. Nurses perceived willingness and positive feelings after the initiation of the program even though they showed reluctance in the beginning. The majority of them mentioned reasons for willingness and positive feelings as 1) knowing the stroke in depth; and 2) perceived a number of benefits of the program.

Knowing the stroke in depth. It revealed that obtaining in depth knowledge about stroke clients was very difficult in the acute stage due to lost voice, denial and feeling shocked since they were at the maximum level of stress and anxiety. In contrast, after implementation of the program, the majority of the nurses mentioned that they came to know better about the client's main concern, needs, and existing ability on self-care during the phase of the research process. A nurse spoke of self-care ability of the clients as follows:

"Clients are able to move the weak part with help of self-support of strong part; for example, doing Namaste, rising up the waist and weak leg with the support of strong leg. I came to know that they can use their own effort in ways which I have never knew or saw before.''(N-13)

A senior nurse explored her understanding of the needs of the clients as:

"*I thought that clients and family caregivers may give more priority in medicine than doing yoga. In reality that was not true. Both clients and family caregivers had given equal priority to yoga and medicine. I gained insight myself that client and family caregivers wanted to use extra activities along with medicine for better recovery. They do not depend only on medicine."*(N-3)

Perceived a number of benefits of the program. A number of benefits of the program were perceived. The theme referred to the perceived benefits related to

nurses and the nursing profession as well as clients and their family. The program helps to enhanced the communication and establishing a good interpersonal relationships as well as confidence in practice among all participants. Supportive dialogues are presented as:

"Yoga is necessary for our daily life, right. Actually, I have heard about yoga but I never used in own life. Now involvement in the program, I am doing yoga regularly at home. When I practice it regularly, I feel quite different than only listening."(N-3)

"Basically we wanted positive outcomes from the clients which were gained by the program like early transfer, early limbs movement, walking, speech. Those positive outcomes directly increased our job satisfaction. Therefore, the program is good for us but it is far better for stroke clients."(N-1)

Some examples of those benefits related to clients were cost-effective, safe for critical clients, easy to practice by stroke clients having hemiplegia and lost voice lying in a hospital bed, obtained better outcomes in short time even with minimum effort. A nurse mentioned her experiences as following to support the statement above

"It is known that the program is beneficial for the clients. With little work and minimum effort, we have obtained great achievement and changes in the client's recovery. I realized that if we give more effort and add more staffs in this work we definitely will achieve far better in the client's recovery. I always feel this point after I observed fast recovery of the clients. For example, family caregivers tried to mobilize their client immediately after we demonstrated transfer technique. Finally, the client able to sit on a chair and walk too early with minimum support."(N-2)

From the perceived benefits, and obtaining knowledge and skill as well as self-practice, nurses participants showed their confidence and commitment in terms of continuity of the program in future at any places either in a hospital or outside the hospital. The following clarified statements follow:

"After the implementation of the program, I came to know its effectiveness for early recovery. I have been an eyewitness because we directly observed the improvement in the clients. We gained knowledge and skill. As a result, today I proudly say I able to use the program confidently either in a hospital or in community."(N-9)

Perceived changes. This category of the theme reflected that nurses perceived changes not only of the clients but also they felt changes themselves. The theme is

supported by 1) changes in caring behaviors and practices; 2) changes in a caring environment; 3) changes with self; and 4) changes in clients and family.

Changes in caring behaviors and practices. Most of the nurses stated that their caring behaviors and practice had been changed spontaneously after implementing the program. This might be due to improvements in relationships and communication, establishing mutual trust, increased nurse efficiency and decreased workload. Some dialogue are presented to support the statements as follows:

"This is my best program, Ma'am (Ha ha ha). I like it very much. When a new client asked me about recovery, I do counseling by showing an old case that is using the program as if you do all activities like he/she, you will be recovered faster like she/he. In this way, I always encouraged the clients to do exercises such as hand movement, breeze pose, sitting on a chair, eating, walking around. Then, the new client started to practice exercise even in our absence."(N-8)

"I became very comfortable here. I never felt anxious and bored to spend time in hospital. All sisters behave us nicely and perfect to teach us. Aum is heard from this bed and also from that bed. It's going on in all. When a new client was admitted, sisters respond promptly and taught yoga exercise immediately which I observed since I was here for caring to my husband. This would not be possible for one person. Your team itself is active. This may be due to Hindu culture, doing yoga and chanting Aum became possible, which we knew from the past. It is only that clients had not practiced it or even had not known about it."(F-16)

Changes in a caring environment. This subtheme reflected the perceived caring environment by the nurses after the application of the program. Most of the nurse participants explored that the working environment in the ward has been changed from a frantic stressful environment to pleasant harmonious as a result of caring behaviors. The statement was supported through a good interpersonal relationship among all parties, supportive and spiritual caring environment. Some nurses' dialogues are presented to support the above statement as follows:

"It is difficult to implement the program without support from head of department, senior supervisor or faculties. I faced negative behavior and environment in this ward before. In contrast, now it is fine. They believe nicely to us and our work. All the staff's seniors and juniors are helping us. I felt that everybody have the willingness to help for good work. If we really have a supportive environment, we can achieve the goal. All of them are telling about this program is very good. We got

positive support from all team because everybody noticed positive outcomes of clients as well as a lot of benefits of the program."(N-1)

"We are always being closed with the clients and spent more time with them. We are the person who provides care 24 hours to the clients. However, clients were irritated most of the time and hardly responded to us. Also, family caregivers were stressed and agitated. I never felt closure with them before. In contrast, now, after I greet them using yoga Namaste, talk with them using Aum chanting and teach about disease and yoga practice. They smile and greet by using both hands even having a weak hand and unclear voice. They follow us nicely and happily what we asked to do. This may be because of good nurse-patient relationship. So they trust us, believe our knowledge and skill what we taught and may feel better toward health. By doing all of the sort actions, I felt comfort, motivated myself for providing care to them"(N-10).

"Most of the people are Hindus in our country. Aum is the holy word and symbol of God in Hindus. Therefore, Aum is very important for our life. Now, we are using it in a hospital setting. To listen or to see, to chant such a wholly sound in the hospital, I feel that I am being with family members. I also feel I am working in my own familiar environment. Clients and family may also feel the familiar environment as they are in own home. Therefore, we feel closer to each other. We nurses also motivated to provide nursing care by using yoga."(N-11)

Changes with self: The theme reflected changes related to insight and attitude among the nurse's participants. Majority of the nurses participants explored their perceived changes in their feelings, motivation, insight, happiness, and satisfaction after using the program. Some of the dialogues were presented to support the nurse participants as follows:

"Previously, I never think about doing interaction as a part of care. Truly, I hardly talk with clients. Now we are often talking spontaneously with the clients that enhanced the interpersonal relationship. So I am enjoying talking with clients while providing routine care. I feel quite different than before."(N-5)

"When clients followed our instruction and trusted to us, looking cheerful and happy, I feel different inside me. Such feeling motivated me to help them more."(N-2)

"Now, the implementation of this program changed a lot (reply with a smile). I really satisfied with the program and progress of the clients."(N-9)

"I feel that we nurses' contribution is vital in client's rehabilitation and early recovery after using the program. Previously, we just did our routine works then sat down. I never felt job satisfaction like this time before."(N-3)

Changes in clients and family caregivers. Nurse participants mentioned that we were a powerful witness and evidence to prove that the program brought a lot of

changes in clients and family caregivers. First of all, they developed the positive feelings toward self and recovery, developed will power and strength and self-motivation. Such changes were reflected in their behaviors and attitude. Consequently, self-initiation of the activities with active participation was often expressed by every participant. Supportive dialogues are presented to strengthen the statement as follows:

"*Initially, I felt that clients and family caregivers may not be co-operative for the program implementation. In contrast, they showed co-operation and active participation while implementing the program without being irritating and aggressive in turn they got a positive outcome."(N-9)*

"Because of a trusting relationship, they involved in the program and practicing nicely; they responded to us promptly while meeting. Looking at their all activities, it reflected that clients wanted to share about happiness by showing their success like smiling with us, sitting on a chair, walking, greeting, speaking and so forth. I found every client was very happy and cheerful."(N-1)

"After gaining the knowledge and skill regarding caring behaviors, clients and family caregivers not only felt but also realized their own role and responsibility in client's care. That's why, they participated actively in own care from their side." (N-3)

In conclusion, nurses got a number of benefits and changes after implementation from the program not only for the client's recovery but also in their personal and professional work. This reflected that they were very satisfied and happy with the program. Therefore, they suggested for continuity of the program in the future.

Clients and family caregivers experiences after implementation of the program. In the second cycle of action research, both clients and family caregivers expressed their feelings, experiences, and perception in many aspects. However, only two categorical subthemes were emerged related to the above theme as 1) confidence, hope, and motivation to recovery, and 2) appreciation of nurse caring behaviors.

Confidence, hope, and motivation to recovery. The subtheme was supported by gaining knowledge and skill about disease and self-practice, feeling peace, calmer and relaxed. Similarly, they also showed their readiness for going back to home as well as seeking more knowledge and suggestions from nurses. Interestingly, more than half of the clients asked the researcher about learning additional yoga *Asana*.. A client who had the experience to practice yoga before, shared her confidence to learn more yoga practice. She stated:

"Yoga is the thing that I was doing previously since my childhood. Now, I felt a confidence that I would get well, with the feeling that now nothing untoward will happen to me, that I can do yoga. Then, I got more courage to do other activities." (P-5)

Another client mentioned increased his inner will after practice yoga. She/ he stated as:

"Now I have confident that I will get better. But I feel that "I need to make my heart stronger by saying that I can do this, I can get up and walk. Only then I will get better soon."(P-9)

The other client mentioned increased his hope after practice yoga. She/ he stated as:

"At the beginning I got hopeless but now the situation is not like that. I have the self-confidence that I must survive. I survive. I have only one son. I have a responsibility to take care of my son. Now I hope that my responsibility for life will be fulfilled."(P-12)

Most prominently, all the clients shared their experience in terms of feeling peace, calmer and more relaxed; after participation in the program as yoga in caring. A male client stated:

"I felt very good when saying Aum. Especially when saying Aum by taking a deep breath, it helped to improve the word. I also felt that my mind is being peace and refresh along with vibration in the whole body. Aum happened to be a way to get well." (P-15)

Similarly, the following dialogues supported the client's hope and happiness after using the program. He/she stated:

"When it happened, I thought my life was gone, I would be disabled for life. But now I have hope. I, who was not able to stand up, became able to walk. Therefore I am very happy." (P-13)

After the implementation of the program, the majority of the clients and family members realized their role and contribution in the early recovery. A client mentioned his role as vital as following:

"I use my effort and do hard work, i.e. practice for my recovery. I am trying to do almost all Asana as given in the booklet myself i.e. hand and neck movement, bending forward. But, my son helped me to raise my right leg up and while walking. So I believed myself I will get my desire, my recovery."(P-7)

A family caregiver stated his/ her role in recovery as follows:

"The role of the family is vital the same as doctors and nurses in the hospital. You, nurses, taught the activities and suggested to do it but we family caregivers really apply to the clients, assist the clients in every activity. As I feel, family caregivers, nurses and doctors had an equal role and responsibility in a client's recovery." (F-1)

Appreciation of nurse caring behaviors. The subtheme reflected the good caring behaviors as perceived by the clients and family during the program in the hospital. They utilized and explored some terminology to appreciate nurse caring behaviors in terms of good talking manner, prompt response, knowledgeable and skillful. A father of a young stroke client expressed his feelings about the caring behaviors of the nurses as following:

"Sisters have good talking manners. They answer immediately. They ask, 'How are you, father?' They call me father. I have a son and a daughter. When sister calls me father, I feel like my daughter is calling me."(F -10)

Similarly, other family caregivers appreciate the nurse caring behaviors as following. He stated:

"We have got much help. If you had not taught us all these, we would not have had these ideas to take care of my mother. We would have moved her limbs, but we would not have got the hope that we got from your teaching. When I teach or tell to do exercises, she would complain of pain even if she has no pain. But if you come and just look at her, she does all the exercises without showing any signs of pain. Not only that, she tries to show that she can walk to you." (F-3)

On observation, the majority of the clients and family caregivers were looking happy and cheerful when nurses asked them to do yoga Namaste; chanting Aum and other yoga exercises. They initiated the program activities and never waited for the nurses, and looked busy in doing activities all the time. They seemed to be more happy, active and alert as well as expressive and responsive. They also appreciated the nursing activities as provided with full satisfaction. Besides gaining some improvement and subside some physical problems; most of the clients had still somehow physical problems. Those physical problems were difficulty in mobility and self-care in daily activities. Likewise, some of them had fear of complete recovery, re-stroke and fear of falling.

Barriers and facilitators. The barriers were presented in term of implementation and facilitators for the sustainability of the program.

***Barriers of the program implementation*.** The barriers were categorized in terms of barriers felt by nurses; clients and family caregivers. Nurses felt that they still had difficulties, such as language, long doctor's rounds and the sudden crisis situation in the unit for providing the care by using the model. They also mentioned those barriers could be manageable. A dialogue given by a nurse to support the barrier as follows:

"In fact, sometimes, we are very busy during doctors' rounds and carry out their instructions. In addition, we must have to finish our routine tasks. In that situation, it is quite difficult to implement but it is manageable."(N-8)

Both clients and family caregivers mentioned that there were no barriers or difficulties for practicing the program in the hospital and at home. However, they suggested that proper education, and continuing to follow up were necessary by the nurses during hospitalization. They also highlighted that family support is vital for practicing yoga i.e., raise the leg up, bending forward pose, walking and so on.

Facilitators for the sustainability of the program. Some of the nurses especially nurses in-charge stated that having a realistic goal, a good plan, and strong will, full support, coordination, and teamwork were required for successful implementation of the program. In addition, providing extra care than routine by using good caring behaviors and spiritual activities were significant sources of self-motivation and satisfaction of the staffs as well as clients and family caregivers which acted as robust facilitators. Once clients developed will, motivation and strength they could easily understand and follow all the activities in the long term.

Some of the facilitators as the nurses mentioned were 1) teaching material and methods: booklet of the program; clients to clients teaching and learning by sharing each other from known old clients/family caregivers to new clients/ family caregivers; 2) caring behaviors, environment, and relationship; and 3) support from self and family. In addition, the proper way of teaching and coaching, nurses caring behaviors. Moreover, integration of spiritual care in nursing practice worked as facilitators for creating hope, self-motivation and active participation. Most remarkably, stroke clients explained self-support, meaning of self-confidence transported via the program which was the core for facilitators to gain improvements in health outcomes. A client stated the source of self-courage as follows:

"It can be possible through cultivating own effort to do the practice otherwise it is useless, no matter how better you teach and help the clients. I believe myself. I will get an improvement because I spent my effort to practice the exercise as you taught to me."(P-2)

On observation, the researcher found that integration of the spiritual activities and self-support of the clients were robust facilitators for conscious stroke clients for implementation of the program as well as improvement in health outcomes.

Action Research Evaluation: Final Evaluation of the Caring Model

The expected health outcomes of the model implementation were 1) physical recovery and 2) wisdom of people living with stroke were abstracted from qualitative measures and quantitative assessment tools.

Physical recovery as an outcome of the caring model. Physical recovery was one of the primary expected outcomes of the caring model incorporating yoga among stroke clients in the acute phase. It was conceptualized in terms of functional ability in activities of daily living (ADLs) among stroke clients. The findings are presented into two parts. The first part explores functional assessment score on independent in self-care ability on activities of daily living whereas the second part illustrates the participant's perception about physical recovery abstracted from interview and observation.

Functional assessment. An assessment of the client's ability to perform daily living activities (ADLs) was carried out to monitor physical recovery. This assessment helped to understand the client's response to their condition as a part influenced by the amount of physical recovery. The assessment was done in four different stages before and after implementation of the program: initially, at the time of discharge and at 4-5th week after discharge and end (8-10th weeks) of the study. The study employed the MBI (Shah, Vanclay, & Cooper, 1989) to assess an individual ability to perform daily living activities. The total score is 100 with higher scores reflects greater independence where 100 indicated fully independent and 0-20 indicates fully dependent from daily living activities. A score of 0–20 suggests total dependence, 21–60 severe dependence, 61–90 moderate dependence and 91–99 slight dependence.

The finding shows that at baseline assessment, participant's level of activities ranged from 15-55 of 100 total scores. Of 16, six participants scored below 20; whereas remaining 10 scored 21-60. It indicated that all participants were in totally dependent on the family members in the acute stage of the disease. At the day of discharge (8-24 days), the score on ability on basic self-care was increased. Of 16 participants, nine scored from 21-60 whereas six participants ranged from 61-90 only one participant scored 100.

At the end of the program, 12 participants achieved a higher score which ranged above 90, indicating a faster recovery. Of 16, three participants achieved 100 and five participants scored 90-99 whereas only eight participants' scores ranged from 81-90. These results indicated that the physical recovery in terms of ADLs dramatically improved from the baseline to the completion of the study. The detailed description in the table of functional assessment score is presented in Appendix K-8.

Participant's perception of clients' physical recovery. Both key and associated participants repeated the similar thematic outcomes of physical recovery. The emerged themes were abstracted from the experiences and perceptions were obtained from the in-depth interviews, focus group discussions along with the researcher's observation. The themes which emerged were categories into three parts as 1) feeling comfort, more relaxed, refreshed and more sensation; 2) increased physical function and purposeful movements; and 3) improvement of self-care ability and mobility.

Feeling comforts, more relaxed, refreshed and more sensation **.** While asking about their perception of the program in terms of physical health condition, almost all stroke clients explored their perceptions of the above. Some of those who lost

sensation also gradually felt the more sensation on the paralyzed site. Nurses and family caregivers also shared the same perception as the clients. A client stated:

"I am able to do all the exercises as mentioned in the booklet. I feel more relax and fresh in my body. Although I cannot move my right hand at all, I am feeling better."(P-11)

Similarly, a family caregiver also expressed her/his perception about the client's feeling comfort while doing exercise and moving around as following*:*

"Basically, patients are passive and felt discomfort while seated only on the bed. Exercise is essential for making the body active. My mom is doing all yoga exercise in bed as you taught. She does not feel any difficulties to practice yoga. As I observed, she looks more comfortable and refreshed even sitting on a bed."(F-3)

A wife of a young client explained about sensory improvement as follows*:*

"He couldn't even move his right hand and did not feel touch, hot, cold and pain in his right hand and leg. It was totally frozen. But now, he feels hot, cold, touch and even pain in the hand and leg." (F-7)

Increased physical function and purposeful movement. This categorical theme reflected that the clients used their limbs to perform the task as they wanted to do i.e., use of both hands for greeting, transfer from one bed to chair and vice versa, doing physical exercise i.e., yoga *Asana* for own recovery. This purposeful movement enhanced the improvement in physical functions. The subtheme supported by three categories themes as 1) increased range of motion and flexibility of joints; 2) improved balance, strength and walking; and 3) increased independent practice. Some supportive dialogues are presented as follows:

"This program helped very much for early movement and enhanced range of motion of joints because they practiced a lot of yoga asana. Yoga Asana also helped to increase the strength of the joint and muscle. Ultimately, patients were sitting a long time out of bed instead of lying on the bed."(N-7)

"Most of the clients kept on moving their limbs. This may be because of independent practice and perceived improvement in health. Anyway, all those exercises enhance the physical recovery of the patients." (N-5)

Improvement in self-care ability and mobility. Improvement in self-care ability and mobility of the clients indicated improvement in the functional ability of daily living activities. They changed from dependent to partially dependent and being independent in doing self-care of basic activities of daily living. The majority of the clients had developed independently by the day of discharge and all of them developed independently at the end of the study. The common improvement in functional ability in the hospital was feeding, toileting, personal hygiene and walking along with control of bladder and bowel. Of 16, only one client was discharged with a feeding tube which was removed at day seven after discharge. However, those having right-sided hemiplegia needed some help for shaving, grooming, combing hair and so on. A client mentioned her improvement in activities of daily living as*:*

"At the beginning, for 2-3 days, I laid on bed,I had a pipe for urine and feeding. Now, I am able to go toilet, can brush and eat myself. I need little support for wearing cloth and walking. After practicing yoga, I realized that yoga has a great impact and has made an improvement for me."(P-9)

A young lady (family caregiver) expressed her perception about improvement of her mother in terms of physical health after discharge as below*:*

"My mom had a better improvement than beforr. At the time of discharged, she had a feeding tube and need more support for walking. We used a wheelchair to take her home but now, you can see, she came by walking independently, can eat orally, can go the toilet alone even at night."(F-6)

Nurses also remarked that the client's self-care ability was enhanced due to the program .The clients began changing early toward independent from dependent in terms of feeding, voiding, toileting, personal care and walking .A nurse stated the client's independence in self-care in terms of eating and voiding as follows:

"Do you know the patient in bed no 56, a young boy? In the beginning, he was sleeping all the time, aphasic, weak, sad and depressed. His condition was very critical. He was totally dependent. .After I gave a booklet and taught some yoga practice along with continuous communication, counseling, and encouragement, he was motivated. Now, he can move around, can speak some wards, and eat. He can go

to the toilet with minimum support. If we never encouraged him, he may not have been motivated and would not have improved so fast. Therefore, I felt that our concern and encouragement played a vital role in a patient's recovery. If we do like that, even if patients who haven't shown interest in the beginning, gradually they are motivated and can follow us." (N-2)

On observation, the researcher also observed similar improvements in stroke clients regarding physical recovery among stroke clients. The researcher concluded those findings in stroke clients such as increased purposeful movements and physical recovery; walking ability and balance, self-care ability in ADLs and control of bladder and bowel functions. However, the researcher also observed some barriers which limited them to do self-care even they could perform independent such as the slippery floor in toilet, lack of facility for taking shower, walking on stairs, and fear of falling as well as rule set by the family caregivers.

In conclusion, most of the activities were done by clients themselves with minimum support on the day of discharge. However, the pace of the activities was varied i.e., some of the activities were done less often and some of the basic cares were done much faster.

Wisdom as a final outcome of the caring model. Wisdom was another expected outcome of the caring model incorporating yoga among stroke clients in the acute stage. The findings are presented in two parts. The first part explores the mindfulness assessment score as an intermediate outcome in regard to cultivating the wisdom. The second part illustrates the participant's perceptions about wisdom development. All the themes were obtained from the in-depth interviews, focus group discussions and the researcher's observations.

Mindfulness score of the clients. In the study, yoga has conceptualized terms of "mind-body" exercise which enhanced levels of mindfulness in individual stroke clients. Being mindful or focusing on breath improved the stroke client's awareness of

being in the present. The mindfulness is the state of peace of mind. This peace of mind helps in cultivating wisdom among stroke clients. Therefore, the level of mindfulness was assessed into four times baseline, at the time of discharge, within 4-5 weeks after discharge and the end of the study i.e., 8-10 weeks after discharge from hospital. The assessment of mindfulness was done in four different stages before and after implementation of the program: initially, at the time of discharge and at 4-5 weeks after discharge and the end (8-10 weeks) of the study. The study employed the Freiburg Mindfulness Inventory to assess an individual mindfulness level. The result of mindfulness assessment score revealed that almost all stroke clients had a very poor level of mindfulness in the initial stage but after implementation of the program, it was increased gradually in all clients at the time of discharge whereas it was hugely increased in weeks 4 to 5 weeks and at the end of the study. The detail description of mindfulness score in each time presented in Appendix K-9. The increased level of mindfulness indicated the client's ability to cultivate wisdom.

Participants' perception of wisdom. The emerged themes regarding wisdom arose from experiences and perceptions of all the participants. Both key and associated participants repeated similar thematic outcomes as an attribute of wisdom among stroke clients. The emerged themes were categorized into three parts. They are 1) increased knowledge of stroke, yoga, and care to self; 2) constant spiritual connection; and 3) being active and alert as well as more expressive and responsive. However, all themes had a relationship and were interconnected each other and with physical recovery.

Increased knowledge of stroke, yoga, and care to self. The theme signified that the clients obtained the right knowledge about their disease; yoga and technique of self-care. This knowledge and skill helped them in understanding the reality of stroke

life. Indeed, they realized the importance of their participation in yoga practice for self-care. Self-understanding and insight are one of the statement often explored by the participants that signified the increased their knowledge and skill. To support the theme, how it emerged among stroke clients supported by a number of reasons given by the participants. They were 1) obtaining knowledge about the stroke, its warning sign, its recovery, consequences and prevention and management of the complications; 2) self-reading using booklet; 3) obtaining complete information and skills training related to self-care and yoga practice; 4) obtaining caring behaviors and actions which helped them to realize their important role and contribution in recovery and; 5) direct involvement in self-practice.

After self-practice, they acquired in-depth knowledge of their disease and skill in caring for oneself. They also developed understanding, insight about their own limitations, ability and capacity to care for themselves and doing exercise. Their improvements were subtle but induced a more positive attitude. The following dialogues were given by the nurse participants to support the above statement. They stated:

"*Initially; clients said that the exercise looked difficult. After, I provided knowledge about the disease, and practicing it regularly they felt that it was very easy to practice.*"*(N-1)*

"Now, the clients practice the program easily and frequently without any difficulties. This may be because of familiar concept to them but they never used it for recovery. After understanding that yoga is really beneficial for them and gaining improvement after practice, clients developed insight."(N-4)

"In my experience, if clients do not have an inner will, they are never motivated and will not show interest in self-care even though we spend more effort on them. But, now clients have developed an inner will and being internally strong because they showed their active participation in self-care and practiced yoga themselves. This is the very good evidence of self-understanding."(N-6)

Likewise, a male stroke client explored his feelings about increased self-understanding as follows:

"The disease is not like having a fever and that can be cured by recovered by only taking paracetamol or pills. I feel that it takes time for full recovery of my problems."(P-2)

A family caregiver explored his feelings on increased knowledge and self-motivation as:

"Previously, my son was lying down on a bed in a sad mood and silently. But now, he chanted Aum with a smile, looks happy and cheerful. He is trying to spell out Aum and practice Anulom-vilom by looking the picture in the booklet. He can do all the exercises given in the booklet."(F -10)

Another female stroke client explored her feelings as:

"I had fear of disability and uncertainty whether I will recover or not. I didn't know about my disease. But now, I came to know about my disease, symptoms and recovery process and yoga exercise, I understand my disease and taking care of myself."(P-4)

Gradually, stroke clients started to practice all spiritual practices after gaining knowledge and skills. This integrated knowledge, skills and spiritual /religious practices particularly chanting *Aum* helped them toward constant spiritual connection. The next theme emerged and is explained as follows:

Constant spiritual connection: The theme represents the perceptions of all participants i.e., nurses, clients, and family members. All of them had given a similar statement on this theme. The subtheme was supported by five categorical themes as 1) faith in God; 2) becoming connected; 3) feeling a decreased level of stress, anxiety and worry; 4) feeling peace, calmer, joyful and happy; and 5) developed inner will, hope, and motivation. However, the way of explanation was quite different between nurses and clients participants.

Faith in God: Nurses mentioned that we Nepalese people are more spiritual and religious. We have strong faith in God. We use this faith as a powerful source of dealing and tackling any crisis. This faith enhanced peace of mind and spirit. In fact, Hindu people believe that *Aum* is the symbol of God. Therefore, they use it in their

daily life for religious obligations and overcoming difficult situations. In addition, it is used for sharing both happiness and sorrow with God by chanting the *Aum* loudly. Because of faith in God, clients chanted the *Aum* without any difficulty for overcoming the challenges and difficulties caused by stroke. A nurse explored her feelings to support the statement as faith in God. She stated:

"Basically, we Nepalese people believe in spirituality and religion. The program contains Aum, the name of God. The Aum is common, everybody chanted it in a different phase and in various situations of life, happiness and suffering. When they chanted at the hospital, they may have felt calm and spiritually satisfied having a feeling of being able to call the name of God during illness. This is because they have faith in Aum. So, they accepted the program easily and practiced it actively."(N-2)

Some of the nurses pointed out that if anyone had faith, they could trust and accept anything easily without any evidence. The same thought applied for trusting and acceptance of the program. This depicted that the clients and family members trusted the nurses and nursing practices easily. Similarly, because of faith and trust, the majority of the stroke clients felt becoming connected while chanting *AUM*, doing pranayama even in a difficult and crisis situation caused by stroke.

Becoming connected. It reflected the connection of the clients with self, others and with God. The majority of them, along with family caregivers, particularly the elderly, mentioned that they were able to remember God due to the program because it contains the name of God. Indeed, they constantly connected with self, others and with God. Supportive dialogues are presented as follows:

"When I chanted Aum and did alternate nostril breathing, I felt awareness on my body, relaxed and joyful (smile while sharing). Some feelings come in my mind at that time as I have to recover, feeling about my children. Now, I have enough inner strength that I will recover."(P-4)

"In my home, the window is facing the temple. In the morning I asked my mom to do Namaste to God. Then, she prayed to God facing towards the temple saying Namaste using both hands. Afterward, she felt fresh."(F-6)

"Previously, I used to pray God and chant the Aum daily in the morning at home. But I forgot God after getting the disease suddenly. When you explained the

disease and Aum showing in the booklet, I heard and noticed the word Aum the name of God. After that, the Aum helped me to connect with God again. I feel secure when I call the name of God Aum. Since that day, my mind is connected at the same pace and body became more powerful to handle the situation."(P-12)

As they mentioned, after feeling connected to self and with God, they felt secure, peaceful and relaxed, with decreased worry and fears. One of the old client mentioned the reason for feeling secure as he believed that everything was controlled by God. God has the power to get a solution. Besides, most of the clients felt peace, calmer, joyful, and happiness from the program.

Feeling peace, calmer, comfort, joyful, safe and happy. Both the key participants and associate participants repeated a similar theme but in different ways. Firstly, the clients expressed their own feelings while they practiced yoga and received caring behaviors. They explored feeling peace in mind, calmer, comfort and happiness. In contrast to clients, the nurses and family caregivers explored similar feelings of the clients indirectly. They used the term 'looking' instead of 'feeling' i.e., looking cheerful, peaceful, calm, spiritually satisfied and happy. In addition, they also used the changes in their facial expression, behaviors, and attitude to express the feeling of the clients. In addition, nurse participants also pointed out that they never observed such types of facial expressions, behaviors, attitude, and happiness in the clients before the program implementation. However, feeling joyful and safe was explored only by the clients, not by others. All of those changes are possible because of caring behaviors and yoga practice. A nurse explored her perception to support the above statement. She stated:

"For obtaining wisdom and happiness, we have to keep our mind peaceful and spiritually connected. The program especially "AUM" chanting is very good for making the mind peace and relaxed. It is also excellent for creating a social relationship that enhanced the happiness in the clients."(N-6)

A female client who has practiced yoga since her childhood expressed her feelings:

"It feels very joyful (आनन्द) when chanting Om. How to express it? It feels like the energy has surged over the face; the energy comes from deep inside. My face seems cheerful 'automatically.' The body becomes very relaxed and light. The head also becomes light; the whole body becomes light. It feels as if energy from the inside goes through the head and somewhere above. Then, the body feels very 'energetic' and 'active.' It feels like wishing to continue the Om chanting meditation; I don't like to stop it." (P-5)

Gradually, positive feelings replaced the negative feelings of the clients. So they expressed feeling safe, comfort and relaxed instead of stress, anxiety, and worry.

Decreasing the level of stress, anxiety, and worry: Since the disease onset, almost all clients overwhelmed from psychological and emotional distress. Those problems were attributed to stress, anxiety, worry, and fears. However, after using the program, clients felt decreased stress and worry to some extent. They also mentioned those problems couldn't be controlled totally at once but decreasing gradually. A male client expressed decreased worry and stress by using the program as follows:

"My mind, it cannot be controlled once because it was grossly disturbed after getting a stroke. But I believe that it will be stable gradually because I feel better in my body after doing exercise; peace and relax in my mind after chanting Aum."(P-12)

"After beginning to do yoga exercises and after beginning to chant "AUM," and after the client began to get well, I did not have time to think about other things. Where did the worry go? I became busy doing yoga exercises, thinking that this might get my husband well. Really, I did not have time to worry, or time to dwell in anxiety. This is also a good thing, isn't it? This yoga exercise made both me and my spouse busy all the time."(F-13)

Simultaneously with decreasing stress and anxiety, inner will, hope and motivation were created and developed by the clients.

Developed inner spirit, hope, and motivation***:*** This theme was also similar and repeated expression among all participants. The theme reflected that stroke clients experience positive feelings toward own life, others, and recovery. Even though, all the participants mentioned that the program creates hope in clients toward recovery of

the lost functions. However, nurses mentioned the vivid level of hope among stroke clients. Initially, hope was totally lost due to a sudden loss of normal life due to experiences of life-threatening physical symptoms. Later on, hope was created after initiation of medical treatment. However, they were still suffering from uncertainty and fears that may negatively affect sustaining the level of hope and inner strength and trust toward self, along with motivation. In contrast, after employing caring behavior, knowledge and yoga practice, gradually they developed hope, inner strength, faith, and trust which signified the positive feelings toward life. Therefore, hope will power and motivation was strengthened and sustained after getting the right knowledge, insight, and understanding about the disease, recovery and care for self. A family caregiver expressed his feelings to support the above statement as follows:

"When you are nearby and teach about yoga practice, my mom is more active. Even though she can do almost all exercises, she needs encouragement from nurses here. I think she may have more trust in you and believe in yoga practice that helps her for recovery."(F-3)

After gaining the knowledge, skill as well as yoga practice stroke clients along with their family may understand about the disease, its impact along with way of taking care. Most importantly, they feel positive changes after practice and caring behaviors of the nurses. Such feelings definitely helped the clients to develop the self-confidence and acceptance the life with physical limitation caused by stroke.

Being active and alert as well as more expressive and response. Being alert and active as well as more expressive and responsive indicated that the clients were more positive toward life by acknowledging the lost body parts. This signifies the self-confidence and acceptance of the problem situation caused by a stroke. It also reflected the acceptance of life reality by acknowledging the physical limitations imposed by stroke. It was reflected in their behaviors and actions. For this statement,

nurse participants as well as family and the stroke clients explored their own perceptions as following:

"Um... for this, he is self-active. Now he understood the benefits of the yoga exercise. After that, we don't need to force him to do practice any exercise such as legs extension, bridge pose, Namaste and all. The interesting point is using Subasana, which he uses for relaxation if he felt tired after exercise and walking as well as the diversion of mind when he felt bored."(F -13)

Some supportive dialogues from the nurse participants are presented as:

"Previously, clients and family caregivers were sleeping when we went to the bedside in the early morning for routine care. If we woke them up at that time, clients, as well as family caregivers, were irritated with us. But, after implementation of this program, both clients and family caregivers were active and alert since 5 am in the morning. They have finished morning care and started to do exercise actively."(N-4)

"Usually, clients were lying on the bed without doing any activities. But, now they are using that leisure time effectively by doing exercise and "AUM" chanting, walking around and so on, therefore, they look quite more active than before."(N-12)

"*Clients feel happy and proud due to the feeling of success in doing Namaste even having a weak hand to others. This is because they able to do Namaste not only to the nurse and doctors but also to all visitors who came to meet him/her with a smile instead of lying on the bed silently with a feeling of burden. If we haven't taught them the program, and they are still lying on the bed silently as before*."(N-11)

On observation, the researcher observed keenly and wrote important points that might not be obtained by interviews. Some of the changes were found in clients on observation that was quite similar to the nurses, clients and family caregiver's experiences. Most obvious observed changes were changes in appearances, behavior, attitude, communication, relationship, willingness and will power, participation, and involvement. Most importantly, the majority of participants answered all the questions with respect, smile, and cheerful face while talking with them which signified their happiness and satisfaction in the participants from the model implementation.

The Caring Model Incorporating Yoga for Promoting Physical Recovery and Wisdom of People Living With Stroke in Nepal

The caring model was developed and finalized under the following outlines i.e., introduction, objectives, core values and components of the caring model: caring situations, caring process and caring outcomes of the model.

Introduction

The developed model is considered to be valuable as a holistic care model for providing the holistic and humanistic approach of care to the stroke clients. The model was developed from the input of the nurses, stroke clients, and family caregivers that helped to drive the program from the initial stage to the final stage in order to achieve the goal. From the nurses, they wanted to improve their caring practice and bring positive health outcomes among stroke clients. The stroke clients and family members wanted to solve their physical problems and then recover functional ability to live independently. Therefore, it is beneficial to all the participants and help to meet the concerns of the nurses, stroke clients, and family caregivers.

Moreover, nurses employ the model in their daily nursing practice in order to meet the holistic health needs and concerns of the stroke clients in acute stage i.e. physical, psychological, emotional and spiritual health. However, establishing the caring relationship among the nurses, clients, and family caregivers is essential in the mode. Through this relationship, nurses delivered the program into the clients.

Objectives

There are two main objectives 1) to establish the caring relationship among the nurses, clients and family caregivers through employing caring behaviors, and 2) to promote the caring outcomes of the client in terms of physical recovery and wisdom.

Core Values.

The caring model incorporating yoga has six core values i.e. care, commitment, confidence, communication, compassion, and courage in order to drive the model. Those core values of the model are the main attributes of caring that need to be transferred into the practices through establishing a caring relationship.

Care. In the study, care reflected the providing the nursing practice using the caring incorporating yoga. The main purpose of care is to provide individual based holistic and humanistic approach of care which meet the physical, psychological, emotional and spiritual needs of the clients. It should be demonstrated in accordance other core values i.e. commitment, competence, compassion, communication, and courage. Ultimately, this care promotes positive outcomes in terms of physical recovery and wisdom among stroke clients.

Commitment. It is full feeling role and responsibilities along with complex affective responses characterized by obligations to help the clients in accordance with them. It includes the commitment to improve the care and outcomes of clients. Nuses should demonstrate the commitment in their action and behaviors demonstrated by devoting in caring to the clients using the model.

Confidence. Nurses should have sufficient knowledge and skill regarding implementation of the caring model incorporating yoga. They should use it in knowing the clients' conditions and ability to explain these conditions according to their level of understanding. Thus, nurses demonstrated competent care to the clients. This confidence is also a quality that encourages trusting connections among them.

Communication. In the model, it refers to the ways of connection between nurse, clients and family members. The primary purpose of communication is to establish caring relationship among nurses, clients and family along with health care

team. Nurses can use cultural approach of communication while involving the clients and family in client's care and delivering the new knowledge and skill i.e. caring and yoga. It helps to establish and maintain the effective caring relationship among nurses, clients and family members along with health care team.

Compassion: It is the way of caring given through relationship based on empathy, dignity, kindness, love, and respect using a culture-specific approach in this model. Nurses can demonstrate compassion using local culture and spiritual practices. These practices are more effective way of transferring compassion into the clients. In this ways, the nurses attempt to understand what the clients may experience whether it is pain, sorrow, joy and comfort.

Courage. In the model, it is considered as a valuable human character trait to be moral virtue. Nurses need the courage to help the clients face their own suffering and vulnerability and provide professional care and spiritual care. Nurses can use their own cultural/ religious and spiritual approaches to encourage clients as well as for establishing good interpersonal relationship. In turn, the clients use the program in order to meet the positive health.

Components of the Caring Model.

The model contents three main components 1) caring situations; 2) caring process integrating yoga, and 3) caring outcomes and described as follows.

Caring situations. It refers to the situation related to stroke clients, nurses and nursing practice to the stroke clients. The situation related to stroke clients reflects the actual problems experienced by the stroke clients in the acute stage in the study context. In fact, they faced multiple problems with structural and functional losses. Likewise, they were also suffering from other problems related to mind and spirit i.e. stress, anxiety, worry, uncertainty and fears. All of these signified disconnected of

body and mind or disintegrated self. However, the clients and family caregivers paid more concern only on physical recovery in terms of regaining independence on lost functions. Also, nurse participants showed their concern about the client's physical problems and wanted to promote the clients' functional ability by providing the best nursing care. Anyone did not pay much interest to other problems related to mind and spirit that were grossly affected due to stroke.

The other problems might hinder achieving the improvement of physical recovery. Importantly, a clients' state of mind influences the caring process. Therefore, it is necessary to manage all the problems of the clients. It could be possible through the application of a holistic intervention i.e., caring and yoga as mentioned before. This holistic care unites the stroke client's body-mind and soul. This integrated being could proceed toward achieving a higher level of wisdom as well as the optimum functioning of the body. In the meantime, humanizing health care also emerged as being interconnected.

In fact, nurses are the best person to fulfill the human needs of their clients using holistic care. This is because providing holistic and humanized care is the main principle of the nursing profession. For this, nurses should have good behavior when caring. However, an uncaring attitude was practiced by the nurses in the setting which may have caused the main barrier for fulfilling the needs of the clients. Therefore, the caring model incorporating yoga was designed to improve the caring behaviors and practices of the nurses as well as the health outcomes of the clients. The caring process integrating yoga is described below.

Caring process integrating yoga. This caring process represents the 1) establishing the caring relationship; 2) phases of the caring program 3) contents of the

caring program; and 4) implementation of the program into the practice in order to achieve the goal i.e. physical recovery and wisdom of stroke clients.

Establishing the caring relationship. Since the attributes of caring are considered the core values of the caring model, a caring relationship is one of the essential fundamental care need in the acute care setting in the study. Through this relationship, nurses transfer all those attributes into practice to help the clients. In the model, a caring relationship is considered central to the effective caring process. Therefore, a good caring relationship between nurse, clients, and family is required.

In the study, the caring relationship was cultivated by the nurse participants using 6Cs core values as mentioned before. Hence, a caring relationship is more effective and can be established quicker if those values are transferred uniquely, using context and culturally specific approaches. Of the 6Cs, compassion, courage and communication played a vital role in building a caring relationship. Those attributes are easily cultivated and expressed using local cultural, spiritual and religious approaches. Such approaches allowed the participants to build a trusting relationship quickly. Afterwards, this relationship symbolized the agreement among the clients and nurses to incorporate yoga practice in caring. Through this relationship, nurses incorporated yoga in nursing practice. Gradually, they were able to transfer other core values of caring i.e., care, commitment, and confidence into the nursing practice while providing care to the clients using the model.

***Phases of caring program*.** It included two main phases which are necessary to drive the situation and participants for obtaining the positive health outcomes of the clients.They are Phase I: Transition from reluctance to confidence; and Phase II: Strengthen the practice through implementation by the nurses;

Phase I: Transition from reluctance to confidence. The main objective of this phase of model development was to prepare the nurses for changing their attitude from reluctant to confidence through upgrading the knowledge, skill and experiences related to the program as well as making the model simple and not time-consuming. The main focus core value in this phase is to build the competence and commitment among the nurses for providing the care using the model even though other core values come along the way. Therefore, some strategies were developed with the collaboration of the researcher and the nurse's participants. They were 1) conducting the nursing seminar and training workshop on caring integrating yoga for stroke, 2) organizing in house daily yoga session, 3) on duty coaching and real demonstration into the clients, 4) role modeling from the seniors, and 5) facilitation, guidance and supervision by the researcher/ trainer/ seniors.

Phase II: Strengthen the practice through implementation by the nurses. The main objective of this phase was to implement the model into the practice independently by the nurses for its sustainability. For this, some strategies were developed and applied as 1) all the nurses should initiate the program into the practice; 2) organizing the refreshment training; 3) role modeling and support from the seniors; 4) involvement the family caregivers in care; 5) promote clients to client teaching; 6) continues supervision and monitoring; and 7) use the model as a clinical guidelines. Based on the strategies all the actions and behaviors can transfer into the daily practice of the nurses.

Contents of the caring program. It referred to the caring activities and actions that nurses applied to the clients through a caring relationship in accordance with core values of 6Cs. The caring program is the integrated program where yoga is incorporated in professional caring. The contents of the integrated program is

knowledge and skills in terms of stroke and yoga and it led toward care to self and spiritual caring i.e. yoga as an integrated from of intervention.

The contents of knowledge part of the program is essential that nurses should provide to the clients and their family caregivers along with booklet comprised of 1) knowledge and information about disease, its causes, warning signs, impact and recovery process; 2) complication prevention and management; 3) positioning, mobility, transfer; 4) discharge teaching on medication, follow up visit, point to contact in case of emergency; and 5) knowledge on yoga. In addition, nurses should provide knowledge and information continuously in the hospital as demanded by an individual client and family caregivers.

The skills care of the integrated program should be provided along with knowledge to the clients and family caregivers. It comprises of skill training on technique of 1) positioning to the clients; 2) transfer to the clients from bed to chair and vice versa; 3) mobility: with or without support; use of assistive device i.e. wheelchair and cane; and 4) yoga practice. Yoga is integrated in the program for providing the cultural congruent care to the stroke client with the aim of making the program simple, easy and acceptable for the participants in the study. This is because yoga is the ways of daily life and cultural heritage of the study participants. The program was based on three main concepts of yoga as 1) yoga *Asana,* 2) *Pranayam*a and 3) chanting *Aum* were integrated into the professional caring and implemented through nurse's caring behaviors and actions.

Yoga *Asana*. The *Asana* was the types of physical exercise practiced by the stroke clients in the hospital bed then continue at home after discharge. The stroke clients practiced scheduled poses and additional poses. The types of the yoga *Asana* in the model are 1) Base pose; 2) Yoga *Namaste*; 3) Joints movement (*Shukshma*

Asana): neck, hand, ankle and foot movement: flexion-extension and rotation of the neck, hand, and foot joint; 4) Pelvic, hip and knee joint tilts /movement poses; 5) Bridge pose (*Setu Bandhasana*); 6) Bending forward pose (*Pastimomuktasana);* 7) Leg rise up pose (*Utthapadasana*); 8) Leg pull up pose (*pawanamuktasana*); 9) Chair pose (*Utkasana*); 10) Corpse pose (*Savasana*) (Rice & Shetty , 2015; Schmid et al., 2014). Besides, clients can practices additional *Asana* such as butterfly pose, mountain pose, child pose and so on if they have previous knowledge but they need to consult to the health professional before practice. The detail about practiced poses was presented in booklet as Appendix L-2.

Pranayama. *Pranayam* is one type of breathing exercise. For the study, initially, alternate nostril breathing was selected. It was quite difficult to practice in early-stage clients due to having less experienced, a feeding tube into the nose and weakness of the hand and one nostril. However, experienced clients practiced perfectly since the first day. The majority of clients could not practice properly. In contrast, *Vastrika Pranayama* was added in second cycle of the program. It is like as simple deep breathing exercise. The clients felt easy to practice than alternative nostril breathing *Pranayama*. Therefore, in the final model, both types of pranamaya are included in the program. The clients can practice *Pranayama* 3-4 times a day for 5-15 minutes since the first day of the program implementation.

Chanting *Aum*. This practice was the most preferred component of yoga as practiced by all participants. It can be practiced 3-4 times a day for 5-15 minutes since the first day of the program implementation. In addition, chanting *Aum* can be also practiced by the nurses and family caregivers together with the clients while teaching and demonstrating the practice.

***Implementation of the program*.** In the model, nurses are the main person to implement the program. However, it should be implemented with the active participation of the clients and family caregivers. The program was considered as a holistic and humanistic approach of care where nurses, clients and family caregivers have equal participation in implementation to meet the needs of an individual clients. However, nurses bear more responsibility in the initial time for preparation and empowering the clients and family caregivers as well. Gradually, the family caregivers can take responsibilities for implementation into the clients. Then, the clients start to do self-practice with the help of family caregivers. Later on, nurses need to pay attention, supervision and guidance while practicing the program in each shift through observation and follow up. So nurses do not need to spend a long time and more effort for program implementation. The program should be started from the day of admission in the hospital and continue until discharged. It should be followed up contineously during each follow-up visit at OPD clinic until 10 weeks following discharged by the nurses. The detail about the teaching plan of the program presented in appendix L-1.

Caring outcomes. The model represents the positive health outcomes related to stroke clients. There are two main types of expected health outcomes of the caring model incorporating yoga in terms of physical recovery and wisdom of people living with stroke. However, mindfullness was considered an intermediate outcomes that led toward improvement and balance of body-mind-spirit of the clients. This outcome helps to achieve the ultimate goal of the model. Therefore, improvement in the body represents physical improvement whereas mind and spirit help to cultivate the wisdom. Perhaps, collectively, the balance of body-mind-spirit signified the

improvement of holistic health of the clients that impact positively on physical recovery and wisdom.

Physical recovery. The findings of the current study indicated that there was a huge physical recovery, which was derived from the experiences of the participants along with the functional assessment scores of ability for self-care of the clients. The findings revealed the nurses' noted experiences of improvement in physical recovery in terms of 1) feeling comfort, relax, refresh and more sensation; 2) increased in purposeful movements and physical function; and 3) improvement of self-care ability and mobility. However, the entire theme are interrelated and interrelated with the wisdom of the stroke client.

***Wisdom of people living with stroke*.** The nurses can be helped much in gaining wisdom among stroke clients by using caring and yoga. In the study**,** wisdom was measured using the experiences of the participants. However, it was also enhanced by cultivating the mindfulness among stroke clients using the program. Therefore, the level of mindfulness also assessed among the stroke clients which was increased after implementation of the program. The nurse's experiences related to wisdom were 1) increased knowledge of stroke, yoga, and care to self; 2) constant spiritual connection; 3) being active and alert. Since the themes are presented separately, all the themes are interconnected each other and interrelated with physical recovery.

Summary

The caring model was developed in an acute neurological ward with the purpose of promoting the physical recovery and wisdom of people living with stroke. The model was based on 6Cs caring concept focusing on cultural based approaches and yoga as a framework. The technical action research method was used with the

collaboration of the researcher, nurses, stroke clients and their family caregivers along with the input of physicians. The process of model development was in two main phases 1) reconnaissance phase 2) action research phase with two complete cycles of planning, acting, observing, reflecting and revising the plan.

From the first phase of the study, it was found that the situation of caring was perceived as not existing which might bring negative results of expected health outcomes. In contrast, nurses were very reluctant to use the new model of care as consequences of a number of problems and barriers were discovered in the study context. However, the researcher wanted to shift the reluctant stage to the final stage of the model i.e. positive results. It could be possible only by changing the caring attitudes and behaviors of the nurses. Therefore, the first cycle of action research was the transition period from reluctance to confidence phase through the key participant's direct involvement in the practice by using the program. The theme of the second cycle was "initiation and enduring the program by the key participants for the sustainability of the caring model."

The developed model is considered to be valuable as a holistic model for providing the holistic and humanistic approach of care to the stroke clients. Key participants employed the model in their daily nursing practice in order to meet the needs and concerns of the stroke clients in the acute phase i.e., physical recovery and wisdom. The clear picture of the caring model incorporating yoga for promoting physical recovery and wisdom of people living with stroke is described in figure 3 below.

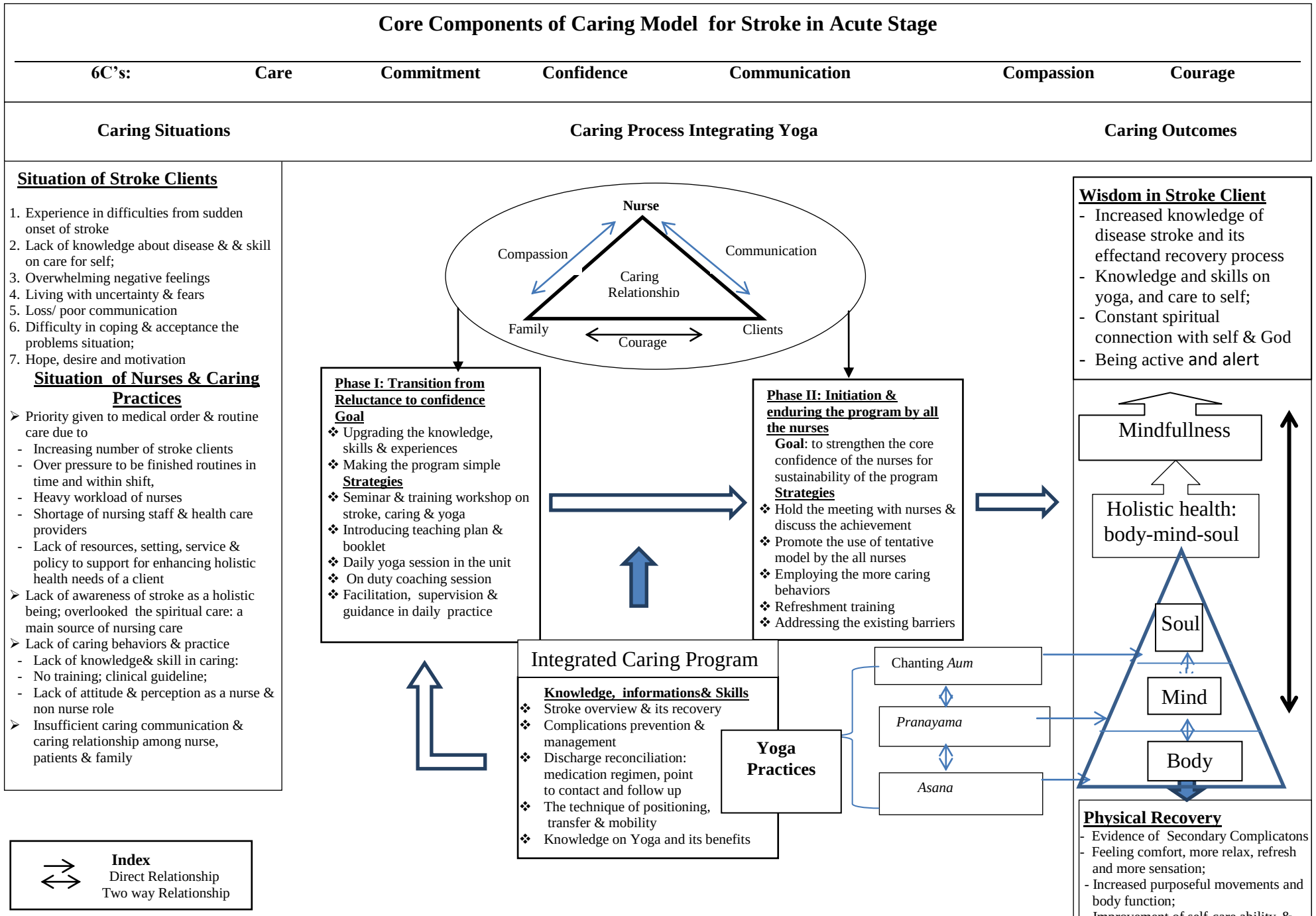


Figure 3. The Caring Model Incorporating Yoga for Promoting Physical Recovery and Wisdom

Discussion of the Findings

The discussion of the findings is presented into three main aspects 1) the core concepts of the caring model incorporating yoga; 2) the caring process integrating yoga in terms of how it led toward achievement of the expected caring outcomes; and 3) outcomes of the caring model.

The core concepts of the caring model incorporating yoga. The model was developed using the modified version from original Roach 6Cs attributes of caring concept (Baillie, 2017; Roach, 2013) with focus on context-specific cultural approaches of caring incorporating yoga in the study setting. The 6Cs attributes of caring stands for care, commitment, competence, communication, compassion, and courage. Drahosova and Jarosova (2016) mentioned that caring is expressed in nurses actions and behaviors through building caring relationshipamong nurse-clients. Therefore, building the nurse-clients relationship is essential for effective implementation of the model. In the present study, all 6Cs as care, compassion, confidence, commitment, courage and communication attributes of caring were used as a core value of the model.

In the study setting, lack of knowledge, skills and attitude was found among the nurses for providing care to the stroke clients. This indicated that nurses had lack of attributes of caring. This lacks directly influenes in caring actions and building the nurse-clients relationship in the setting. Likewise, there is no any hospital policy and training to prepare the nurses for obtaining new knowledge and skills regarding stroke care. In addition, clinical protocol, guideline and written material were lacking to guide nursing practice and improvement of health outcomes of the clients. In this regard, it is necessary to prepare nurses to improve the caring practice using the new model of caring. Thus, initially whole 6Cs were used for systematic preparation to

the nurses. This preparation made nurses to understand, equip them to be competent with new knowledge and skills, to help them in developing the right attitude toward caring and then led them to commit for providing care. When they see the importance about caring and equipped with 6Cs. They agree to join in the program as a part of the study. Ultimately, nurses showed the commitment through their active involvement in the program until the end of the study.

Similarly, communication, compassion and courage were used to establish a sincere relationship and that were demonstrated through cultural based approaches of caring. Such approaches resulted in active communication, harmoneous caring environment, trusting relationship among nurse-client-family; faith, motivation and hope among clients along active participation in the program implementation and their own care. In the study, sincere relationship was established among nurse, stroke clients and their family using various cultural based approaches. They were 1) greeting by using *Yoga Namaste*, call by relationship; 2) compassion: empathy, response and culturally given respect, touch, eye to eye contact; 3) paying attention toward clients concern, needs and their family members; 4) communication and interaction with clients and their family members using culturally approach communication modes i. e. verbal and non verbal; 5) showing confidence while teaching and coaching to stroke clients and their family i.e. caring and yoga; and 6) encouragement to the clients through providing right information, counseling, demonstration and motivation to do practice by showing the successful cases who used the integrated model of care in the unit.

Previous studies revealed that caring relationship can be demonstrated and establishd differently by using cultural based caring approaches (Duffy, 2015; Ismail et al., 2018). Through this process, the caring relationship between nurse and client

can be established which takes place every time and each moment within minutes or over an extended time. This relationship symbolizes an agreement between the nurse and clients to work together for the good of the clients (Sheldon, n.d). In the human caring theory, Watson (2015) mentioned that caring is located in a specific cultural context and different through culture even though caring is a universal phenomenon. It indicated that caring more effective and trustworthy as well as quicker using the culture based care approaches.

In the study, the caring relationship was established very quickly with trust and respect to each others. The findings of the study are congruent with the previous studies as mentioned before. It's meaning that the integrated program can be helpful in development of the caring relationship and trusting relationship within short time frame among nurse, clients and family members in a hospital setting. Ultimately, it helps to incorporate cultural and spiritual practice i.e. yoga while providing caring in order to meet the needs of the clients.

The caring process of the model incorporating yoga. In the study, a lot of activities were accomplish through the process of caring. This caring process lead toward huge improvement on physical recovey and wisdom among people with stroke even in acute stage. Certainly, some mechanism of actions are existed to achieve positive outcomes among people with stroke even in a critical stage and under developed setting. This may be because of integrated program of caring with yoga; nurses caring behaviors and actions, and caring the clients as a whole being.

Caring is an integral part of the nurse's work in the acutecare setting. According to Duffy (2015), the caring nurse relates to the patient as a person by using a lot of techniques resulted in creating relationships. This relationship symbolizes an agreement to allow the nurses to incorporate their caring actions and

behaviors into the practice. Likewise, Watson's Theory of Human Caring mentioned that the goal of nursing is to help clients to improve body, mind, and spirit result in self-knowledge and self-healing through compassionate caring (Watson, 2015). Finally, caring nurses help to heal them, encourage, support them, train them to be able to do self-care. Likewise, nurses' actions also help to heal the client as a whole being. Afterward, they feel comfortable, safe, trust, confidence and feel motivated. All of those feelings help them to being active and alert in self-care and helps themselves. If clients cannot help themselves, they cannot achieve the wisdom.

Nursing primarily a human helping profession. Many theorists define the caring as knowing a person by virtue of humanism (Roach, 2013; Locsin, 2016; Watson, 2015) where care is given with love, respect and dignity through interpersonal communication and compassion (Roach, 2013). It is evident that caring is more powerful and holistic if integrated with spiritual practices (Ismail et al., 2018; Mardiyono, 2012). This holistic intervention has power to unite the whole being of body-mind-spirit of a client. Finally, such integrated practice is helpful for both nurses and clients. For the nurses, it helps for creating a conducive caring environment and active communication resulted in good caring behaviors (Setiawan, 2010). For the clients, it could help to enhance the client's autonomy, dignity, and comfort (Pajnkihar et al., 2017). Essentially, this integrated caring action emphasizes on improving the physical health (Setiawan, 2010; Mardiyono, 2012) and harmony even in critically ill clients (Ismail et al., 2018). Ultimately, clients felt an enhanced relationship, faith, trust, satisfaction and comfort physically and mentally.

In the present study, yoga, a spiritual practice is integrated in caring. Three relevant basic techniques of yoga were used; *Asana poses, Pranayama* and meditation through chanting *Aum*. Collectively, all together work for maintaining

equilibrium of body-mind- soul and promoting physical, psychological and spiritual wellbeing (Saraswati & Stevenson, 2007; Sullivan et al., 2018). Therefore, yoga also has power to unite a person of body-mind-soul (Mishra et al., 2012). In the study, some modified forms of yoga *Asanas* were integrated in the caring. Basically, yoga *Asana* helped for physical recovery through different mechanism as found in the existing literature.

Yoga Asanas. Firstly, the basic joint movement called *Sukshma Asana* and hip tilting position are beneficial for enhancing proprioception and facilitating to improve hip and spinal posture that lessened due to stroke. Similarly, bridge pose (*Setu Bandhasana*) supports to alignment and proprioception helps to calm the mind, decrease stress and anxiety, and boost up mood, facilitate digestion, stimulate the abdomen and associated organs, decrease pain, relieve fatigue. Likeweis, bending forward pose (*Paschimomuktasana)*; leg rise up and side by side movement pose (*Uttanpadasana*) helped to strengthen the legs, ankles, and back, harmstring muscle as well as stretches the chest and shoulders, and abdominal organs fatigue (Schmid & Puymbroeck, 2019). In addition, corps pose (*Savasana*) enhances the body relaxation, reduce the fatigue, pain and boost up inner strength through calming the mind and relax the body (Rice & Shetty, 2015). Moreover, it enhances the quality of mind through feeling peace and calm along with a continuing spiritual connection (Cramer et al., 2013). Ultimately, it allows a person to create a path to connect the mind and body and proceed toward a higher level of wisdom (Broad, 2013).

Yoga Namaste. It was also used in the study with caring to demonstrate communication, courage and compassion in the study. According to Hindu tradition, Yoga *Namaste* is the way of connection to self, others and God using specific gesture (Marsh n.d.). It creates positive feelings through maintaining good relationship,

respect, kindness, purity the soul as well as spiritual connection. Thereby, people feel calm the body and peace the mind (Geno, 2018). Similarly, because of using gesture, it also promotes the joint movement of the hands and soulders. In the present study, modified yoga *Namaste* was used with the purpose of offering greeting, hand exercise and pray. In return, *Namaste* enhanced the purposeful movement of the clients. For instance, clients used it for 1) offering greeting, gratitude and thanks; 2) independent hands exercise, and 3) it was used to pray for God that enhance spiritual connection. Ultimately such practice enhanced client's happiness, peace and satisfaction as well as create sense of accomplishment, independent and positive feelings toward life. Thereby, they became hopeful, active and alert in their self care and recovery.

Chanting Aum. It is another component of yoga practice. Initially, it was incorporated in caring in the acute phase of stroke clients with the purpose of demonstration of communication, courage and compassion. While chanting *Aum*, stroke clients felt peace, calm and happy thereby reduce stress and anxiety and equipped with positive feelings thereby it contributes to create a state of mind. Likewise, chanting *Aum* also helped unexpectdly to improve the voice and speech. Previous studies revealed that the chanting *Aum* helped to organize thought process, mental consciousness, purify the speech and protect the mind by maintaining a constance spiritual connection and faith that allows mind to connect with oneself and with God (Kumar et al., 2010). Moreover, chanting *Aum* produces a deep relaxation of the mind through reduced sympathetic activity and increased vagal modulation as well as balancing the left and right sides of the brain, thereby achieving attention, self-awareness, concentration, cognition, and intellect (Kumar et al., 2010; Telles et al., 2013). It also creates the vibration, awareness and sensation in the body. Schmid

and Puymbroeck (2019) mentioned that chanting *Aum* helps to manage stress and uncertainty among stroke clients. In the study, stroke clients might feel similar effects while practicing it.

***Pranayama*.** It was the last component of the yoga and started to practice it in the hospital bed by the stroke clients. Initilly, alternative nostril breathing was selected and taught to practice but most of the clients felt difficulty to practice it in the initial stage. Therefore, *Vastrika Pranayama* was added and practiced by the clients. For practicing *Vastrika Pranayama*, the clients just focus on abdominal breathing in and out. It is simple and easy to practice compare to alternative nostril breathing. Additionally, it helps to relax the body and calm the mind as well as create the path toward wisdom through promoting the connection of people with joy, love, creativity, and the integration of body-mind-soul (Sengupta, 2012). While looking at the perception and changes in the clients, it can assume that the mechanism of *Pranayama* might be similar effect in the present study like previous studies.

Outcomes of the Caring Model Incorporating Yoga. The final evaluation of the model revealed that there was huge physical recovery as well as improvement of wisdom among almost all the participants at the end of the study. The physical recovery was supported by narrative description of the clients perceived outcomes complimentarily with the increase of functional ability on activities of daily living measured by Modified Barthel Index and reduction in secondary complications. Even though the positive health outcomes could be also contributed by other factors such as individual characters. The other expected health outcome, wisdom was also evaluated as a result of the program intervention. The wisdom was assessed by the participants inner feelings i.e. happiness, satisfactions, peace of mind, comfort and

calm as well as cognitive: knowing the disease stroke and practicing of yoga as well as caring to self.

The wisdom was developed as a result of *Pranayama* and chanting *Aum* through cultivating of mindfulness as evident by using Freiburg Mindfulness Inventory (FMI) in the present study. The state of mindfulness will help to unite body-mind- spirit as a holistic being which will further facilitate the achievement of wisdom in a continuous and cyclical process. In addition, the state of mindfulness also facilitates learning ability in understanding the knowledge on disease and yoga in physical recovery and wisdom development. This integrated self can drive to achieve the optimum level of functional ability and wisdom of the clients as well. The further discussion of outcomes of the model is described as following.

Physical recovery. The foremost reason for the huge improvement of physical recovery was yoga integration in caring practice. The previous studies revealed that early initiation of the rehabilitation interventions brought a huge improvement in physical function i.e. up to 48- 91% (Lee et al., 2015). National Stroke Association (2019) recommended that rehabilitation should be started within two days after the onset of stroke among stable clients which can enhance early functions recovery. The current study was initiated among stable clients for the second day of the stroke onset and continued until three months.

Previous studies revealed that yoga is a type of mind-body exercise including a number of physical exercises; *Pranayama* and meditation by chanting *Aum* (Field, 2016). It is good for dealing the motivation (Hogan, 2016) and connection of body and mind as well as overcoming fatigue and hopelessness (Schmid & Puymbrokeck, 2019). All these findings could support the findings of the present study as the

program enhances the huge improvement in physical function in terms of physical exercise, purposeful movement and so on among the stroke clients.

Similarly, recovery of stroke clients often influences by provider's access to obtain care as well as their professional competence, nurse-clients relationship, communication and caring atmosphere enhanced the client's autonomy, dignity and comfort and satisfaction (Pajnkihar et al., 2017). The current study used integrated caring intervention might enhance the above outcomes among stroke clients. Moreover, it was found a significant relationship among social support, activity participation and physical function (Elloker & Rhoda, 2018). Social support is a positive factor contributing to increasing the self-confident and participation in activity and thereby improves the ability to perform ADLs (Elloker & Rhoda, 2018; Riegel, Dickson, & Faulkner, 2016). Strong and positive family support was found in the study that may contribute to increase self confident and activity participation resulted in positive physical recovery among stroke clients in the acute phase.

Therefore, the finding of the study was uniquely presented in terms of physical recovery of the stroke clients among acute stroke survivors but congruent with existing knowledge related to the suitable time of stroke recovery.

Wisdom of people living with stroke. In the study**,** wisdom was measured using the experiences of the participants. It was enhanced by cultivating mindfulness represent a state of mind or integrated self. It is also an indicator of holistic health. Holistic health grips the three dimensions of human being i.e. body, mind, and soul. Improvement of whole being symbolizes wisdom among the clients. Thus, the level of mindfulness was assessed among the stroke clients in the study. The level of mindfulness was improved since the baseline and end of the study.

Beyond physical exercise, yoga involves *Pranayama* and chanting *Aum* meditation that were performed through breathing exercises and chanting *Aum* in the current study. Previous studies revealed that regular meditation has shown to promote mindfulness, a skill for purposefully maintaining attention in the present moment in an open and accepting way (Jani, Simpson, Lawrence, Simpson, & Mercer, 2018; Wang, Liao, & Chen, 2019). It was found that being mindful or focus on breath improves the awareness of being wisdom which can be achieved from spiritual practice. Yoga is one of the spiritual practices based on Hindu culture. According to the *Geeta* (Jeste & Vahia, 2008), people have a different level of wisdom which can be learned and taught for its progression from lower to higher level. In the study, nurses helped the clients to achieve wisdom using the intervention of caring incorporating yoga.

It was evident that yoga acted as a buffering against emotional and spiritual distress by allowing participants to re-engage with their preferred activities, self-awareness and continue spiritual connection (Alexander et al., 2013; Bhavanani, 2013). However, suffering and lack of life knowledge put barriers to gain wisdom in higher level (Jeste & Vahia, 2008). The stroke clients have false knowing and wrong interpretation on the stroke, its impact on body that led them toward mental suffering and disconnected mind. This false interpretation and knowing the stroke and its impact hinder for progression toward the higher level of wisdom among stroke clients (Schmid & Puymbrokeck, 2019). In the study, nurses helped much in progression the wisdom to the stroke clients by incorporating yoga in their daily professional practice and providing the right knowledge about stroke and yoga.

Knowledge of life; emotional regulation, love of God; duty and work; self-contentedness, compassion, insight, and integration of personality were found as the

common components of wisdom in Hinduism (Jeste & Vahia, 2008). In the study, clients acquired with the right knowledge about stroke and yoga after participation in the program. Similar attributes were gripped in the study that reflected the attributes of wisdom. The right knowledge and insight considered as the most important for the acceptance of the situation. So the clients can use their own knowledge for managing problems and achieving positive health outcomes.

Faith in God was found in the study. It was one of the ways to control the mind in the Hinduism (Jeste & Vahia, 2008). Faith in God and wisdom have a close relationship because God is view as a generator, operational and destructor in Hinduism. Therefore, wisdom comes from contentment and peace of mind by acknowledging that everything dwells by God in Hindus (Shamasundar, 2008). Having such faith helps the client to cope and accept the problem situation without becoming upset. A person having wisdom attributed with feeling, peace, calmer, relax, becoming connected, decreased level of stress and anxiety (Agoramoorthy, 2015). The same finding was found in the present study.

Basically, in the previous studies, the wisdom was not directly measured in the eastern concept but similar findings were found in some studies using spiritual or mind-body practices i.e. yoga in the acute stage of the disease but it was not used in stroke that can use to discuss the findings of the current study. For instance, yoga contributes to gain faith, peacefulness, joy, hope, calm, self-awareness even in limited physical health condition, a sense of life meaning and harmony (Bayley-Veloso & Salmon, 2016). In the current study, all the above feelings were experienced by the stroke clients who involved in the program. Therefore, it can be said that stroke clients had develop wisdom even in an acute stage of illness after practicing integrated program of caring and yoga.

While, wisdom as a consequence of sole yoga interventions, it has been reported in a qualitative study that the experiences of stroke survivors which are closely related to the attributes of wisdom i.e. feeling peace, more calmer, becoming connected and self-awareness (Garrett et al., 2011) among chronic stroke. However, the study did not mention the term wisdom in the findings. Those findings can be used to discuss the wisdom even though the experiences were collected from the chronic stage which might be supported in the experiences of the acute stage of the stroke in the current study.

In nursing practice, spiritual and complimentary and alternative medicine (CAM) therapy have been used in nursing care to get better health outcomes in acute critically ill clients (Ismail et al., 2018). Similarly, yoga is considered as a spiritual therapy, as CAM, and as a mind-body therapy. Therefore, it can be assumed that we integrated the yoga interventions in caring practice in nursing, achieved better health outcomes regarding physical recovery and wisdom of people with stroke.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

This chapter presented the conclusion, implications, limitation of the study and recommendation for further research.

Conclusion. The design of the study was action research which aimed to develop a caring model incorporating yoga for promoting physical recovery and wisdom of people living with stroke. The main objective was obtained as the component of a caring model incorporating yoga for the improvement of health outcomes of stroke in the acute stage. The study was conducted at neurology ward of a University hospital, Kathmandu, Nepal. The study involved 16 nurses as key participants whereas 4 physicians, 16 stroke clients and 16 their family caregivers as associate participants. The data were gathered from group discussion, in-depth interview, observation, and field notes along with reviewing of client's information charts and documents. For the data analysis, descriptive analysis was done for analyzing the demographic data; disease-related data, client's physical recovery, mindfulness, and secondary complications. Similarly, content analysis was used to analyze qualitative data. The study was conducted using technical action research consisting of two cycles of action research. Before entering in the cycle of planning, acting, observing and reflecting, the reconnaissance phase was accomplished to explore the situation of stroke and caring practice for stroke.

The emerged themes in the reconnaissance phase-related situation of stroke were 1) experiences difficulties from sudden onset physical problems; 2) overwhelmed by negative experiences in the mind; 3) lack of knowledge and right understanding on stroke and care for self; 4) difficulty in coping and acceptance the problems situation; and 5) motivation, hope, and desire. Similarly, the situation the

problems related to nursing practices were explored and categories into four main themes. They were 1) huge demand for basic health care needs and needs of physical recovery; 2) lack of awareness “stroke as a holistic being”; 3) lack of caring in nursing practice for stroke clients; and 4) caring for stroke clients from nurses perspectives. All the above situations related to clients and nursing practice to the stroke clients need to be improved. So that, the overall goal was identified before taking actions through action research process. The nursing strategies were planned and implemented into the two distinct phases: 1) transitional period from reluctance to confidence through nurse’s direct involvement into the practice, and 2) self-initiation and enduring the program by the nurses for the sustainability of the caring model with the goal of improvement of health outcomes among stroke clients in a hospital setting.

In the beginning, nursing actions were jointly provided to the clients and family caregivers in collaboration with the staff nurses, in-charge nurses and the researcher as an active facilitator. Later on, nurses initiated the program into the clients independently with the guidance and supervision of the researcher. Similarly, the clients have practiced independently all the activities with the help of the family caregivers after teaching, coaching and guidance from the nurses. However, being present, paying attention toward, client’s progress or condition and their belongings, praising to their success, interaction via verbal and non-verbal, counseling, encouragement, close monitoring and follow-up were provided to the clients by the nurses and the researcher through out the hospitalization.

In the first stage, the overall goal of the first action research cycle was to help the nurses for accepting the reality of the caring situation by the stroke clients in the ward as well as facilitating the nurses to learn about integrated program as caring and yoga practice. The nursing strategies were planned and carried out encompassing: 1)

assessing the knowledge and skills on yoga of the nurses; 2) conducting the nursing seminar and training workshop about stroke, caring and yoga; 3) coaching the caring incorporating yoga for enhancing physical recovery and wisdom among the clients; 4) conducting a daily yoga practice session; 5) introducing the booklet and teaching plan and 6) implementation of the program into the practice. Furthermore, the feeling, perception, and experiences were explored of the participants in the evaluation phase. The barriers and facilitators were identified in this cycle i.e. insufficient staff, hectic workload and personal interest, the language of the client and often changing family caregivers. Some other barriers were observed in clients such as emotional distress, feeding tube into nose and low self-esteem (feeling of hesitancy & embarrassment) and feeling of the sense of disturbance to others. Therefore, the researcher continued to cycle two.

Cycle two aimed to strengthen the confidence of nurses which in turn helped for enduring the program in the long term. To achieve the main goal, the strategic plans were set as 1) revising the booklet; 2) promoting the use of the tentative model by all the key participants; and 3) employing more caring behaviors; and 4) addressing the existing problems and barriers in model development. The caring actions based on the previous plan and initiated all actions by the key participants using integrated program of caring and yoga. In the evaluation phase, the feeling, perception, and experiences were explored regarding the program caring and yoga from all key participants as well as clients and family members. The barriers and facilitators were identified in this cycle as similar to cycle one. They were insufficient staff, hectic workload and personal interest of the staff, the language of the client and long doctor’s round and the sudden crisis situation in the unit for providing the care by using the model. However, key participants mentioned that all of the barriers could

be manageable. At the end of the cycle, suggestions and facilitators were gathered from the participants.

The final evaluation of the model revealed that there was huge physical recovery as well as the improvement in wisdom among almost all stroke clients at the end of the study. The physical recovery was supported by narrative description of the stroke clients perceived outcomes complimentarily with the increase of functional ability on activities of daily living measured by Modified Barthel Index (BMI) and reduction in secondary complications. Even though the positive health outcomes could be also contributed by other factors such as personal charecteristics, severity of disease, comorbidity and social supports.

The other expected health outcome was wisdom that was also evaluated as a result of the program intervention. The wisdom was assessed by the participants inner feelings i.e. positive life experiences such as happiness, satisfactions, feeling peace, comfort and calm as well as cognitive knowing of the disease stroke and practicing of the yoga as well as skill on caring to self.

The wisdom was developed particularly as a result of *Pranayama* and chanting *Aum* through cultivating of mindfulness as evident by using Freiburg Mindfulness Inventory (FMI) in the present study. The state of mindfulness may help to unite body-mind-spirit as a holistic being which is further facilitate the achievement of wisdom in a continuous and cyclical process. Additionally, the state of mindfulness also facilitate learning ability for understanding the knowledge on disease and yoga in terms of physical recovery and wisdom development.

Collectively, gaining knowledge on the disease, skill on basic care and yoga practice, physical recovery as well as wisdom enabled the clients to proactively overcome about experiences difficulties due to sudden onset physical problems and its

impact on functional, psychological, emotional and spiritual health return in a sense of normal life. During the action process, an equal partnership was built up among nurses, clients and family caregivers with a caring relationship and self-understanding. All 16 clients and their family caregivers expressed soul satisfaction and happiness with the provision of overall nursing services in this model.

Similarly, majority of the nurses expressed happiness and satisfaction personally and professionally with this model by showing the commitment to do continuity of the model. Likewise, the senior nurses were very enthusiastic to use the model and used it confidently by self-initiation of the program. While, staff nurses were happy to use the model but they really did not show a willingness to self-initiation by themselves. This may need strong motivating strategies or the unit policy of enforce the practice when implementing the program in the real practice. However, some nurses who had worked more in night shift duty, were not really committed in the continuation of the program. This might be because of getting less chance to initiate the program in the morning shift duty.

Implications of the model. The findings of the study can contribute in many ways as 1) input for the nursing practice, 2) input for the nursing education, and 3) input for the nursing research.

Input for the nursing practice. The final caring model can contribute to the improvement of nursing practices in the hospital by utilization of the model through organizing the specific training package, clinical guideline and protocol. Similarly, the model can be modified and extended to the other health and disease condition as well as various setting i.e. long terms care, community care and rehabilitation centers. Ultimately, it contributes for up-lifting the nursing professional standard. In this

regard, the program is strongly encouraged the nurses for application of the model as an independent work using a guideline in their day to day clinical practice.

Input for the nursing education: The caring model incorporating yoga recommended in this study was a good source of the practice of the holistic care in neurology clients specially stroke in the acute stage. It also provide the clear picture of the process of integrating culture and spiritual practices into the nursing care for acute stage clients in hospital setting. Therefore, the nursing curricula should promote the integrated caring model incorpotaing yoga in order to broaden the nursing knowledge for improvement of the caring practicing and clients health outcomes as well. The purpose of integration in the nursing education is intended to provide holistic care to the clients using cuntural specific care thus obtaining holistic and successful health outcomes.

Similarly, it might also contribute to develop nursing theory and provide new knowledge for the systematic integration of the spiritual and cultural practices into the caring for Hindu clients which help to provide holistic care to the clients. Ultimately, all the evidences can contribute to enhance the standard of the nursing education and nursing profession as well.

***Input for the nursing research*.** Based on the study findings, it can be said that the caring model incorporating yoga might contribute for improving the health condition of the clients along with the improvement of caring behaviors and practice of the nurses. However, the unexpected health outcomes i.e. caring relationship, communication and speech also improved unexpectedly during the study period. It can be recommandated that the interventional study can be done using model for showing the strong evident in terms of above variables among stroke clients. This

model can also be used for conducting interventional studies among other acute and chronic disease conditions and settings with some modifications.

Limitation of the study. The study was conducted in a public University hospital in the capital city of Nepal by using action research among the researcher, nurse clients, and family caregivers along with physician in the neurology unit. The result also showed positive outcomes of the clients. Similarly, it might be more effective to get positive outcomes by including the higher authority in the research process. However, the higher authority has not been included in the present study.

Even though a home visit by the nurses or health care providers might bring differences in the result of the study outcomes, the researcher in this study could not be able to arrange a home visit for each client. It is due to the geographical hardiness of the country, poor transportation facility to reach to the clients staying at a geographically dispersed area, big traffic jam even in nearby places, and no system of the community home-based care services in the health care system.

Recommendation for further research. Based on the study findings, the caring model incorporating yoga might be best for providing holistic care as well as achieving the positive health outcomes among acute stroke clients in the hospital setting. It definitely contributes to improve the health condition of the clients along with the improvement of caring behaviors and practice of the nurses. Similarly, the study intentionally did not measure the improvement in voice and communication, but the improvement has been seen in those parts. It can be claimed strongly because of strong evidence to support the study due to the use of action research. Moreover, the study was conducted only in Hindu people and single setting which need modification to apply in people with different religious background as well as setting. Therefore, an

experimental study in the above areas is recommended to get a significant evident through using the model incorporating yoga.

REFERENCES

Aadal, L., Angel, S., Dreyer, P., Langhorn, L., & Pedersen, B. B. (2013). Nursing roles and functions in the inclient neurorehabilitation of stroke clients: A literature review. *Journal of Neuroscience Nursing, 45*, 158-170. doi:10.1097/JNN.0b013e 31828a3fda

Adam, F. (2014). Methodological and epistemic framework: From positivism to post-positivism. *In Measuring National Innovation Performance* (pp. 5-7). Springer, Berlin, Heidelberg.

Adams, L. Y. (2016). The conundrum of caring in nursing. *International Journal of Caring Sciences, 9*(1), 1-8.

Agoramoorthy, G. (2015). Religious route to happiness insights from ancient Hindu scriptures. *European Journal of Science and Theology, 11*(4), 139-150.

Akhtar, N., Kamran, S., Singh, R., Cameron, P., Bourke, P., Khan, R., ... & Al-Yazeedi, W. (2016). Prolonged stay of stroke patients in the emergency department may lead to an increased risk of complications, poor recovery, and increased mortality. *Journal of Stroke and Cerebrovascular Diseases, 25*(3), 672-678.

Alexander, G. K., Innes, K. E., Selfe, T. K., & Brown, C. J. (2013). "More than I expected": perceived benefits of yoga practice among older adults at risk for cardiovascular disease. *Complementary Therapies in Medicine*, *21*(1), 14-28.

American Nurses Association (ANA) (2008). *Nursing informatics: Scope and standards of practice*. Silver Spring, MD: nursesbooks.org.

Amir, Y., Halfens, R., Lohrmann, C., & Schols, J. (2013). Pressure ulcer prevalence and quality of care in stroke clients in an Indonesian hospital. *Journal of Wound Care, 22*(5)254-260.

Andersson, E. K., Willman, A., Sjostrom-Strand, A., & Borglin, G. (2015). Registered nurses' descriptions of caring: a phenomenographic interview study. *BMC Nursing, 14*(1), 1-10.

Andrew, (2015). *Controlling the breath for wellbeing – Pranayama part 1.* Retrieved from http://www.5koshasyoga.com/

Anderson, S., & Whitfield, K. (2013). Social identity and stroke: They don't make me feel like, there's something wrong with me. *Scandinavian Journal of Caring Sciences, 27*(4), 820-830.

Arboix, A., Massons, J., García-Eroles, L., Targa, C., Oliveres, M., & Comes, E. (2012). Clinical predictors of prolonged hospital stay after acute stroke: Relevance of medical complications. *International Journal of Clinical Medicine, 3*(06), 502.

Ardelt, M. (2004). Wisdom as expert knowledge system: A critical review of a contemporary operationalization of an ancient concept. *Human Development, 47*(5), 257-285.

Arnaert, A., Filteau, N., & Sourial, R. (2006). Stroke clients in the acute care phase: Role of hope in self-healing. *Holistic Nursing Practice, 20*(3), 137-146.

Arnold, M., Liesirova, K., Broeg-Morvay, A., Meisterernst, J., Schlager, M., Mono, M. L., ... Sarikaya, H. (2016). Dysphagia in acute stroke: incidence, burden and impact on clinical outcome. *PloS one*, *11*(2), e0148424.

Ashburn, A. (1997). Physical recovery following stroke. *Physiotherapy, 83*(9), 480-490. doi: http://dx.doi.org/10.1016/S0031-9406(05)65636-2

Askim, T., Bernhardt, J., Salvesen, Ø., & Indredavik, B. (2014). Physical activity early after stroke and its association to functional outcome 3 months later. *Journal of Stroke and Cerebrovascular Diseases, 23*(5), e305-e312.

Ayerbe, L., Ayis, S. A., Crichton, S., Wolfe, C. D., & Rudd, A. G. (2013). Natural history, predictors and associated outcomes of anxiety up to 10 years after stroke: The South London Stroke Register. *Age and Ageing*, *43*(4), 542-547.

Baillie, L. (2017). An exploration of the 6Cs as a set of values for nursing practice. *British Journal of Nursing, 26*(10), 558–563.

Bakken, L. N., Kim, H. S., Finset, A., & Lerdal, A. (2012). Stroke patients' functions in personal activities of daily living in relation to sleep and socio-demographic and clinical variables in the acute phase after first-time stroke and at six months of follow-up. *Journal of Clinical Nursing*, *21*(13-14), 1886-1895.

Baltes, P. B., & Smith, J. (2008). The fascination of wisdom: Its nature, ontogeny, and function. *Perspectives on Psychological Science, 3*(1), 56-64.

Bangen, K. J., Meeks, T. W., & Jeste, D. V. (2013). Defining and assessing wisdom: A review of the literature. T*he American Journal of Geriatric Psychiatr*y, *21*(12), 1254-1266.

Barnsley, L., McCluskey, A., & Middleton, S. (2012). What people say about travelling outdoors after their stroke: A qualitative study. *Australian Occupational Therapy Journal*, *59*(1), 71-78.

Battey, B. W. (2004). *Humanism, nursing, communication and holistic care: A position paper. USA*: Xlibris Corporation

Baumann, M., Le Bihan, E., Chau, K., & Chau, N. (2014). Associations between quality of life and socioeconomic factors, functional impairments and dissatisfaction with received information and home-care services among survivors living at home two years after stroke onset. *BMC Neurology*, *14*(92), 1-12.

Bayley-Veloso, R., & Salmon, P. G. (2016). Yoga in clinical practice. *Mindfulness, 7*(2), 308-319.

Bernhardt, J., Dewey, H., Thrift, A., & Donnan, G. (2004). Inactive and alone physical activity within the first 14 days of acute stroke unit care. *Stroke, 35*, 1005-1009.

Bevan, A. L. (2013). Creating communicative spaces in an action research study. *Nurse Researcher, 21*, 14-17. doi: http://dx.doi.org/10.7748/nr2013.11.21.2.14.e347

Bhavanani, A. B. (2013). *Yoga Chikitsa: The application of Yoga as a therapy. Pondicherry, India: Dhivyananda Creations* (1st ed.) Sarguru printographs India.

Billinger, S. A., Arena, R., Bernhardt, J., Eng, J. J., Franklin, B. A., Johnson, C. M., . . . Roth, E. J. (2014). Physical activity and exercise recommendations for stroke survivors: A statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke, 45*(8), 2532-2553.

Bimali, I. (2015). Understanding the burden of caring people for clients with a stroke in the subacute and chronic phase in nepal. *International Journal of Current Research and Review, 7*(11), 39-43.

Blasdell, N. D. (2017). The meaning of caring in nursing practice. *International Journal of Nursing and Clinical Practice, 4*, 238. doi: https://doi.org/10.15344/2394-4978/2017/238

Bogason, E., Morrison, K., Zalatimo, O., Ermak, D. M., Lehman, E., Markley, E., & Cockroft, K. (2017). Urinary tract infections in hospitalized ischemic stroke clients: Source and impact on outcome. *Cureus, 9*(2). e1014.

Boger, E. (2014). *Self-management following stroke. Concepts and Measurement* (Doctoral dissertation), University of Southampton. Retrieved from https://eprints.soton.ac.uk/362824/1/Final%2520Thesis.pdf

Boreson, H., & Askesjo, L. (2015). *Nepalese nurses' experiences of the family´ s importance in health care: An interview study conducted in Kathmandu, Nepal*. Retrieved from http://www.diva-portal.org/smash/get/diva2:872953/FULLTEXT01.pdf

Bower, J. E., Greendale, G., Crosswell, A. D., Garet, D., Sternlieb, B., Ganz, P. A., . . . Cole, S. W. (2014). Yoga reduces inflammatory signaling in fatigued breast cancer survivors: A randomized controlled trial. *Psychoneuroendocrinology, 43*, 20-29. doi:10.1016/j.psyneuen.2014.01.019

Boykin, A., & Schoenhofer, S. (2015). Theory of nursing as caring. *Nursing theories and nursing practice*, 341-356.

Brensilver M. (2016). Mindfulness and the scientific study of wisdom. Research and Neuroscience. Retrieved from https://*www.mindfulschools.org/author/matthew*

Bridges J., Nicholson C., Maben J., Pope C., Flatley M., Wilkinson C., Meyer J. & Tziggili M. (2013). Capacity for care: Meta-ethnography of acute care nurses' experiences of the nurse-client relationship. *Journal of Advanced Nursing 69*(4), 760–772.

Bright, F., Kayes, N., McCann, C., & McPherson, K. (2011). Understanding hope after stroke: a systematic review of the literature using concept analysis. *Topics in Stroke Rehabilitation, 18*, 490-508. doi:10.1310/tsr1805-490

Broad W.J. (2013). *The science of yoga: The risk and the Rewards*. New York. Simon & Schuster New Delhi. Retrieved from https://thaingwizard.files.wordpress. com/

Brogan, E., Langdon, C., Brookes, K., Budgeon, C., & Blacker, D. (2014). Respiratory infections in acute stroke: Nasogastric tubes and immobility are stronger predictors than dysphagia. *Dysphagia*, *29*(3), 340-345.

Brogan, E., Langdon, C., Brookes, K., Budgeon, C., & Blacker, D. (2015). Can't swallow, can't transfer, can't toilet: Factors predicting infections in the first week post stroke. *Journal of Clinical Neuroscience*, *22*(1), 92-97.

Brugman, G. M. (2006). Wisdom and aging. In *Handbook of the psychology of aging* (6th ed) pp. 445-476). Academic Press. Netherland.

Bullock, B. G. (2016). *How does yoga work? Study sheds light on mechanisms of change.* Retrieved from https://www.yogauonline.com/

Bustamante, A., García-Berrocoso, T., Rodriguez, N., Llombart, V., Ribó, M., Molina, C., & Montaner, J. (2016). Ischemic stroke outcome: A review of the influence of post-stroke complications within the different scenarios of stroke care. *European Journal of Internal Medicine*, *29*, 9-21.

Butts, J. B., & Rich, K. L. (2015). *Philosophies and Theories for Advanced Nursing Practice* (second ed.). Publishing House: Jones & Bartlett Publishers. Retrieved from https://books. google.co.th/

Cameron, J. I., Naglie, G., Silver, F. L., & Gignac, M. A. (2013). Stroke family caregivers' support needs change across the care continuum: A qualitative study using the timing it right framework. *Disability and rehabilitation*, *35*(4), 315-324.

Cameron, M. E., & Parker, S. A. (2004). The ethical foundation of yoga. *Journal of Professional Nursing, 20*(5), 275-276.

Cameron, J. I., & Gignac, M. A. (2008). "Timing It Right": a conceptual framework for addressing the support needs of family caregivers to stroke survivors from the hospital to the home. *Patient education and counseling*, *70*(3), 305-314.

Cameron, J. I. (2013). Best practices for stroke client and family education in the acute care setting: A literature review. *Medsurg Nursing, 22*(1), 51-5, 64. Retrieved from http://search.proquest.com/

Cameron, J. I., Naglie, G., Gignac, M. A., Bayley, M., Warner, G., Green, T., ... & Cheung, A. M. (2014). Randomized clinical trial of the timing it right stroke family support program: Research protocol. *BMC health services research, 14*(1), 18. https://bmchealthservres.biomedcentral.com/track/pdf/10.1186/1472-6963-14-18

Campinha-Bacote. J. (2013). A biblically based model of cultural competence in the delivery of healthcare services: S*eeing "Imago Dei "* (2nd Edition). Cincinnati, OH: Transcultural C.A.R.E. Associates.

Carlsson, H., Gard, G., & Brogårdh, C. (2018). Upper-limb sensory impairments after stroke: Self-reported experiences of daily life and rehabilitation. Journal of Rehabilitation Medicine, 50(1), 45-51. https://doi.org/10.2340/16501977-2282

Carod-Artal, F. J., Lanchipa, J. O. C., Ramírez, L. M. C., Pérez, N. S., Aguayo, F. M. S., Moreno, I. G., ... & Moreira, C. M. (2014). Stroke subtypes and comorbidity among ischemic stroke patients in Brasilia and Cuenca: a Brazilian–Spanish cross-cultural study. *Journal of Stroke and Cerebrovascular Diseases, 23*(1), 140-147.

Cella, D., Riley, W., Stone, A., Rothrock, N., Reeve, B., Yount, S., ... & Cook, K. (2010). The patient-reported outcomes measurement information system (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005–2008. J*ournal of Clinical Epidemiology, 63*(11), 1179-1194.

Chan, C.,Chan, D., & Wong, S. (2009). Evaluation of functional independence for stroke survivors in the community. *Asian Journal of Gerontology and Geriatric, 4*(1)24-29.

Chan, C. W., Wong, F. K. Y., Yeung, S. M., & Sum, F. (2016). Holistic health status questionnaire: Developing a measure from a Hong Kong Chinese population. *Health and Quality of Life Outcomes, 14*(1), 28. doi: 10.1186/s12955-016-0416-8

Chow, E. O. (2015). Narrative therapy an evaluated intervention to improve stroke survivors' social and emotional adaptation. *Clinical Rehabilitation, 29*(4), 315-326.

Chow, E. O., & Nelson-Becker, H. (2010). Spiritual distress to spiritual transformation: Stroke survivor narratives from Hong Kong. *Journal of Aging Studies, 24*(4), 313-324.

Chukumnerd, P., Hatthakit, U., & Chuaprapaisilp, A. (2011). The experience of persons with allergic respiratory symptoms: practicing yoga as a self-healing modality. *Holistic Nursing Practice*, *25*(2), 63-70.

Clarke, C. (2014). Promoting the 6Cs of nursing in patient assessment. *Nursing Standard*, *28*(44), 52-59.

Clark, C. (2016). Watson's human caring theory: Pertinent transpersonal and humanities concepts for educators. *Humanities*, *5*(2), 21.

Clark, A. M. (1998). The qualitative-quantitative debate: Moving from positivism and confrontation to post-positivism and reconciliation. *Journal of Advanced Nursing*, *27*(6), 1242-1249. doi: 10.2147/JMDH.S68764

Clarke, D. J., & Forster, A. (2015). Improving post-stroke recovery: the role of the multidisciplinary health care team. *Journal of Multidisciplinary Healthcare*, *8*, 433-442. doi: 10.2147/JMDH.S68764.

Connolly, T. C. (2014). *Post stroke survivors' experiences of the first four weeks D during the transition directly home from the hospital* (Doctoral Dissertation, Boston College), William F. Connel School of Nursing. Retrieved from https://search.proquest.com/

Cramer, H., Lauche, R., Haller, H., Langhorst, J., Dobos, G., & Berger, B. (2013). I'm more in balance: A qualitative study of yoga for clients with chronic neck pain. T*he Journal of Alternative and Complementary Medicine, 19*(6), 536-542. doi: 10.1089/acm.2011.0885

Creswell, J. W. (2013). *Qualitative Inquiry & Research Design: Choosing among Five Approaches (3rd ed.)*. Thousand Oaks, CA: SAGE.

Crowe, C., Coen, R. F., Kidd, N., Hevey, D., Cooney, J., & Harbison, J. (2016). A qualitative study of the experience of psychological distress post-stroke. *Journal of Health Psychology*, *21*(11), 2572-2579.

Cummings, J., & Bennett, V. (2012). Compassion in practice. *Nursing, Midwifery and Care Staff. Our Vision and Strategy*. Retrieved from https://www.england.nhs.uk/wp-content/uploads/2012/12/compassion-in-practice.pdf

Czerwonka, A. I., Herridge, M. S., Chan, L., Chu, L. M., Matte, A., & Cameron, J. I. (2015). Changing support needs of survivors of complex critical illness and their family caregiver across the care continuum: A qualitative pilot study of towards recover. *Journal of Critical Care*, *30*(2), 242-249. doi:10.1016/j.jcrc.2014.10.017

Dalvandi, A., Khankeh, H. R., Ekman, S.-L., Maddah, S. S. B., & Heikkilä, K. (2013). Everyday life condition in stroke survivors and their family caregivers in Iranian context. *International Journal of Community Based Nursing and Midwifery*, *1*(1), 3-15.

Danzl, M. M., Harrison, A., Hunter, E. G., Kuperstein, J., Sylvia, V., Maddy, K., & Campbell, S. (2016). A lot of things passed me by: Rural stroke survivors' and caregivers' experience of receiving education from health care providers. *The Journal of Rural Health, 32*(1), 13-24. doi: 10.1111/jrh.12124.

Dark, J., & Sander, R. (2014). An overview of communication, movement and perception difficulties after stroke. *Nursing Older People*, *26*(5), 32-37. doi:10.7748/nop.26.5.32.e567.

Deb, P., Sharma, S., & Hassan, K. M. (2010). Pathophysiologic mechanisms of acute ischemic stroke: An overview with emphasis on therapeutic significance beyond thrombolysis. *Pathophysiology*, *17*(3), 197-218.

Denissen, S., Staring, W., Kunkel, D., Pickering, R. M., Lennon, S., Geurts, A. C., ... & Verheyden, G. S. (2019). Interventions for preventing falls in people after stroke. *Cochrane database of systematic reviews*, (10).

Desikachar, K., Bragdon, L., & Bossart, C. (2005). The yoga of healing: Exploring yoga's holistic model for health and well-being. *International Journal of Yoga Therapy*, *15*(1), 17-39.

Desveaux, L., Lee, A., Goldstein, R., & Brooks, D. (2015). Yoga in the management of chronic disease. *Medical Care*, *53*(7), 653-661.

Dossey, B. M., Keegan, L., & Guzzetta, C. E. (2005). *Pocket guide for holistic nursing. Boston*: Jones & Bartlett Learning. Retrieved from https://books.google.co.th/

Dowswell, G., Lawler, J., Dowswell, T., Young, J., Forster, A., & Hearn, J. (2000). Investigating recovery from stroke: a qualitative study. *Journal of clinical nursing*, *9*(4), 507-515.

Drahosova, L., & Jarosova, D. (2016). Concept caring in nursing. *Central European Journal of Nursing and Midwifery*, *7*(2), 453-460. doi: 10.15452/CEJNM.2016.07.0014

Duffy, K. (2015). Integrating the 6Cs of nursing into mentorship practice. *Nursing Standard (2014+)*, *29*(50), 49.

Duncan, M.D., Leis, A., & Taylor-Brown, J.W. (2008). Impact and outcomes of an Iyengar yoga program in a cancer centre. C*urrent Oncology*, *15(Suppl. 2*), S72–S76. doi:10.3747/co.v15i0 .284

Ekusheva, E. V., & Damulin, I. V. (2015). Post-stroke rehabilitation: Importance of neuroplasticity and sensorimotor integration processes. *Neuroscience and Behavioral Physiology, 45*(5), 594-599.

Ellis, C., Barley, J., & Grubaugh, A. (2013). Poststroke knowledge and symptom awareness: a global issue for secondary stroke prevention. *Cerebrovascular Diseases*, *35*(6), 572-581.

Ellis-Hill, C., Robison, J., Wiles, R., McPherson, K., Hyndman, D., Ashburn, A., & Team, O. B. O. T. S. A. R. R. C. (2009). Going home to get on with life: clients and carers experiences of being discharged from hospital following a stroke. *Disability and Rehabilitation, 31*(2), 61-72.

Elloker, T, & Rhoda, A. J.2018). The relationship between social support and participation in stroke: A systematic review. *African Journal of Disability, 10*(7), 357.

Elo, S., & Kyngas, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing, 62*(1), 107-115.

Elo, S., Kaariainen, M., Kanste, O., Polkki, T., Utriainen, K., & Kyngas, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open, 4*(1), 2158244014522633.

English, C., Manns, P. J., Tucak, C., & Bernhardt, J. (2014). Physical activity and sedentary behaviors in people with stroke living in the community: A systematic review. *Physical Therapy, 94*(2), 185.

Feigin, V. L., Roth, G. A., Naghavi, M., Parmar, P., Krishnamurthi, R., Chugh, S., . . . Forouzanfar, M. H. (2016). Global burden of stroke and risk factors in 188 countries, during 1990–2013: A systematic analysis for the global burden of disease study 2013. *The Lancet Neurology, 15*(9), 913-924.

Feo, R., & Kitson, A. (2016). Promoting client-centered fundamental care in acute healthcare systems. *International Journal of Nursing Studies, 57*, 1-11.

Feuerstein, G. (2003). *The deeper dimension of Yoga: Theory and practice*. Boston: Shambhala Publications. Retrieved from htttps://books.google.co.th/

Field, T. (2016). Yoga research review. *Complementary Therapies in Clinical Practice, 24*, 145-161. doi: 10.1016/j.ctcp.2010.09.007

Finfgeld-Connett, D. (2008). Meta-synthesis of caring in nursing. *Journal of Clinical Nursing, 17*(2), 196-204. https://doi.org/10.1111/j.1365-2702.2006.01824

Frost, Y., Weingarden, H., Zeilig, G., Nota, A., & Rand, D. (2015). Self-care self-efficacy correlates with independence in basic activities of daily living in individuals with chronic stroke. *Journal of Stroke and Cerebrovascular Diseases, 24*(7), 1649-1655.

Gajurel, B. P. (2014). A descriptive study on ischemic stroke. *Nepal Journal of Neuroscience, 11*(1), 26-29.

Gajurel, B. P., Parajuli, P., Nepali, R., & Oli, K. K. (2012). Spectrum of neurological disorders admitted in Tribhuvan University teaching hospital Maharajgunj. *Journal of Institute of Medicine, 34*(3), 50-53.

Garrett, R., Immink, M. A., & Hillier, S. (2011). Becoming connected: The lived experience of yoga participation after stroke. *Disability and rehabilitation, 33*, 2404-2415. doi:10.3109/09638288.2011.573058

Garrett, W. W. (1999). *An introduction to the philosophy and practice of yoga.* UMI Dissertation services. Prescott Arizona. P. O Box, 12164. Retrieved from http:// search.proquest.com/docview/194083098/fulltextPDF/

Geno, R. (2018). *The meaning of Namaste.* Retrieved from https://www.yogajournal.com/practice/the-meaning-of-quot-namaste-quot

Ghiya, S., & Lee, C. M. (2012). Influence of alternate nostril breathing on heart rate variability in non-practitioners of yogic breathing. *International Journal of Yoga, 5*(1), 66-69.

Gluck, J., & Bluck, S. (2013). The MORE life experience model: A theory of the development of personal wisdom. *The Scientific Study of Personal Wisdom* 75-97. Dordrecht: Springer.

Goldstein, J. (2003). *One Dharma: The emerging western Buddhism*. New York: Harper San Francisco

Goyal, S. (2019). *Why International Day of Yoga is celebrated on 21st June?* Retrieved from https://www.jagranjosh.com/general-knowledge

Government of Nepal, Central Bureau of Statistics. (2014). *Population monograph of Nepal: Volume I, Population dynamics.* Retrieved from https://nepal.unfpa.org/

Government of Nepal, Central Bureau of Statistics (2016). *National planning commission secretariat.* Retrieved from http://www.cbs.gov.np\

Grabara, M (2016). Could Hatha Yoga be a health related physical activities? *Biomedical Human Kinetics, 8*(1), 10-16.

Greenfield, B. H., & Jensen, G. M. (2010). Understanding the lived experiences of clients: Application of a phenomenological approach to ethics. *Physical Therapy, 90*(8), 1185.

Haghgoo, H. A., Pazuki, E. S., Hosseini, A. S., & Rassafiani, M. (2013). Depression, activities of daily living and quality of life in clients with stroke. *Journal of The Neurological Sciences, 328*(1-2), 87-91.

Harrison, J. K., McArthur, K. S., & Quinn, T. J. (2013). Assessment scales in stroke: clinimetric and clinical considerations. *Clinical Interventions in Aging, 8*, 201-211.

Hartigan, I., O'Connell, E., McCarthy, G. and O'Mahony, D. (2011) 'First time stroke survivors' perceptions of their health status and their goals for recovery'. *International Journal of Nursing and Midwifery, 3* (2), 22-29.

Hatano, S. (1976). Experience from a multicentre stroke register: A preliminary report. *Bulletin of the World Health Organization, 54*(5), 541.

Haugan, G., Moksnes, U. K., & Espnes, G. A. (2013). Nurse–client interaction: A resource for hope in cognitively intact nursing home clients. *Journal of Holistic Nursing, 31(*3), 152–163.

Heuschmann, P., Wiedmann, S., Wellwood, I., Rudd, A., Di Carlo, A., Bejot, Y., . . . Wolfe, C. (2011). Three-month stroke outcome: The European registers of stroke (EROS) investigators. *Neurology, 76*(2),159-165.

Hogan, B. E. (2016). *1st Place: The effectiveness of yoga therapy on an adult, post-stroke population, a systematic review*. Kevin and Tam Ross Undergraduate Research Prize. Retrieved from http://digitalcommons.chapman.edu/undergraduateresearchprize/14

Holter, I. M., & Schwartz-Barcott, D. (1993). Action Research: What is it? How has it been used and how can it be used in nursing? *Journal of Advanced Nursing, 18*(2), 298-304.

Horne, J., Lincoln, N. B., Preston, J., & Logan, P. (2014). What does confidence mean to people who have had a stroke?–A qualitative interview study. *Clinical Rehabilitation, 28*(11), 1125-1135.

Huang, K.-L., Liu, T.-Y., Huang, Y.-C., Leong, C.-P., Lin, W.-C., & Pong, Y.-P. (2014a). Functional outcome in acute stroke clients with oropharyngeal Dysphagia after swallowing therapy. *Journal of Stroke and Cerebrovascular Diseases, 23*(10), 2547-2553.

Huang, H-C., Huang, L-K., Hu, C-H., Chang, C-H., Lee, H-C., Chi, N-F., …Chang, H-J. (2014b). The mediating effect of psychological distress on functional dependence in stroke clients. *Journal of Clinical Nursing, 23*(23-24), 3533-3543.

Ignjatovic, V. B., Semnic, M., Bukurov, K. G., & Kozic, D. (2015). Cognitive impairment and functional ability in the acute phase of ischemic stroke. *Eur Rev Med Pharmacol Sci, 19*(17), 3251-3256.

Immink, M. A., Hillier, S., & Petkov, J. (2014). Randomized Controlled Trial of Yoga for Chronic Poststroke Hemiparesis: Motor Function, Mental Health, and Quality of Life Outcomes. *Topics in Stroke Rehabilitation, 21*(3), 256-271. doi: 10.1310/tsr2103-256

Ismail, S., (2016). *The development of Islamic caring model for critically ill clients in the Intensive care unit* (Doctoral Dissertation). Faculty of Nursing, Prince of Songkla University, Songkla, Thailand.

Ismail, S., Hatthakit, U., & Songwathana, P. (2018). Exploring Islamic based caring practice in intensive care unit: A qualitative study. *Nurse Media Journal of Nursing, 7*(2), 91-100.

Jain, S. (2016). Effect of 6 weeks pranava yoga training on cardiovascular parameters in prehypertensive young adults. *National Journal of Physiology, Pharmacy and Pharmacologyol, 6*(5), 416-419.

Jani, B. D., Simpson, R., Lawrence, M., Simpson, S., & Mercer, S. W. (2018). Acceptability of mindfulness from the perspective of stroke survivors and caregivers: A qualitative study. *Pilot and Feasibility Studies, 4*(1), 57.

Jasemi, M., Valizadeh, L., Zamanzadeh, V., & Keogh, B. (2017). A Concept analysis of holistic care by hybrid model. *Indian Journal of Palliative Care, 23*(1), 71-80. . doi: 10.4103/0973-1075.197960.

Jason, L. A., Reichler, A., King, C., Madsen, D., Camacho, J., & Marchese, W. (2001). The measurement of wisdom: A preliminary effort. *Journal of Community Psychology, 29*(5), 585-598.

Jeste, D. V., & Vahia, I. V. (2008). Comparison of the conceptualization of wisdom in ancient Indian literature with modern views: Focus on the Bhagavad Gita. *Psychiatry, 71*(3), 197-209.

Jones, F., Mandy, A., & Partridge, C. (2008). Reasons for recovery after stroke: A perspective based on personal experience. *Disability and Rehabilitation, 30*(7), 507-516. doi: 10.1080/096382807013555

Jonsson, A.-C., Delavaran, H., Iwarsson, S., Ståhl, A., Norrving, B., & Lindgren, A. (2014). Functional status and client-reported outcome 10 years after stroke. *Stroke, 45*(6), 1784-1790.

Joolaee, S., Joolaei, A., Tschudin, V., Bahrani, N., & Nasrabadi, A. N. (2010). Caring relationship: the core component of patients' rights practice as experienced by patients and their companions. *Journal of Medical Ethics and History of Medicine, 3*(4), 1-7.

Jorgensen, H. S., Nakayama, H., Raaschou, H. O., Vive-Larsen, J., Støier, M., & Olsen, T. S. (1995). Outcome and time course of recovery in stroke. Part II: Time course of recovery. The Copenhagen Stroke Study. *Archives of Physical Medicine and Rehabilitation, 76*(5), 406-412.

Joshi, A.S. (2015). *A Novel Approach to Providing Nursing Care in Hospital of Nepal (Doctoral Dissertation)*, Graduate School of Health & Welfare Science, Okayama Prefectural University. Retrieved from https://ci.nii.ac.jp/naid/500000963956/

Joshanloo, M. (2014). Eastern conceptualizations of happiness: Fundamental differences with western views. *Journal of Happiness Studies, 15*(2), 475-493.

Kelly-Hayes, P. M., Robertson, J. T., Broderick, J. P., Duncan, P. W., Hershey, L. A., Roth, E. J., ... Trombly, C. A. (1998). The American heart association stroke outcome classification. *Stroke, 29*(6), 1274-1280.

Kemmis, S. (2009). Action research as a practice-based practice. *Educational Action Research, 17*(3), 463-474. doi: 10.1080/09650790903093284

Kemmis, S., & McTaggart, R. (1988). *The Action Research Planner*: Deakin university. ISBN:730005216

Kemmis, S., McTaggart, R., & Nixon, R. (2013). *The action research planner: Doing critical participatory action research*. Springer Science & Business Media. ISBN 978-981-4560-67-2(eBook)

Kendall, E., Catalano, T., Kuipers, P., Posner, N., Buys, N., & Charker, J. (2007). Recovery following stroke: the role of self-management education. *Social Science & Medicine, 64*(3), 735-746.

Kessner, S. S., Bingel, U., & Thomalla, G. (2016). Somatosensory deficits after stroke: a scoping review. *Topics in Stroke Rehabilitation, 23*(2), 136-146.

Khan, M. T., Ikram, A., Saeed, O., Afridi, T., Sila, C. A., Smith, M. S., ... Shuaib, A. (2017). Deep Vein Thrombosis in Acute Stroke-A Systemic Review of the Literature. *Cureus, 9*(12), e1982. doi: 10.7759/cureus.1982.

Kidd, L., Lawrence, M., Booth, J., Rowat, A., & Russell, S. (2015). Development and evaluation of a nurse-led, tailored stroke self-management intervention. *BMC Health Services Research, 15*(359),1-12. doi: 10.1186/s12913-015-1021-y

Kiran, S. (2012). What is the nature of post stroke language recovery and reorganization? *ISRN Neurology.* Retrieved from http://dx.doi.org/10.5402/

Kirkevold, M., Christensen, D., Andersen, G., Johansen, S. P., & Harder, I. (2012). Fatigue after stroke: manifestations and strategies. *Disability and Rehabilitation, 34*(8), 665-670. doi: 10.3109/09638288.2011.615373

Kirkevold, M., Bragstad, L. K., Bronken, B. A., Kvigne, K., Martinsen, R., Hjelle, E. G., ... Eriksen, S. (2018). Promoting psychosocial well-being following stroke: study protocol for a randomized, controlled trial. *BMC psychology, 6*(1), 1-12.

Kishore, A. K., Vail, A., Chamorro, A., Garau, J., Hopkins, S. J., Di Napoli, M., . . . Smith, C. J. (2015). How is pneumonia diagnosed in clinical stroke research? *Stroke, 46*(5),1202-9. doi: 10.1161/STROKEAHA.114.007843.

Kitson, A. L., Dow, C., Calabrese, J. D., Locock, L., & Athlin, Å. M. (2013). Stroke survivors' experiences of the fundamentals of care: A qualitative analysis. *International Journal of Nursing Studies, 50*(3):392-403. doi: *10.1016/j.ijnurstu.2012.09.017.*

Klamroth-Marganska, V., Blanco, J., Campen, K., Curt, A., Dietz, V., Ettlin, T., . . . Kollmar, A. (2014). Three-dimensional, task-specific robot therapy of the arm after stroke: a multicentre, parallel-group randomised trial. *The Lancet Neurology, 13*(2), 159-166.

Klein, N. (2017). Prosocial behavior increases perceptions of meaning in life. *The Journal of Positive Psychology, 12*(4), 354-361.

Knecht, S., Hesse, S., & Oster, P. (2011). Rehabilitation after stroke. *Deutsches Ärzteblatt International, 108*, 600- 6. doi: 10.3238/arztebl.2011.0600

Kong, K.-H., & Lee, J. (2014). Temporal recovery of activities of daily living in the first year after ischemic stroke: A prospective study of clients admitted to a rehabilitation unit. *Neuro Rehabilitation, 35*(2), 221-226.

Korpershoek, C., van der Bijl, J., & Hafsteinsdóttir, T. B. (2011). Self-efficacy and its influence on recovery of clients with stroke: A systematic review. *Journal of Advanced Nursing, 67*(9), 1876-1894.

Kouwenhoven, S. E., Kirkevold, M., Engedal, K., & Kim, H. S. (2011). Depression in acute stroke: prevalence, dominant symptoms and associated factors: A systematic literature review. *Disability and Rehabilitation, 33*(7),539-356.

Kruithof, W. J., van Mierlo, M. L., Visser-Meily, J. M. A., van Heugten, C. M., & Post, M. W. M. (2013). Associations between social support and stroke survivors' health-related quality of life: A systematic review. *Client Education and Counseling, 93*(2), 169-176.

Kumar, V. R., & Aanand, S. (2016). Yoga: A case of reverse inovation *Purushartha. A Journal of Management Ethics and Spirituality, 8*(2).

Kumar, S., Nagendra, H. R., Manjunath, N. K., Naveen, K. V., & Telles, S. (2010). Meditation on OM: Relevance from ancient texts and contemporary science. *International Journal of Yoga, 3*(1), 2-5.

Kumar, S., Selim, M. H., & Caplan, L. R. (2010). Medical complications after stroke. *The Lancet Neurology, 9*(1),105-118.

Laerkner, E., Egerod, I., Olesen, F., Toft, P., & Hansen, H. P. (2019). Negotiated mobilisation: An ethnographic exploration of nurse–patient interactions in an intensive care unit. J*ournal of Clinical Nursing, 28*(11-12), 2329-2339.

Lamb, M., Buchanan, D., Godfrey, C. M., Harrison, M. B., & Oakley, P. (2008). The psychosocial spiritual experience of elderly individuals recovering from stroke: A systematic review. *International Journal of Evidence-Based Healthcare, 6*(2), 173-205. doi: 10.1111/j.1744-1609.2008.00079.

Langhammer, B., Lindmark, B., & Stanghelle, J. K. (2014). Physiotherapy and physical functioning post-stroke: Exercise habits and functioning 4 years later? Long-term follow-up after a 1-year long-term intervention period: A randomized controlled trial. *Brain Injury, 28*(11), 1396-1405.

Langhammer, B., Stanghelle, J. K., & Lindmark, B. (2009). An evaluation of two different exercise regimes during the first year following stroke: A randomised controlled trial. *Physiotherapy Theory and Practice, 25*(2), 55-68.

Lawrence, M., Celestino Junior, F. T., Matozinho, H. H., Govan, L., & Booth, J. (2015). Yoga for stroke rehabilitation. *The Cochrane Library.*

Lee, K. B., Lim, S. H., Kim, K. H., Kim, K. J., Kim, Y. R., Chang, W. N., … Hwang, B. Y. (2015). Six-month functional recovery of stroke clients: A multi-time-point study. *International Journal of Rehabilitation Research, 38*(2), 173-180.

Levine, D. A., Galecki, A. T., Langa, K. M., Unverzagt, F. W., Kabeto, M. U., Giordani, B., & Wadley, V. G. (2015). Trajectory of cognitive decline after incident stroke. *Jama*, *314*(1), 41-51.

Levin, M. F., Kleim, J. A., & Wolf, S. L. (2009). What do motor "recovery" and "compensation" mean in patients following stroke?. *Neurorehabilitation and Neural Repair*, *23*(4), 313-319.

Lim, S. F., Ong, S. Y., Tan, Y. L., Ng, Y. S., Chan, Y. H., & Childs, C. (2015). Incidence and predictors of new-onset constipation during acute hospitalisation after stroke. *International Journal of Clinical Practice, 69*(4), 422-8.

Limbu, S., Kongsuwan, W., & Yodchai, K. (2019). Lived experiences of intensive care nurses in caring for critically ill clients. *Nursing in Critical Care, 24*(1), 9-14.

Lincoln, N., Brinkmann, N., Cunningham, S., Dejaeger, E., De Weerdt, W., Jenni, W., . . . Schuback, B. (2013). Anxiety and depression after stroke: a 5 year follow-up. *Disability and Rehabilitation, 35*(2), 140-5.

Lincoln, Y., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, California: Sage Publications

Lindsay, P., Furie, K. L., Davis, S. M., Donnan, G. A., & Norrving, B. (2014). World Stroke Organization global stroke services guidelines and action plan. *International Journal of Stroke, 9*(Suppl A100), 4-13.

Liu, Y., Avant, K. C., Aungsuroch, Y., Zhang, X.-Y., & Jiang, P. (2014). Client outcomes in the field of nursing: A concept analysis. *International Journal of Nursing Sciences, 1*(1), 69-74.

Liu, H., Lindley, R., Alim, M., Felix, C., Gandhi, D. B., Verma, S. J., . . . Pandian, J. D. (2016). Protocol for process evaluation of a randomised controlled trial of family-led rehabilitation post stroke (ATTEND) in India. *British Medical Journal Open, 6*(9), e012027.

Liu, J. E., Mok, E., & Wong, T. (2006). Caring in nursing: investigating the meaning of caring from the perspective of cancer clients in Beijing, China 1. *Journal of Clinical Nursing*, *15*(2), 188-196.

Locsin, R. C. (2016). *Technological Competency as Caring in Nursing. A model for practice*. Dumaguate, Silliman University.

Lou, M. F., Dai, Y. T., Huang, G. S., & Yu, P. J. (2007). Identifying the most efficient items from the Mini-Mental State Examination for cognitive function assessment in older Taiwanese clients. *Journal of Clinical Nursing*, *16*(3), 502-508.

Love, M. F., Sharrief, A., Chaoul, A., Savitz, S., & Beauchamp, J. E. S. (2019). Mind-body interventions, psychological stressors, and quality of life in stroke survivors: A systematic review. *Stroke*, *50*(2), 434-440.

Luker, J., Lynch, E., Bernhardsson, S., Bennett, L., & Bernhardt, J. (2015). Stroke survivors' experiences of physical rehabilitation: a systematic review of qualitative studies. *Archives of Physical Medicine and Rehabilitation*, *96*(9), 1698-1708.

Lutz, B. J., Young, M. E., Cox, K. J., Martz, C., & Creasy, K. R. (2011). The crisis of stroke: experiences of patients and their family caregivers. *Topics in Stroke Rehabilitation*, *18*(6), 1-16. doi: 10.1310/tsr1806-786

MacDonald, G. A., Kayes, N. M., & Bright, F. (2013). Barriers and facilitators to engagement in rehabilitation for people with stroke: A review of the literature. *New Zealand Journal of Physiotherapy*, *41*(3), 112-121.

Mahmoud, S., & Elaziz, N. A. A. (2016). Impact of stroke on life satisfaction and psychological adjustment among stroke patients during rehabilitation. *Life Science Journal*, *13*(3), 7-17.

Makela, P., Gawned, S., & Jones, F. (2014). Starting early: integration of self-management support into an acute stroke service. *BMJ Open Quality*, *3*(1), u202037-w1759.

Manchanda, S. C., & Madan, K. (2014). Yoga and meditation in cardiovascular disease. *Clinical Research in Cardiology*, *103*(9), 675-680.

Mardiyono, M., Songwathana, P., & Petpichetchian, W. (2011). Spirituality intervention and outcomes: Corner stone of holistic nursing practice. *Nurse Media Journal of Nursing*, *1*(1), 117-127.

Mardiyono, (2012). The Effect of the Nursing-Based Intervention Integrating Islamic Relaxation on Anxiety and Perceived Control in Indonesia with Acute Myocardial Infarcation Admitted in ICCU (Doctoral Dissertation). Faculty of Nursing, Prince of Songkla University. Thaland.

Marsh I., (n.d.). What Does "Namaste" Actually Mean? Retrieved from https://www.mindbodygreen.com/0-29229/what-does-namaste-actually-me

Marshall, R. S., Basilakos, A., Williams, T., & Love-Myers, K. (2014). Exploring the benefits of unilateral nostril breathing practice post-stroke: Attention, language, spatial abilities, depression, and anxiety. *The Journal of Alternative and Complementary Medicin*e, *20*(3), 185-94. doi: 10.1089/acm.2013.0019.

Matney, S. A., Avant, K., & Staggers, N. (2016). Toward an understanding of wisdom in nursing. *The Online Journal of Issues in Nursing, 21*(1), 1-9. doi: 10.3912/OJIN.Vol21No01PPT02

Matsuzaki, S., Hashimoto, M., Yuki, S., Koyama, A., Hirata, Y., & Ikeda, M. (2015). The relationship between post-stroke depression and physical recovery. *Journal of Affective Disorders, 1*(176), 56-60. doi: 10.1016/j.jad.2015.01.020.

McCall, M. C., Ward, A., Roberts, N. W., & Heneghan, C. (2013). Overview of systematic reviews: yoga as a therapeutic intervention for adults with acute and chronic health conditions. *Evidence-Based Complementary and Alternative Medicine,* 1-18.. doi.org/10.1155/2013/945895

McClain C.S, Rosenfeld B, Breitbart W. (2013). Effect of spiritual well-being on end-of-life despair in terminally-ill cancer clients. *Lancet. 361*(9369), 1603-1607. doi: 10.1016/S0140-6736(03)13310-7

McDonnell P. & McNiff, J. (2016). *Action research for nurses* (1st ed.). Sage Publication: India. Retrieved from https://books.google.co.th/

McNiff, J. (2013). *Action research: Principles and practice*. 3rd edition, Routledge. publication. DOI https://doi.org/10.4324/9780203112755.

McNiff, J., & Whitehead, J. (2006). A*ction research: Living theory*. India: Sage publication,.

Merriam Webstar Dictionary (n.d). Meaning of recovery. Retrieved from https://www.merriam-webster.com/ retrieved on 2019/ 04/ 01.

Mikami, K., Jorge, R. E., Moser, D. J., Jang, M., & Robinson, R. G. (2013). Incident apathy during the first year after stroke and its effect on physical and cognitive recovery. *The American Journal of Geriatric Psychiatry*, *21*(9):848-854.

Miller, K. K., Porter, R. E., DeBaun-Sprague, E., Van Puymbroeck, M., & Schmid, A. A. (2017). Exercise after Stroke: Patient Adherence and Beliefs after Discharge from Rehabilitation. *Topics in Stroke Rehabilitation, 24*(2), 142-148.

Mishra, S. K., Singh, P., Bunch, S. J., & Zhang, R. (2012). The therapeutic value of yoga in neurological disorders. *Annals of Indian Academy of Neurology, 15*(4), 247-254. doi: 10.4103/0972-2327.104328.

Modic, M. B., Siedlecki, S. L., Griffin, M. T. Q., & Fitzpatrick, J. J. (2016). Caring behaviors: perceptions of acute-care nurses and hospitalized clients with diabetes. *International Journal of Human Caring, 20*(3), 160-164.

Moorley, C., Cahill, S., Tunariu, A., & Scott, O. (2014). Impact of stroke: a functional, psychological report of an inner-city multiracial population. *Primary Health Care, 24*(4), 26-34.

Morris, J. H., Oliver, T., Kroll, T., Joice, S., & Williams, B. (2017). Physical activity participation in community dwelling stroke survivors: synergy and dissonance between motivation and capability. A qualitative study. *Physiotherapy, 103*(3), 311-321.

Murray, C. J., Vos, T., Lozano, R., Naghavi, M., Flaxman, A. D., Michaud, C., . . . Memish, Z.A.. (2013). Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: A systematic analysis for the Global Burden of Disease Study 2010. *The Lancet, 380*(9859), 2197-223.

National Stroke Association. (2019). *Rehabilitation therapy after a stroke.* Retrieved from https://www.stroke.org.

Nayak, N. N., & Shankar, K. (2004). Yoga: A therapeutic approach. *Physical Medicine and Rehabilitation Clinics of North America, 15*(4), 783-798.

Newbanks, R. S., Rieg, L. S., & Schaefer, B. (2018). What Is Caring in Nursing?: Sorting Out Humanistic and Christian Perspectives. *Journal of Christian Nursing*, *35*(3), 160-167.

Ni, C., Peng, J., Wei, Y., Hua, Y., Ren, X., Su, X., & Shi, R. (2018). Uncertainty of acute stroke patients: A cross-sectional descriptive and correlational study. *Journal of Neuroscience Nursing*, *50*(4), 238-243.

Nikfarid, L., Hekmat, N., Vedad, A., & Rajabi, A. (2018). The main nursing metaparadigm concepts in human caring theory and Persian mysticism: A comparative study. *Journal of Medical Ethics and History of Medicine*, *11*(6). 1-9

Norris, M., Allotey, P., & Barrett, G. (2012). It burdens me: The impact of stroke in central Aceh, Indonesia. *Sociology of Health & Illness, 34*(6), 826-840.

Norrving, B., & Kissela, B. (2013). The global burden of stroke and need for a continuum of care. *Neurology, 80*(3 Suppl 2), S5-12.

Northcott, S., Moss, B., Harrison, K., & Hilari, K. (2016). A systematic review of the impact of stroke on social support and social networks: Associated factors and patterns of change. *30*(8), 811-831.

Oka, T., Tanahashi, T., Chijiwa, T., Lkhagvasuren, B., Sudo, N., & Oka, K. (2014). Isometric yoga improves the fatigue and pain of clients with chronic fatigue syndrome who are resistant to conventional therapy: A randomized, controlled trial. *BioPsychoSocial Medicine*, *8*(27), 1-9.

Okonta, N. R. (2012). Does yoga therapy reduce blood pressure in clients with hypertension?: An integrative review. *Holistic Nursing Practice, 26*(3), 137-41.

Oliveira, S. N., do Prado, M. L., Kempfer, S. S., Martini, J. G., Caravaca-Morera, J. A., & Bernardi, M. C. (2015). Experiential learning in nursing consultation education via clinical simulation with actors: action research. *Nurse Education Today, 35*(2), e50-e54.

Ostwald, Godwin, K. M., Ye, F., & Cron, S. G. (2013). Serious adverse events experienced by survivors of stroke in the first year following discharge from inclient rehabilitation. *Rehabilitation Nursing, 38*(5), 254-263.

Pajnkihar, M., Stiglic, G., & Vrbnjak, D. (2017). The concept of Watson's carative factors in nursing and their (dis) harmony with client satisfaction. *PeerJournal, 7*(5), e2940.

Papathanasiou, I. M. S., & Kourkouta, L. (2013). Holistic nursing care: Theories and Perspectives. *American Journal of Nursing Science, 2(*1), 1-5. doi: 10.11648/j.ajns.20130201.11

Parikh, S., Parekh, S., & Vaghela, N. (2018). Impact of stroke on quality of life and functional independence. *National Journal of Physiology, Pharmacy and Pharmacology*, *8*(12), 1595-1598.

Paolucci, S., Bragoni, M., Coiro, P., De Angelis, D., Fusco, F. R., Morelli, D., ... & Pratesi, L. (2008). Quantification of the probability of reaching mobility independence at discharge from a rehabilitation hospital in nonwalking early ischemic stroke patients: a multivariate study. *Cerebrovascular Diseases, 26*(1), 16-22.

Peeters, G., Dobson, A. J., Deeg, D. J., & Brown, W. J. (2013). A life-course perspective on physical functioning in women. *Bulletin of the World Health Organization, 91*(9), 661-670.

Persson, C. U., Hansson, P.-O., Lappas, G., & Danielsson, A. (2016). Physical activity levels and their associations with postural control in the first year after stroke. *Physical Therapy, 96*(9), 1389.

Peterson-Burch, F., Reuter-Rice, K., & Barr, T. L. (2017). Rethinking recovery: Incorporating holistic nursing perspectives in poststroke care. *Holistic Nursing Practice, 31*(1), 3-6. doi: 10.1097/HNP.0000000000000187

Prieto, G. A., Cano-de-la-Cuerda, R., López-Larraz, E., Metrot, J., Molinari, M., & van Dokkum, L. E. (2014). Emerging perspectives in stroke rehabilitation. In J. L. , Pons & Torricelli, D. (Eds), *Emerging Therapies in Neurorehabilitation* (pp. 3-21): New York: Springer.

Quinn, T. J., Langhorne, P., & Stott, D. J. (2011). Barthel Index for stroke trials development, properties, and application. *Stroke, 42*(4), 1146-51.

Raju, R. S., Sarma, P. S., & Pandian, J. D. (2010). Psychosocial problems, quality of life, and functional independence among Indian stroke survivors. *Stroke, 41*(12), 2932-2937.

Raut, B., & Khanal, D. (2011). Present status of traditional health care system in Nepal. *International Journal of Research in Ayurveda and Pharmacy, 2*(3) 876-882.

Reed, J. (2005). Using action research in nursing practice with older people: Democratizing knowledge. *Journal of Clinical Nursing, 14*(5), 594-600. doi: 10.1111/j.1365-2702.2005.01339.

Riegel, B., Dickson, V. V., & Faulkner, K. M. (2016). The situation-specific theory of heart failure self-care: revised and updated. *Journal of Cardiovascular Nursing, 31*(3), 226-235.

Rice, D. & Shetty, B. (2015). *Yoga and Stroke: How yoga can help those who have had a stroke.* Retrieved from http://www.yoga-india.net/

Roach, M.S. (2013). Caring: The human mode of being. *Caring in nursing classic: An essential resource* (165-180). New York. USA.

Robinson, R. G., & Jorge, R. E. (2015). Post-stroke depression: a review. *American Journal of Psychiatry, 173*(3),221-231. doi: 10.1176/appi.ajp.2015.15030363

Rubin, M. N., Wellik, K. E., Channer, D. D., & Demaerschalk, B. M. (2013). Systematic review of telestroke for post-stroke care and rehabilitation. *Current Atherosclerosis Reports, 15*(8), 343-349. doi: 10.1007/s11883-013-0343-7

Sahebalzamani, M., Alilou, L., & Shakibi, A. (2009). The efficacy of self-care education on rehabilitation of stroke patients. *Saudi Medical Journal, 30*(4), 550-554.

Salisbury, L., Wilkie, K., Bulley, C., & Shiels, J. (2010). After the stroke: Clients' and carers' experiences of healthcare after stroke in Scotland. *Health & Social Care in the Community, 18(4), 424-432.*

Sand, K., Midelfart, A., Thomassen, L., Melms, A., Wilhelm, H., & Hoff, J. (2013). Visual impairment in stroke clients–a review. *Acta Neurologica Scandinavica, 127*(s196), 52-56. doi: 10.1111/ane.12050

Saraswoti S.S. (2008). *Asana Pranayama Mudra Banda* (4th ed.). Yoga Publication, Bihar India. Retrieved from http://escholarship.org/

Saraswati, S. S. & Stevenson, J. (2007). *Yoga and Samkhya: Purifying the elements of the human being.* Retrieved from https://www.yogajournal.com/

Sarkamo, T., Pihko, E., Laitinen, S., Forsblom, A., Soinila, S., Mikkonen, M., . . . Laine, M. (2010). Music and speech listening enhance the recovery of early sensory processing after stroke. *Journal of Cognitive Neuroscience, 22*(12), 2716-2727.

Satink, T., Cup, E. H., Ilott, I., Prins, J., de Swart, B. J., & Nijhuis-van der Sanden, M. W. (2013). Clients' views on the impact of stroke on their roles and self: a thematic synthesis of qualitative studies. *Archives of Physical Medicine and Rehabilitation, 94*(6), 1171-1183.

Satink, T., Cup, E. H. C., de Swart, B. J. M., & Nijhuis-van der Sanden, M. W. G. (2015). How is self-management perceived by community living people after a stroke? A focus group study. *Disability and Rehabilitation, 37*(3), 223-230. doi: 10.3109/09638288.2014.918187

Saver, J. L. (2006). Time is brain—quantified. *Stroke, 37*(1), 263-266. doi: 10.1161/01 .STR.0000196957.55928.ab

Shamasundar, C. (2008). Relevance of ancient Indian wisdom to modern mental health–A few examples. *Indian Journal of Psychiatry, 50*(2), 138–143.

Shelov, D. V., Suchday, S., & Friedberg, J. P. (2009). A pilot study measuring the impact of yoga on the trait of mindfulness. *Behavioural and Cognitive Psychotherapy, 37*(5), 595-598.

Schmid, A. A. & Puymbroeck, M. V. (2019). *Yoga therapy for stroke: A handbook for yoga therapists and healthcare professionals.* London and Philadelphia: Singing Dragon.

Schmid, A. A., Miller, K. K., Van Puymbroeck, M., & DeBaun-Sprague, E. (2014). Yoga leads to multiple physical improvements after stroke, a pilot study. *Complementary Therapies in Medicine, 22*, 994-1000.

Schmid, A. A., Van Puymbroeck, M., Altenburger, P. A., Schalk, N. L., Dierks, T. A., Miller, K. K., . . . Williams, L. S. (2012). Poststroke balance improves with yoga a pilot study. *Stroke, 43*(9), 2402-2407.

Schwarz, M., Coccetti, A., Murdoch, A., & Cardell, E. (2018). The impact of aspiration pneumonia and nasogastric feeding on clinical outcomes in stroke patients: A retrospective cohort study. *Journal of Clinical Nnursing, 27*(1-2), e235-e241.

Sengupta, P. (2012). Health impacts of Yoga and pranayama: A state-of-the-art. *International Journal of Preventive Medicine, 3*(7), 444-458.Retrieved from https://www.ncbi.nlm.nih.gov/

Setiawan, Hattakhit, U., Boonyoung, N., & Engebretson, J. C. (2010). Creating a caring atmosphere in an intensive stroke care unit: An action research approach. Retrieved from http://fs.libarts.psu.ac.th.

Setiawan *(2*010). *Development of a professional caring model for enhancing the quality of nursing care for critically ill clients in Indonesia*. (Doctoral Dissertation), Faculty of Nursing, Prince of Songkla University. Thailand

Setiawan, S. (2014). Caring concept analysis. *Idea Nursing Journal, 2,*

Shah, S. H., Engelhardt, R., & Ovbiagele, B. (2008). Patterns of complementary and alternative medicine use among United States stroke survivors. *Journal of the Neurological Sciences, 271*(1-2), 180-5. doi: 10.1016/j.jns.2008.04.014.

Shah, S., Vanclay, F., & Cooper, B. (1989). Improving the sensitivity of the Barthel Index for stroke rehabilitation. *Journal of Clinical Epidemiology, 42*(8), 703-709.

Shamasundar, C. (2008). Relevance of ancient Indian wisdom to modern mental health–A few examples. *Indian Journal of Psychiatry, 50*(2), 138-43.

Sharma, B., & Dhakal, S. (2008). Patient's opinion on nursing care. *Journal of Nepal Health Research Council, 6*(1), 42-48

Sharma, N., Sharma, M., Lopchan, M., Thapa, L., & Rana, P. (2013). Low level of stroke care awareness among stroke clients' caregivers: An important but neglected area of stroke care. *Journal of College of Medical Sciences-Nepal, 9*(3), 1-11.

Sheldon L.K. (n.d). *Establishing a therapeutic relationship.* Publishing Place: Jones & Bartlett Learning. Retrieved on 1-04-219 from http://samples.jbpub.com/

Shelov, D. V., Suchday, S., & Friedberg, J. P. (2009). A pilot study measuring the impact of yoga on the trait of mindfulness. *Behavioural and Cognitive Psychotherapy, 37*(5), 595-598.

Simeone, S., Savini, S., Cohen, M. Z., Alvaro, R., & Vellone, E. (2015). The experience of stroke survivors three months after being discharged home: A phenomenological investigation. *European Journal of Cardiovascular Nursing, 14*(2), 162-169.

Singh, S., Gaurav, V., & Parkash, V. (2011). Effects of a 6-week nadi-shodhana pranayama training on cardio-pulmonary parameters. *Journal of Physical Education and Sport Management, 2*(4), 44-47.

Sternberg, R. J. (1998). A balance theory of wisdom. *Review of General Psychology, 2*(4), 347.

Sullivan, M. B., Moonaz, S., Weber, K., Taylor, J. N., & Schmalzi, L. (2018). Toward an explanatory framework for yoga therapy informed by philosophical and ethical perspectives. *Alternative Therapy in Health and Medicine, 24*(1), 38-47.

Sung, K. (2014). Pain, wisdom and health conservation in older adults with chronic diseases. *Journal of Korean Gerontological Nursing, 16*(1), 85-93.

Swepson, P. (1995). *Action research: Understanding its philosophy can improve your practice*. Retrieved from http://www. scu. edu. au/schools/gcm/ar/arp/philos. html.

Takahashi, M., & Bordia, P. (2000). The concept of wisdom: A cross-cultural comparison. *International Journal of Psychology, 35*(1), 1-9.

Taule, T., Strand, L. I., Skouen, J. S., & Råheim, M. (2015). Striving for a life worth living: stroke survivors' experiences of home rehabilitation. *Scandinavian Journal of Caring Sciences, 29*(4), 651-661.

Teasell, R., & Hussein, N. (2016). *Brain reorganization, recovery and organized care. Stroke rehabilitation clinician handbook.* Retrieved from http://www.ebrsr.com/sites/

Telles, S., Kozasa, E., Bernardi, L., & Cohen, M. (2013). Yoga and rehabilitation: physical, psychological, and social. *Evidence-Based Complementary and Alternative Medicine, 2013, 1-2.*

Thapa, A., Bidur, K. C., Shakya, B., Yadav, D. K., Lama, K., & Shrestha, R. (2018). Changing epidemiology of stroke in Nepalese population. *Nepal Journal of Neuroscience, 15*(1), 10-18.

Thieme, H., Mehrholz, J., Pohl, M., Behrens, J., & Dohle, C. (2013). Mirror therapy for improving motor function after stroke. *Stroke, 44*(1), e1-e2.

Tripp, D. (2005). Action research: a methodological introduction. *Educacao e Pesquisa, 31*(3), 443-466.

Toise, S. C., Sears, S. F., Schoenfeld, M. H., Blitzer, M. L., Marieb, M. A., Drury, J. H., . . . Donohue, T. J. (2014). Psychosocial and cardiac outcomes of yoga for ICD clients: A randomized clinical control trial. *Pacing and Clinical Electrophysiology, 37,* 48-62.

Tsai, C. F., Anderson, N., Thomas, B., & Sudlow, C. L. (2015). Risk factors for ischemic stroke and its subtypes in Chinese vs. Caucasians: Systematic review and meta-analysis. *International Journal of Stroke, 10*(4), 485-493. doi: 10.1111/ijs.12508

Vallenga, D., Grypdonck, M., Hoogwerf, L., & Tan, F. (2009). Action research: What, why and how. *Acta Neurologica Belgica, 109*(2), 81-90.

Van Nes, F., Abma, T., Jonsson, H., & Deeg, D. (2010). Language differences in qualitative research: is meaning lost in translation? *European Journal of Ageing, 7*(4), 313-316. doi:10.1007/s10433-010-0168-y

Van Puymbroeck, M., Allsop, J., Miller, K. K., & Schmid, A. A. (2015). ICF-based improvements in body structures and function, and activity and participation in chronic stroke following a yoga-based intervention. *American Journal of Recreation Therapy, 13*(3), 23-33.

Van Servellen, G., Fongwa, M., & Mockus D'Errico, E. (2006). Continuity of care and quality care outcomes for people experiencing chronic conditions: A literature review. *Nursing & Health Sciences, 8*(3), 185-195.

Veerbeek, J. M., van Wegen, E., van Peppen, R., van der Wees, P. J., Hendriks, E., Rietberg, M., & Kwakkel, G. (2014). What is the evidence for physical therapy poststroke? A systematic review and meta-analysis. *PloS one*, *9*(2), e87987.

Denissen, S., Staring, W., Kunkel, D., Pickering, R. M., Lennon, S., Geurts, A. C., ... & Verheyden, G. S. (2019). Interventions for preventing falls in people after stroke. *Cochrane database of systematic reviews*, (10).

Visser-Meily, A., Post, M., Gorter, J. W., Berlekom, S. B. V., Van Den Bos, T., & Lindeman, E. (2006). Rehabilitation of stroke clients needs a family-centred approach. *Disability and Rehabilitation, 28*(24), 1557-1561.

Wade, D., & Collin, C. (1988). The Barthel ADL Index: a standard measure of physical disability? *International Disability Studies, 10*(2), 64-67. doi:10.3109/09638288809164105

Wade, D. T., Wood, V. A., & Hewer, R. L., (1985). Recovery after stroke: The first 3 months. *Journal of Neurology, Neurosurgery and Psychiatry, 48*(1), 7-13.

Ward, A. B. (2012). A literature review of the pathophysiology and onset of post-stroke spasticity. *European Journal of Neurology*, *19*(1), 21-27.

Wang, T. J. (2004). Concept analysis of functional status. *International Journal of Nursing Studies,41*(4), 457-462.

Wang, M., Liao, W., & Chen, X. (2019). Effects of a Short-term Mindfulness-Based Intervention on Comfort of Stroke Survivors Undergoing Inpatient Rehabilitation. *Rehabilitation Nursing Journal*, *44*(2), 78-86.

Watson, J.(2015). Philosophy and Theory of Transpersonal Caring. *Nursing Theories. A framework for professional practice (2*nd ed*.).* Publishing Place: Kathleen Master.

Weyant, R. A., Clukey, L., Roberts, M., & Henderson, A. (2017). Show your stuff and watch your tone: Nurses' caring behaviors. *American Journal of Critical Care*, *26*(2), 111-117.

Wiechula, R., Conroy, T., Kitson, A. L., Marshall, R. J., Whitaker, N., & Rasmussen, P. (2016). Umbrella review of the evidence: What factors influence the caring relationship between a nurse and client? *Journal of Advanced Nursing, 72(*4), 723-734.

Wilkin, K. and Slevin, E. (2004). The meaning of caring to nurses: an investigation into the nature of caring work in an intensive care unit. *Journal of Clinical Nursing*, *13*(1)50-59. doi:10.1111/j.1365-2702.2004.00814.x

Winstein, C. J., Stein, J., Arena, R., Bates, B., Cherney, L. R., Cramer, S. C., ... & Lang, C. E. (2016). Guidelines for adult stroke rehabilitation and recovery: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke, 47(6), e98-e169.* doi: 10.1161/STR.0000000000000098

Wissel, J., Olver, J., & Sunnerhagen, K. S. (2013). Navigating the poststroke continuum of care. *Journal of Stroke and Cerebrovascular Diseases, 22(1)*,1-8.

Wissel, J., Manack, A., & Brainin, M. (2013). Toward an epidemiology of poststroke spasticity. *Neurology*, *80*(3 Supplement 2), S13-S19.

Wolf, T. J., Chuh, A., Floyd, T., McInnis, K., & Williams, E. (2015). Effectiveness of occupation-based interventions to improve areas of occupation and social participation after stroke: An evidence-based review. *American Journal of Occupational Therapy*, *69*(1), 6901180060p6901180061-6901180060 p6901180011.

Wong, F. K. Y., & Yeung, S. M. (2015). Effects of a 4-week transitional care programme for discharged stroke survivors in H ong K ong: a randomised controlled trial. *Health & Social Care in the Community*, *23*(6), 619-631.

Wong, J. S. (2015). Falls post-stroke: A setback on the road to recovery? (Doctoral dissertation). University of Toronto, Canada Retrieved from https://tspace.library.utoronto.ca/bitstream/

World Stroke Campaign. (2019). *World stroke day 2018.* Retrieved from https://www.worldstrokecampaign.org/

World Health Organization (2015). *Nepal WHO country profile.* Retrieved from http://www.who.int/gho/ countries/

World Health Organization (2014). *Multisectoral action plan for the prevention and control of non communicable diseases (2014-2020), Government of Nepal.* country profile. Retrieved from http://www.searo.who.int/nepal/mediacentre/

World Health Organization. (20013). *Traditional medicine strategies 2014-2023.* Retrieved from http://apps. who.int/iris/

Yang, S.-Y., & Sternberg, R. J. (1997). Taiwanese Chinese people's conceptions of intelligence. *Intelligence, 25*(1), 21-36.

Yang, S.-Y. (2001). Conceptions of wisdom among Taiwanese Chinese. *Journal of Cross-Cultural Psychology, 32*(6), 662-680.

Yeung, S. M., Wong, F. K. Y., & Mok, E. (2011). Holistic concerns of Chinese stroke survivors during hospitalization and in transition to home. *Journal of Advanced Nursing, 67*(11), 2394-2405. doi: 10.1111/j.1365-2648.2011.05673.

Yeung, E. H., Szeto, A., Richardson, D., Lai, S. h., Lim, E., & Cameron, J. I. (2015). The experiences and needs of Chinese-Canadian stroke survivors and family caregivers as they re-integrate into the community. *Health & Social Care in the Community, 23*(5), 523-531.

Yogitha, B. & Ebnezar, J. (2014). Can Yoga be an effective tool in managing psychological stress? *American Journal of Ethnomedicine, 1*(1), 001-007.

Zou, L., Yeung, A., Zeng, N., Wang, C., Sun, L., Thomas, G., & Wang, H. (2018). Effects of mind-body exercises for mood and functional capabilities in patients with stroke: An analytical review of randomized controlled trial. *International Journal of Environmental Research and Public Health, 15*(4), E721.

APPENDICES

Appendix A: Informed Consent

Namaste, my name is Kalpana Paudel. I am a Ph.D. student at Prince of Songkla University, Thailand. Now, I am here for doing my thesis study on developing a Caring Model. The main objective of this study is to develop a caring model incorporating yoga for promoting the physical recovery and wisdom of people with stroke. The findings of this study will be helpful to stroke clients and family caregivers for promoting the physical recovery and wisdom which result in early recovery, preparation to home and maintaining wellbeing. It is also helpful to the nurses as a guideline in providing the caring incorporating the yoga to the stroke clients. The intervention will also serve as a clinical practice guide for nurses to improving the quality of nursing care and nurses job satisfaction. This is the action research study which will be conducted in the participation of nurses, clients and caregivers and input of health care team. Therefore, the study needs your strong support and coordination along with collaboration among all participants in each step of research. Your knowledge, skill, ideas, strategies, and experiences will be the most valuable for the development of the model which may enhance the quality in the process of model development.

In the process of study, a series of interviews are carried out with the nurses and health care team for asking to share their experiences, insights used for enhancing the health outcomes in stroke clients. The interview will also be conducted with clients and caregivers for gaining more understanding about the care process as they received. There is no charge to your participation in this study. However, you need to spend your time with us as needed. There is no risk and harm for participating in this study. Your responses will be highly respected and valued. Your personal identity and entire information will be kept confidential and anonymous. All information will be used only for the report of this study. Finally, all responses (interview and questionnaire) will be destroyed after completed the study. In addition, your participation will be voluntarily and you have the liberty to withdraw any time without charge from this study. If you are agreeing to participate, please sign your name on the consent form.

Respondent's Agreement: I understand the information in the consent form that I am being to participate in the research study. If I need, I can contact to the researcher (Mrs. Kalpana Paudel Aryal) anytime during study via call +977 9841582485. I am willing to participate in your research.

----------	----------
Researcher's Signature	Participant's Signature
Date ----------	Date ……

Appendix B: Modified Mini Mental State Examination (MMMES)

Direction: Now, I am going to ask some questions of a different kind. Some of the questions that I ask you will be easy; others may be more difficult. They are all routine questions that we ask of everyone. I may also ask you the same question twice. Just answer all of them as best you can.

Instruction: Score one point for each correct response within each question or activities

Client's Name:		**Date:**
Score	**Client's Score**	**Questions**
5		What is the year? Season? Date? Day? Month?
5		Where are you now? State? Country? Town/city? Hospital? Floor?
3		The examiner names three unrelated objects clearly and slowly, then the instructor asks the clients to name all three of them. The clients 'response is used for scoring. The examiner repeats them until clients learn all of them if possible
5		I would like you to count backward from 1000 by seven (93, 86, 79, 72, 65.) Alternative : Spell WORLD backward (DLROW)
3		Earlier I told two objects, such as a wristwatch and a pencil, ask the clients to name them.
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them
1		Repeat the phrase: No its, and or buts
3		Take the paper in your right hand, fold it in half and put it on the floor" (The examiner gives the clients a piece of blank paper)
1		Please read this and do what it says." (Written instruction: eyes close)
1		Make up and write a sentence about any things (This sentence must contain a noun and a verb)
1		"Please copy this picture" (The examiner gives the clients a blank piece of paper and asks to draw the symbol below. All 10 angles must be present and two must intersect 
30	X	Total

Appendix C: Demographic Information Form for the Participants

Appendix C-1: Demographic Information Form for Nurses and Healthcare Professional

<table>
<tr><td colspan="2">Please tick (√) or write down in the space available in front of the item</td></tr>
<tr><td>Gender: ……..
Male Female Other</td><td>Age in years …….</td></tr>
<tr><td>Religion ……
Hindu Buddhist
Islam Christian
Other (Specify)….</td><td>Marital status ……
Unmarried Married
Separated Divorce
Widow</td></tr>
<tr><td>Education ……
Intermediate Bachelor
Master and Above</td><td>Professional experience …….in years Position ……
Working experience in this ward……</td></tr>
<tr><td colspan="2">Special training regarding stroke care……..
(Record the training if it is more than a week’s training)</td></tr>
<tr><td colspan="2">Practice of yoga in your daily life……...
Yes: No:
If Yes,
- Types:
- Duration:
- Frequency:</td></tr>
</table>

Appendix C-2: Demographic Information Form for Family Caregivers

<table>
<tr><td colspan="2">Please answer the following as I asked you and tell me as you know and have</td></tr>
<tr><td>Gender:
Male Female Other</td><td>Relation with a client:
Spouse Father/ Mother
Son/ Daughter In-law:</td></tr>
<tr><td>Age in years:</td><td>Family income in average (per month):</td></tr>
<tr><td>Religion:
Hindu Buddhist
Islam Christian
Other (Specify)….</td><td>Marital status:
Unmarried Married
Separated Divorce
Widow</td></tr>
<tr><td>Telephone number:</td><td>Average expenses for treatment per day (in hospital) including medicine:</td></tr>
<tr><td>Education:</td><td>Total Expenses for treatment:…….</td></tr>
<tr><td>Occupation:</td><td>Address:</td></tr>
<tr><td colspan="2">The practice of yoga in your daily life
• Types:
• Duration:
• Frequency / Time:</td></tr>
</table>

Appendix C-3: Demographics and Disease Information Form for the Client

<table>
<tr><td colspan="2">Please answer the following as I ask you and tell me as you know and you have</td></tr>
<tr><td colspan="2">Socio-demographic questionnaire</td></tr>
<tr><td>Gender:
Male Female Other</td><td>Age in years:</td></tr>
<tr><td>Religion:
Hindu Buddhist
Islam Christian
Other (Specify)….</td><td>Marital status:
Unmarried Married
Separated Divorce
Widow</td></tr>
<tr><td>Education:</td><td>Occupation:</td></tr>
<tr><td>Permanent address:</td><td>Current address after being discharge</td></tr>
<tr><td>Date of admission:</td><td>Date of discharge</td></tr>
<tr><td>Phone Number:</td><td>A number of a family member:</td></tr>
<tr><td>Personal behavior/ habits:
• Smoking/ tobacco
• Alcohol intake
• Physical exercise
• Diet</td><td>Information related to yoga practice
Have you ever practice of yoga before having a stroke? If yes,
• Types:
• Duration:
• Frequency / Time:</td></tr>
<tr><td colspan="2">Information related to stroke</td></tr>
<tr><td>Disease-related information
• Time of hospital arrival after stroke (hour):
• Arrived in hospital by (mode of transportation):
• Types of stroke:
• Side of paralysis:
• The severity of stroke (NIHSS):
• Level of cognitive function (MMMES):
• Glasgow Coma Scale (GCS) score:
• Others:</td><td>Comorbidity and risk factors
• Arterial fibrillation:
• Hypertension:
• Diabetes mellitus:
• High total cholesterol:
• High body mass (BMI):
• Previous stroke
• Others:</td></tr>
</table>

Appendix D: Interview Guides for the Participants

Appendix D-1: Interview Guide for Nurses

Goal: Goal: To explore the nurses' experiences regarding caring and yoga for enhancing the physical recovery and wisdom of stroke clients

Instruction: I would like to identify your experiences in providing the caring incorporating yoga for enhancing the physical recovery and wisdom of stroke clients.

1. How do you feel while caring to the clients with stroke in this ward?
2. Could you please describe the meaning of caring for stroke clients?
3. Could you please share your experiences about types of problems of stoke clients in the hospital?
4. Could you please share your experiences on the needs of stroke clients in hospital, at the time of discharge and the following discharge?
5. What do you think that all nursing care you provided is sufficient for solving the problems of stroke clients?
6. What do you think that all nursing care you provided is sufficient for achieving basic needs of stroke clients?
7. Could you please explain to me about the physical recovery of stroke clients?
8. What kinds of care are you providing to the clients to enhance the ability to do activities of daily livings?
9. How do you enhance the clients to live their life wisely with their health conditions?
10. Could you please explain in details, how can we integrate Yoga in nursing care for enhancing the physical recovery and wisdom of stroke clients?
11. What are the barriers to incorporating yoga for improving the condition of stroke clients?
12. What are the facilitators for incorporating yoga in caring to improve the condition of the stroke clients?
13. How do we help the clients live happily without a feeling of a burden to others?
14. What do you expect from others: administration, team, clients and family to improve the health of the patents by using caring and yoga in the hospital?
15. What is your opinion, roles, and suggestion for improving the caring for stroke clients?

Appendix D-2: Interview Guide for Other Healthcare Providers

Goal: Goal: nTo explore the health care provider's experiences regarding caring and yoga for enhancig the physical recovery and wisdom with stroke client.

Instruction: I would like to identify your experiences and opinion in providing the transitional care incorporating yoga for enhancing the physical functioning and wisdom of living in stroke clients.

1. How do you describe the problems and needs of stroke clients in the hospital and at home following discharge?
2. What do you think that all health care we provided is sufficient for solving the problems and basic needs of stroke clients?
3. How do you perceive about physical recovery in stroke clients? Could you please share your experiences physical recovery in the clients? How can we help to enhance that recovery?
4. How do you enhance the clients to live their life wisely with their current health condition such as physical limitation, uncertainty and disability condition?
5. What are your ideas about integrating yoga in stroke rehabilitation? Are there any suggestions on incorporating yoga into stroke care?
6. Could you please share your experiences about your roles in stroke management in the hospital and at home after discharge?
7. How do we collaborate and coordinate those cares you provided among all health care team, clients, family caregiver, and settings?
8. In your opinion/ experiences, what are the main barriers and facilitators for providing caring incorporating yoga to the stroke clients?
9. In your opinion, what types of care need to be continued following discharge?
10. Could you please share your experiences, how much you satisfied with the caring Model?

Appendix D-3: Interview Guide for Clients and Family Caregivers

Goal: Goal: To explore the family caregivers' experiences regarding caring and yoga for enhancing the physical recovery and wisdom with stroke client.

Instruction: I would like to request you to describe your experiences of care in hospital as you received.

1. When do you/your relative had a stroke? What happened to you?
2. What problems are you/your relative facing now?
3. What kinds of help have you received to manage the problems by self / your relative/health care providers/hospital after having a stroke?
4. What do you expect from family caregiver/ clients for solving the problems?
5. What kinds of care do you receive from the nurses for managing your problems?
6. How do you feel about nursing care when they provided caring to you?
7. How do you describe your confident/ feeling when you do the practice of yoga?
8. Has anything helped/ hinders to practice caring and yoga and your recovery from stroke?
9. In your opinion, what other support do you need to continue the practice of yoga after discharge at home?
10. What should be needed to improve the physical recovery and nursing care incorporating yoga?
11. What do you expect from nurses and doctors/ HCP in taking care of you/ relative in hospital, at the time of discharge and at home following discharge for solving your problems?
12. How much are you satisfied with the caring model you received?

Appendix E: Reflection Guides for the Participants

Appendix E-1: Reflection Guide for Nurses

Direction: The researcher will use this reflection guide for taking self-reflection of the participants after participation during the research process in this study.

1. How did you feel when you get this program?
2. How do you feel when you teach education and practice yoga to the clients?
3. What do you feel about clients 'physical health after education & practice yoga?
4. What do you feel about self-understanding by stroke clients after practice yoga?
5. What changes do you notice in the clients after implementation of the Caring incorporating yoga practice?
    - Physical health: such as strength, balance, mobility,
    - Wisdom/ Spiritual health:
        - How caring and yoga enhance clients to live with stroke wisely?
        - How caring and yoga helps to develop attitude and skill living with stroke harmoniously
        - Sense of harmony: mindfulness, understanding, and acceptance of problems; decisiveness, insight, knowledge, faith, happiness
        - Meaning of life after stroke
        - Emotional regulation
6. What are the barriers and facilitators while providing the program to the clients

Appendix E-2: Reflection Guide for Clients and Family Caregivers

Direction: The researcher will use this reflection guide for taking self-reflection of the participants after participation during the research process in this study.

1. How do you feel when you receive care from nurses?
2. How do you feel when you practice yoga?
3. What do you feel about your physical health after practice yoga?
4. What changes do you perceive after the practice of caring model and yoga?
   - Knowledge and experiences about stroke, caring, and yoga
   - Skill about caring: positioning, mobility, transfer, exercise……
   - Physical recovery: a sense of independence in ADLs, mobility, balance, sensation, and awareness about the body, ability on ADLs……..
   - Emotional balance: feeling calmer. More relax, calmer, comfort…….
   - Spiritual health/ Wisdom/Harmony:
     - Sense of happiness/ bliss and joy
     - understanding and sense of acceptance of problems as a part of life that cannot be controlled
     - Meaning of life and reason for living
     - Finding the strength of faith and spiritual connection
     - Sense of feeling peace of mind
     - Sense of connection with self/ others/ God
     - Sense of guilt and the burden of living with this condition
5. What are the barriers and facilitators while practice caring yoga?

Appendix F: Observation Form

Goal: Daily General Observation Form for the Researcher's Use (all activities during implementation of the program)

Date		
Setting		
Observer		
Name's observer		
Items	**Description**	**Reflection**
General observation		
Activities		

Appendix G- Modified Barthel Index (MBI)

Goal: It measures what patients do in practice regarding activities of daily living for stroke patients. Assessment is made by the researcher herself.

Index Item	Score	Description
Feeding (10)	0 5 10	Unable Able to feed with supervision, assistant Required such as putting milk/sugar, spreading butter Independent can able to fed self from tray
Bathing (5)	0 3 5	Total dependence in bathing self Assistant required to shower/ bath or washing Independence
Grooming (Personal Hygiene) (5)	0 5	Need help for personal care Independent face/ hair/teeth/shaving
Dressing (10)	0 5 10	Dependent Assistance is needed in putting on or removing dress Independent
Bowel (10)	0 5 10	Incontinent Can assume position but need an assistant for clean and has frequent accident Continent
Bladder (10)	0 5 10	Incontinent or Catheterization Need some assistant at night Continent
Toilet use (10)	0 5 10	Fully dependent in toileting Need help but can do about half of the work Independent
Transfer (bed to chair and back) (15)	0 5 10 15	Unable no sitting balance Need assistance for physical (one or two people), but can sit Major help may be verbal or physical Independent
Mobility (15)	0 5 10 15	Immobile or wheelchair independent, including corners Walk with the help of one person (verbal or physical) Independent but may use any aid e.g stick
Stairs(10)	0 5 10	Unable Need help (verbal, physical, carrying aids) Independent
Total	100	

Appendix-H Freiburg Mindfulness Inventory (FMI)

Direction: Please answer as honestly and spontaneously as possible. There is neither 'right' nor 'wrong' answers, nor 'good' or 'bad' responses. What is important to us is your own personal experience.

1 **2** **3** **4**

Rarely **Occasionally** **Fairly often** **Almost always**

Items	1	2	3	4
1. I am open to the experience of the present moment.				
2. I sense my body, whether eating, cooking, cleaning or talking.				
3. When I notice an absence of mind, I gently return to the experience of the here and now				
4. I am able to appreciate myself				
5. I pay attention to what's behind my action				
6. I see my mistakes and difficulties without judging them.				
7. I feel connected to my experience in the here-and-now				
8. I accept unpleasant experiences				
9. I am friendly to myself when things go wrong				
10. I watch my feelings without getting lost in them				
11. In difficult situations, I can pause without immediately reacting				
12. I experience moments of inner peace and ease, even when things get hectic and stressful.				
13. I am impolite with myself and with others				
14. I am able to smile when I notice how I sometimes make life difficult				

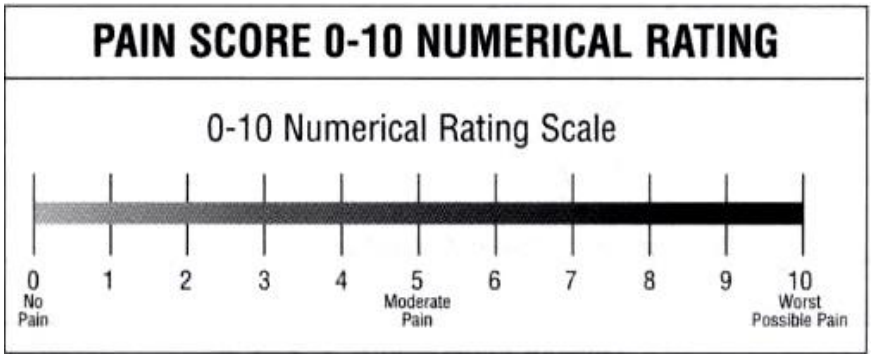
Appendix I: Daily Yoga Practice Assessment Tool

Direction: Tick the box if you/ your relatives can able to perform the practice of yoga.

Weeks	**Response**	
A. Asana	Yes (ᵡ) No (x)	Feelings/ Reflection
I. Base or sitting pose for 1-2 minutes before starting following pose		
II. Hands: wrist and elbow, shoulder joint movement 5-10 minutes		
1. Hand clenching		
2. Wrist bending		
3. Wrist joint rotation		
4. Elbow bending		
5. Shoulder joint rotation		
III. Neck movements		
IV. Legs: toe, ankle and knee exercise: 5 minutes		
1. Toe bending		
2. Ankle bending		
3. Ankle rotation		
4. Knee bending		
5. Leg movement (side by side + up and down)		
V. Yoga for sitting pose		
VI. Yoga for supine pose		
VII. Yoga for standing pose		
VIII. Corpse pose (*Savasana*): 2-3 -5 minutes		
B. *Pranayama* (breathing exercise) Alternative nostril breathing (ANB)		
C. Yoga pray: *Aum* chanting		

Appendix J: Complication Assessment Form

Direction: Tick the box if you/ your relatives can able to perform the practice of Yoga.

S.N	Name of Complications	Responses	
		Yes	No
1.	Pressure		
2.	Urinary tract infection		
3.	Chest infection / aspirated pneumonia		
4.	Constipation		
5.	Insomnia		
6.	Pain score 0-110 numerical rating (NRS 1- 10 scale)		
			

Appendix K-1. Summary of Themes of Reconnaissance Phase: Stroke Clients

Theme: Experiences of difficulty from sudden onset problems related to body			
Subtheme: Living with losses and limitation			
Categories	Physical symptoms	Activity limitation	Loss of self-care ability
Theme 2: Overwhelm of the negative feeling of life-related to the mind			
Category: **Living with uncertainty and fears toward life**			
Subcategories	Profound psychological & emotional distress	Feeling disconnected	Feeling burden
Theme 3: Lack of knowledge and understanding the disease and care for self			
Subcategories	Lack of knowledge about disease stroke	Faith in traditional healer	Lack of skill about care for self
Theme 4. Difficulty in coping and acceptance the problem situation			
Subcategories	Irritated and aggressive	Unwillingness, being silent	Denial and shocked
Theme 5. Desire, hope, and motivation			
Subcategories	Strong desire to get back	Leveled hope	No motivation

Appendix K-2: Summary of Themes of Reconnaissance Phase: Caring Situations

<table>
<tr><td colspan="4">Theme 1: Huge demand for basic health care needs and needs for physical recovery</td></tr>
<tr><td colspan="4">Category: Disruption of brain and loss of functional abilities;</td></tr>
<tr><td>Subcat egories</td><td>Disruption of brain and loss of functional abilities;</td><td>Shortage of nurses and other health care providers</td><td>Lack of facilities: services, resources, not a friendly environment or setting.</td></tr>
<tr><td colspan="4">Theme 2: Lack of awareness “stroke as a holistic being"</td></tr>
<tr><td>Categories</td><td colspan="2">Uncaring behaviors</td><td>Working in a frantic environment</td></tr>
<tr><td colspan="4">Theme 3: Lack of caring: care given to the stroke clients limited in routines</td></tr>
<tr><td>Categories</td><td>Lack of skills and confidence in caring</td><td colspan="2">Nurse’s attitude toward nurses’ and non-nurses’ role.</td></tr>
<tr><td></td><td></td><td colspan="2"></td></tr>
<tr><td colspan="4">Theme 4: Nurse’s perspectives on caring for stroke clients;</td></tr>
<tr><td>Categories</td><td>Routine care</td><td>Functional care</td><td>Supportive care</td></tr>
<tr><td colspan="4">Theme 5: Need for improvement of health outcomes as physical recovery and wisdom for stroke clients: caring and yoga</td></tr>
</table>

Appendix K-3: Tentative Caring Model Incorporating Yoga (6C's)

Care **Confidence** **Commitment** **Compassion,** **Communication** **Courage**

Caring Context

Situations of Stroke Clients

- Experiences of difficulties from sudden onset physical problems
- Profound psychological suffering
- Emotional and spiritual distress
- Living with uncertainty and fears
- Difficulty in coping and accepatance the problems
- Loss of communication and interaction
- Lack of knowledge and understanding the stroke and care to self
- Strong desire, low hope and no motivation

Situation of Nurses and Nursing Practices

- Heavy workload of nurses:
  - ❖ Increasing number of stroke
  - ❖ Shortage of nursing staffs and health care providers
  - ❖ Lack of resources, services, setting
- Lack of awareness in stroke as a holistic being:
  - ❖ Priority given to the medical model of stroke management
- Lack of caring behaviors and practices
  - ❖ Lack of knowledge & skills on caring
  - ❖ No training and clinical guidelines for stroke management
  - ❖ Lack of attitude and perception as a nurse and non-nurses roles.
- Insufficient in caring communication & relationship among nurse, clients, & family

Caring Process Integrating Yoga

Nurses

Clients — Caring Relationship — Family

Caring action based on culture

- ➢ Greeting by using Yoga *Namaste*, call by relationship
- ➢ Compassion: empathy, response and respect, touch, eye to eye contact,
- ➢ Paying attention toward clients concern, needs and their belongings
- ➢ Communication and interaction with clients and their family members
- ➢ Competent and commitment: showing confidence while teaching and coaching to them about stroke, caring and yoga
- ➢ Encouragement: counseling and motivation to do practice

Knowledge Skills	- Stroke: meaning. warning signs, impact, recovery - Skills: positioning, transfer and mobility - Prevention of complication and falls - Discharge traching & point to contact
Yoga *Asana*	- Relaxation of the neuro-psycho-*physiological* mechanism and stabilize the sympatho-adrenal activity of the brain which promote deep body and mind relaxation, body awareness - Motor function: improve range of motion, strength, balance, and flexibility of the muscle and joints - Enhance the neuroplasticity and body awareness
Pranayama	- Sense of calm and peacefulness; avoid negative thoughts and emotions; - Increase mental flexibility, stress & anxiety, uncertainty and fears
Chanting *Aum*	- Increased vibration, clarity of voice, - Enhance spiritual connection with self, & God

Planning → Acting → Observing → Reflecting (Cycle 1) → Revising Plan → Acting → Observing → Reflecting (Cycle 2) → **Final Caring Outcomes**

Caring Outcomes

Physical Recovery

1) Incidence of secondary complications
2) Independence in Activities of daily living
3) Increase body function, activities & movement

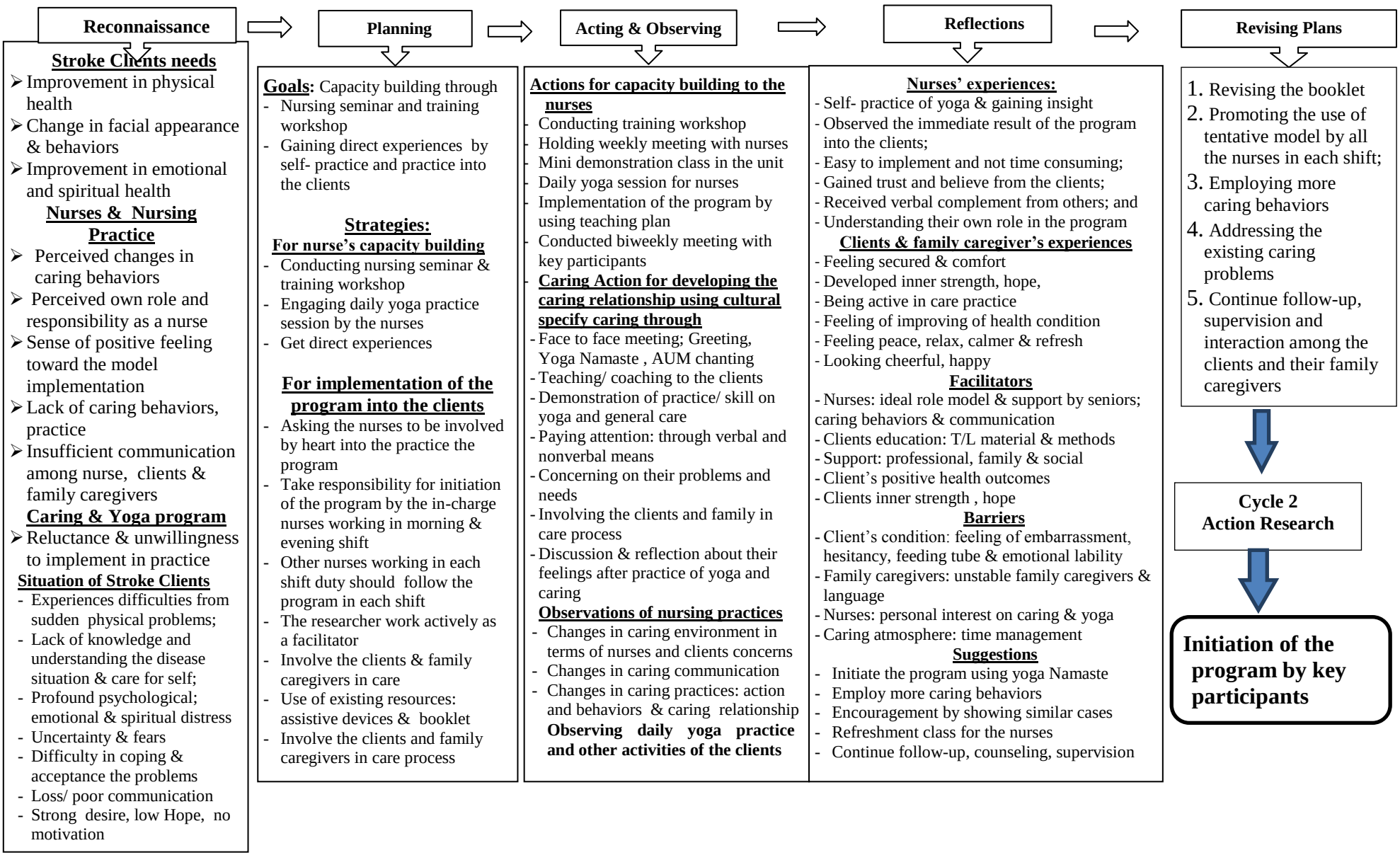
Cultivating a state of mind ;Mindfulness

Wisdom: A State of Mind

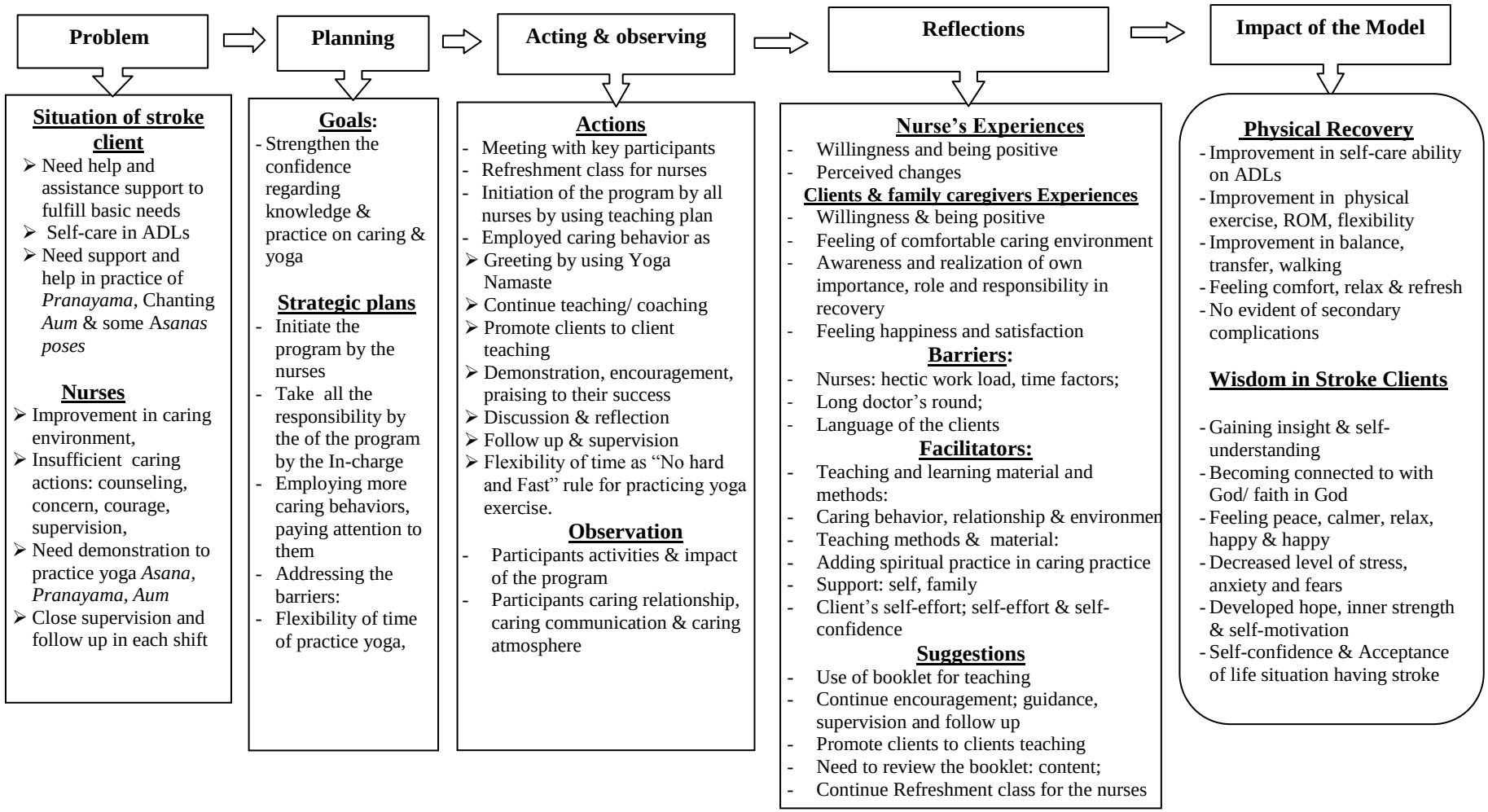
- Obtained right knowledge on stroke & care for self
- Emotional regulation:
- Feeling peace, calmer, joy & relax
- Connected to self & others
- Faith in God
- Motivation & hope
- Feeling happy & satisfied

Reconnaissance **Action research cycle** **Evaluation**

Appendix K-4: Summary of the Findings of Action Research Process Cycle-1



Appendix K-5: Summary of Findings of Action Research Process Cycle-2



Appendix K-6: Clients' Abilty and Skills of Daily Yoga Practice (N-16)

Yoga practice	In hospital		After discharge		Remarks
	Initial	Day of Discharge	4-5 weeks	8-10 weeks	
I. Yoga *Namaste*	16	16	16	16	Regular Independent practice
II. Yoga pray: *Aum* chanting	12	16	16	16	Regular independent practice
III. *Pranayama: Anulom-vilom* (Alternative Nostril breathing)	3	10	10	10	Not regularly but independent practice
III. Yoga *Asana* poses (physical exercise)					Regular practice
1.*Base pose* (sitting pose	16	16	16	16	Regular Independent practice
2.*Sukshma asana*: wrist & finger joints hand movement	16	16	16	16	Regular Independent practice
3.*Sukshma asana*: ankle, toes and finger joints movement	16	16	16	16	Regular Independent practice
4. *Sukshma asa*na: Neck and Shoulder movement	8	14	16	16	Regular practice with support for weak hand
5. Bridge pose	16	16	16	16	Regular Independent practice
6.Bending forward pose	10	16	16	16	Regular practice with support
7. Crops pose *(Savasana*)	2	15	15	15	Not regular practice
8. Pawanmukason	9	7		1	Not regular practice
9. *Vastrika Pranayama*, Child pose, Butterfly pose, Mountain pose, and some hand and leg movement Some of the clients had done self-practice of additional *Pranayam*a and *Asana*s than the content of the program					Additional practice

Appendix K-7: Description of Clients by Evident of Secondary Complications

Complication	**In hospital**		**After discharge**	
	Baseline	During hospital	4-5 weeks of discharged	8-10 weeks of discharged
Bedsore (1^0)	1	-	-	
Chest infection	-	1	-	-
Urinary infection	-	1	-	-
Constipation	-	8	-	-
Insomnia	9	3	-	-
Pain and discomfort	12 Discomfort	3 Discomfort	3 Shoulder pain	1-shoulder pain
Remarks	Sedatives were prescribed to all the clients to inducing sleep in the beginning whereas only 5 clients use sedatives at the end of the program Some discomfort in the weak side and slow pace in walking, exercise and daily activities complained at the end of the program			

Appendix K-8: Description of the Clients' Level of Functional Assessment Score

Participants	**In hospital *(*N-16*)***		**After discharged at home *(*N-16*)***	
	Baseline *(*1st*)*	Discharge day *(*2nd*)*	4-5 weeks (3rd)	At the end of the study 8-10 weeks
1	17	46	65	87
2	20	49	80	94
3	46	73	83	100
4	22	61	83	85
5	21	48	66	88
6	20	45	68	81
7	23	46	70	81
8	22	70	90	91
9	55	100	100	100
10	34	63	88	95
11	20	54	78	92
12	17	46	72	93
13	33	74	90	97
14	24	70	90	96
15	20	48	76	91
1 6	15	55	79	96

Appendix K-9: Description of the Clients' Freiburg Mindfulness Inventory Score

Participants	In hospital		After discharged at home	
	Baseline (1st)	Discharge day (2nd)	4-5 weeks (3rd)	At the end of the study 8-10 weeks (4th)
1	14	24	37	45
2	Unable	25	36	45
3	18	35	40	50
4	20	49	50	56
5	14	48	56	56
6	14	16	36	50
7	14	30	46	52
8	14	39	47	50
9	16	40	52	56
10	14	45	53	56
11	14	44	52	53
12.	14	50	50	56
13	14	50	56	56
14	14	33	45	52
15	14	50	56	56
1 6	30	50	56	56

Appendix L-1: Teaching Plan for the Program Implementation

Caring incorporating Yoga to facilitate physical recovery and wisdom of people with stroke seven-day program in hospital and follow up care 10 weeks after discharged at client's home

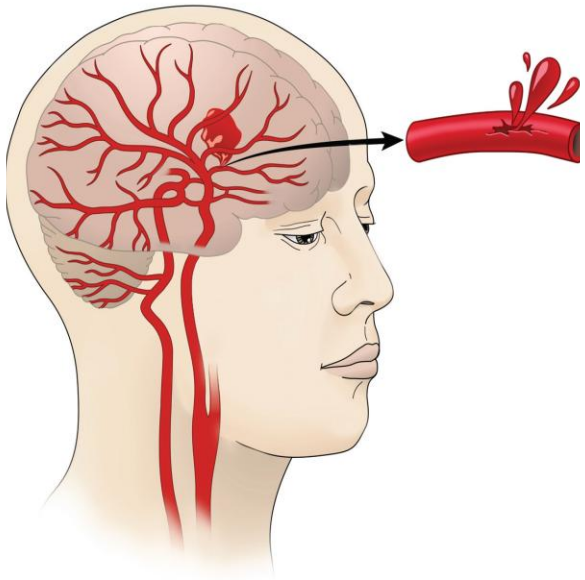
Caring Model (CM) Establish caring relationship (Nurse-client- family caregiver)	**Activity**			**T/L Methods and Materials**
Creating caring behaviors and actions to establish a caring relationship	**Researcher/ Nurse**	**Stroke Client**	**Family Caregiver**	
1. Introduction: Face to face meeting **Time:** First day: 10-15 minutes Subsequent Day: 2-3 minutes	• Greet the clients and their family caregiver daily using a culturally sensitive approach • Introduce self to the clients and families • Introduction the program: objectives, sessions & activities; participation and roles	• Greeting each other • Give an introduction • Listen to nurses/ researcher • Ask if any quarries	• Greeting each other • Give an introduction • Listen to the researcher, nurse • Ask any quarries	Verbal conversation Paper and pencil Interaction
1. **Assessment:** To assess the readiness for participation; identify their problems, needs, expectations, and responses daily **Time:** First day: 5-10 minutes Subsequent Day: 3-5 minutes or as needed	• Response to the clients and family's problems, needs and expectations • Pay attention, listen and concerns on client and family • Ask clients readiness to participate in the program • Ask the family ready to assist the client as needed?	• Explain to the researcher/nurse • Ask any quarries • Response to the researcher/nurses	• Explain to the researcher/nurses • Ask any quarries • Response to the researcher/nurses	Question and answer Discussion Interaction

Caring Model (CM) Establish caring relationship (Nurse-client- family caregiver)	**Activity**			**T/L Methods and Materials**
Creating caring behaviors and actions to establish a caring relationship	**Researcher/ Nurse**	**Stroke Client**	**Family Caregiver**	
2.**Teaching/ Coaching:** Information, knowledge, resources, and disease **Time:** First day: 5-10 minutes Subsequent Day: 5 minutes daily or as needed	• Providing information and awareness to clients and family • Brief introduction about stroke and recovery process • Distribute the booklet and ask to read it for self-understanding • Teach the knowledge part gradually	• Response to the nurse/ researcher • Read the booklet for self-awareness, understanding	• Response to the nurse/ researcher • Read the booklet for self-understanding	Teach-back method Self-study/ education
3. **Skill Training/ Practice** Practice daily each component of yoga in hospital and after discharge **Time: 30-45 minutes daily**	Facilitate and teach/coach clients and caregiver about **1. The technique of** Positioning; Transfer and Mobility **2. Yoga Practice:** • *Asana*; Physical exercise • *Pranayama*: Breathing exercise • "*AUM*" chanting **3.** Use the booklet to guide the practice of caring	• Perform practice and follow the instructions • Asking a question if any doubt • Practice as given in the booklet	• Encourage and motivate the clients • Assist the client • Share experience • Asking a question if any quarries	Booklet Skill Demonstration & re-demo self-practice Support: Nurse/ Family

Caring Model (CM) Establish caring relationship (Nurse-client- family caregiver)	**Activity**			**T/L Methods and Materials**
Creating caring behaviors and actions to establish a caring relationship	**Researcher/ Nurse**	**Stroke Client**	**Family Caregiver**	
4. Discussion and reflection **Each day after the practice of caring yoga** Time: 5 minutes daily	• Discuss with clients and their caregivers about experiences after practice • Pay attention, listen to them • Encourage to express of feelings and experiences both positive and negative • Obtain reflection - How do they feel about the practice? - What do they learn**?** - What are the benefits of practice? - What are the barriers/ problems while practice**?**	• Express your feelings and experiences during practice • Response to nurse /researcher	• Express your feelings and experiences while helping and assisting the clients • Response to nurse /researcher	Discussion Interaction voice recorder Reflection Observation, Notes
5. **Follow up:** telephone call and home visit for solving any problems and knowing the way of practice and their responses after at home.	• Share the contact phone number • Ask them to call any time if needed • Perform one Home visit and weekly telephone calls until 6 weeks after discharge	• Share your feeling with the researcher	• Share your feeling with the researcher	Reflection and observation Asking problems

Appendix: L-2 Booklet on Stroke and Yoga for Clients and Family Caregivers

Clients and Family Caregivers Stroke Information on Stroke and Yoga therapy Guide Booklet



Kalpana Paudel Aryal
Doctoral Student
Faculty of Nursing
Prince of Songkla University, Thailand, 2019

Introduction

This booklet is your own personal resources to help your recovery process. It provides information, knowledge, and skill regarding stroke and yoga practice for stroke survivors and their family members and contributes to promoting functional ability and wisdom of living. This guidebook consists of

1. Overview of stroke
2. The complication and its prevention
3. Discharge teaching
4. Aspect of rehabilitation/ recovery
5. Yoga and stroke: Introduction and benefits of yoga for stroke
6. Basic components of yoga for stroke rehabilitation/ recovery

Contents

Overview of Yoga

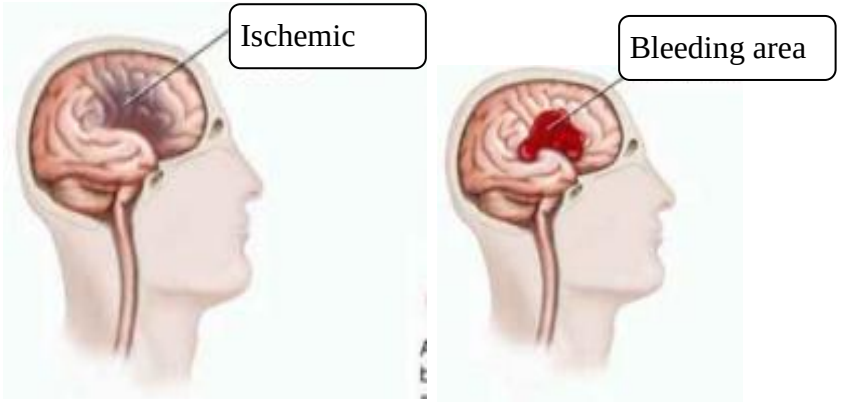
Basic components of yoga for stroke rehabilitation/ recovery

- Breathing exercise: Unilateral Nostril Breathing
- Chanting *Aum Mantra*
- Physical exercise (*Asanas*)
    1. Base/ sitting position
    2. Joint movement: hands, shoulder, neck & legs
    3. Bridge position
    4. Pulling the rope
    5. Side bending position of the the hip
    6. Sitting with forwarding bending
    7. Corpse pose for relaxation
    8. Leg movement side by side/ raise up

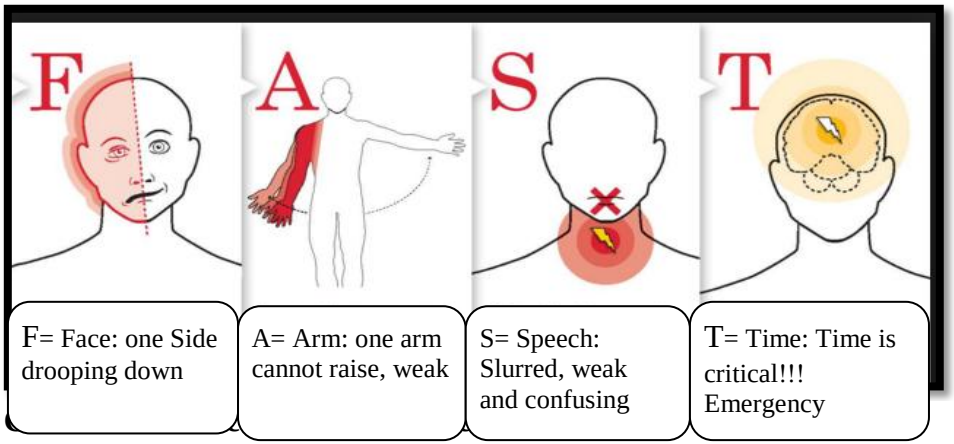
Overview of Stroke

Stroke is a "brain attack" and a medical emergency with sudden onset as a tragedy due to an interruption of blood supply in the brain and affects for the long term. Every two seconds, someone got a stroke across the world (Lindsay, 2008). It is a third common cause of death and adult disability in the world and in Nepal.

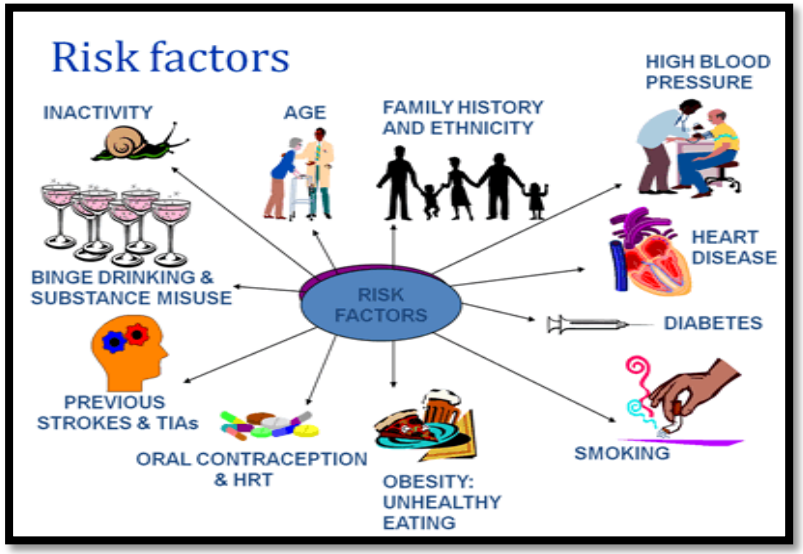
Types of Stroke



The most common warning signs immediately after a stroke attack.



Risk Factors



Time and place for treatment after getting stroke

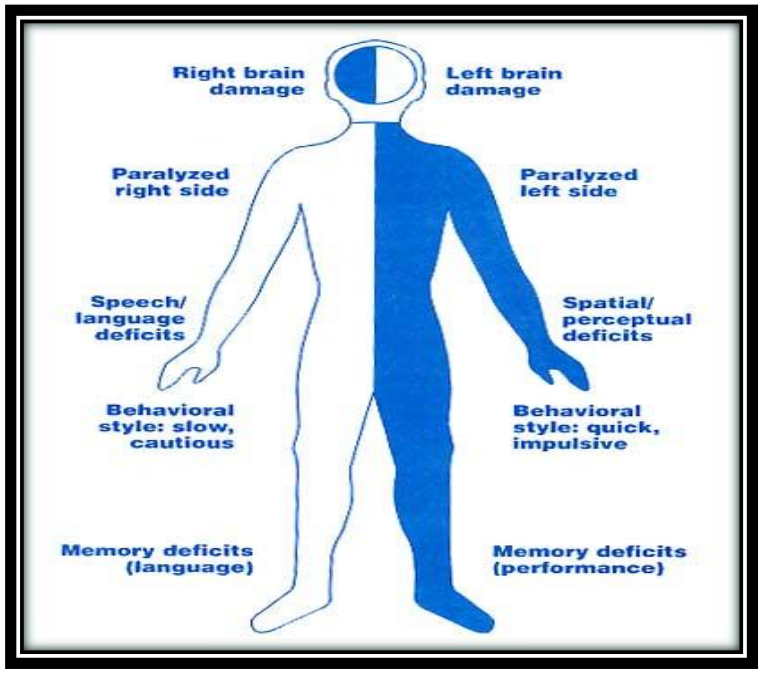
Stroke Rehabilitation

Time is Brain

Every stroke clients should visit and admit in hospital as soon as possible who felt warning signs

Starts from the hospital and continue for a lifetime at home for better and early recovery and prevention of complication s and improvement in health outcomes

Problems and impacts of a stroke



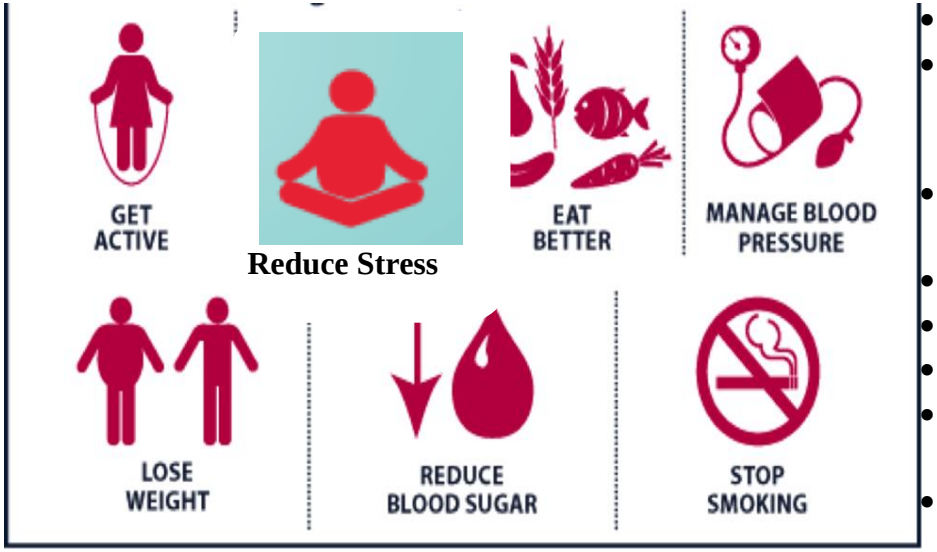
Those problems affect an individual's ability to carry out ADLs

- Ability to do your daily activities (ADLs)
- Psychological: stress, anxiety & depression
- Cognitive: reading and writing, thinking and making a decision, difficult to remember familiar object & speaking
- Spiritual: feeling hopeless, confident & disconnected and lonely
- Risk of fall injuries, second stroke; Confounding to bed

The risks at home after discharge and their management

1. Second stroke: Minimize the risk of another stroke

Regular Follow up & Adherence | Balance Diet and daily regular exercise | Stop smoking and tobacco use



Risk of Falling: Five steps to help to prevent falls (FALLS)

F Fear. Don't be fear of falling and regular activity in or out home

A Assistive devise use correctly

L Look for outside factors that can cause falls e.g fitting shoes

L Let your support system know of any problems make fall

S Strengthen ankle and knee exercise everyday

The complications and ways for prevention and management

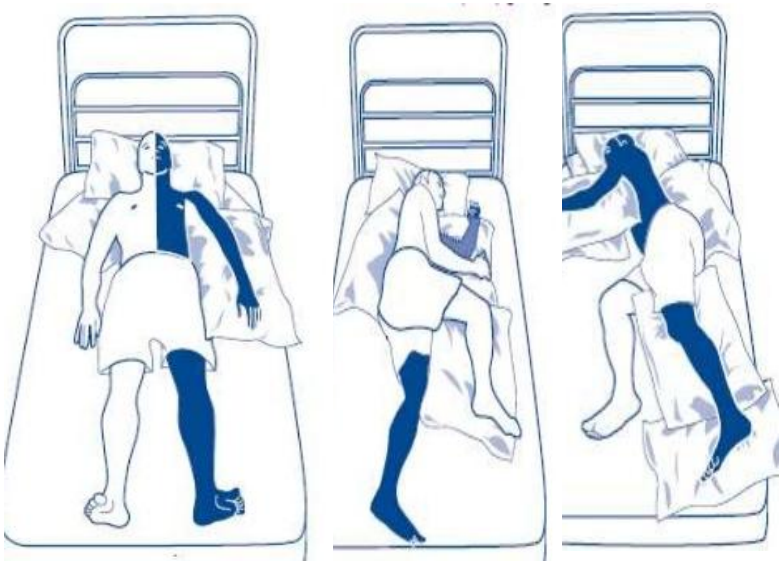
Complications	Prevention strategies
• Bedsore • Infection (Chest & Urinary) • Limbs contracture • Spasticity • Pain • Insomnia • Deep vein thrombosis • Constipation	• Change position every 2 hourly • Early mobilization, • The sitting position is the best for rest and feeding • Regular skincare • Adequate intake of fluid and nutrition • Catheter care and avoid unnecessary catheterization • Maintaining your personal hygiene, daily bathing and use soft and loose-fitting cloth • Take medicine regularly as prescribed such as aspirin • Regular Yoga practice: Asana, Pranayama (breathing) and meditation every day

Aspects of rehabilitation and recovery:

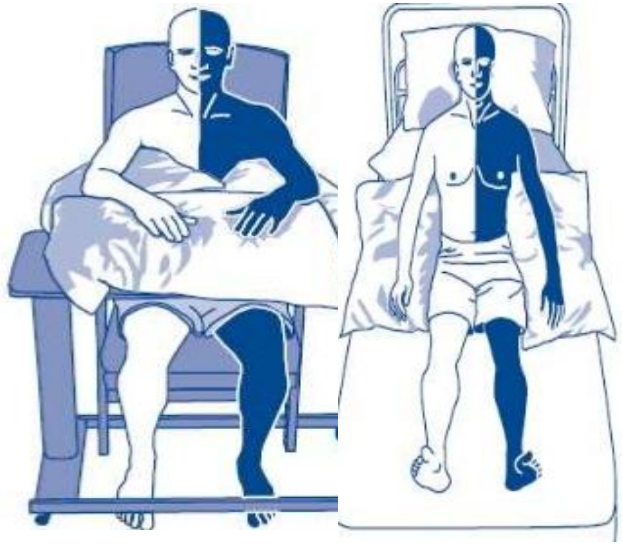
- ❖ **Physical Recovery** includes mobility such as positioning, transfer, and exercises
- **Positioning: O**nce medically stable, you can sit upright position in bed or armchair which can improve your oxygen level in the body. The five common positions
  - Lying supine
  - Lying on the affected side: Lying on unaffected side
  - Sitting in bed and an armchair or a wheelchair

The proper position for hemiplegic

Lying on back **Side-lying positing**



Hemiplegia clients Sitting on a chair and in bed



- **Transfer. It includes moving from** bed to chair, a bed to chair and wheelchair and vice versa. Clients can move and walk once the physician advised moving

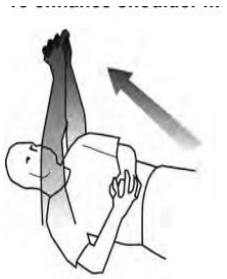
Note: Video clip for the steps and technique of transfer.

- ❖ **Emotional recovery.** The mood disturbance is common after stroke and may present as depression or anxiety. Therefore, emotional recovery is an important aspect of rehabilitation for stroke clients. it can be managed by education, emotional counseling, psychotherapist, cognitive therapies and mind-body therapies
- ❖ **Spiritual recovery.** Clients faced an extreme level of spiritual distress since the early stage throughout the recovery process which may affect in delay in recovery and difficult in redefining and accepting the realities of stroke life. Therefore, spiritual recovery is an important aspect of rehabilitation for stroke clients.

Yoga and Stroke

The Basic Components

Yoga Asana



Pranayama

Chanting Aum

Benefits of yoga for stroke survivors

- A simple, safe, cost-effective, self-empowering exercise
- Can improve strength balance, flexibility, mobility, coordination and functional ability of the body
- Helps to relieve symptoms such as fatigue, weakness, falling
- Increased muscle relaxation and relieving the muscular and nervous tension leads to decrease pain and increase energy
- Psychological benefit: decreases anxiety, stress, and depression
- Improve the body sensation, awareness of paralyzed body part
- It helps to balance the body-mind and soul
- Decrease the risk factors such as Blood pressure, arterial fibrillation, cholesterol level, help in change the lifestyle

Asanas Pose for Stroke Clients:

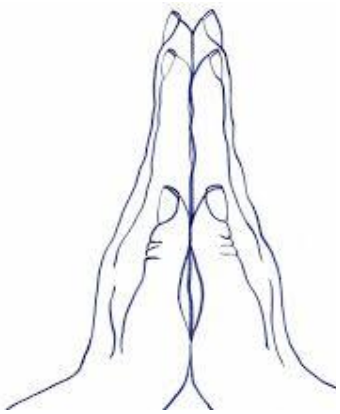
Description of Yoga Asanas Poses with Pictures

1. Base/ sitting position

Benefits

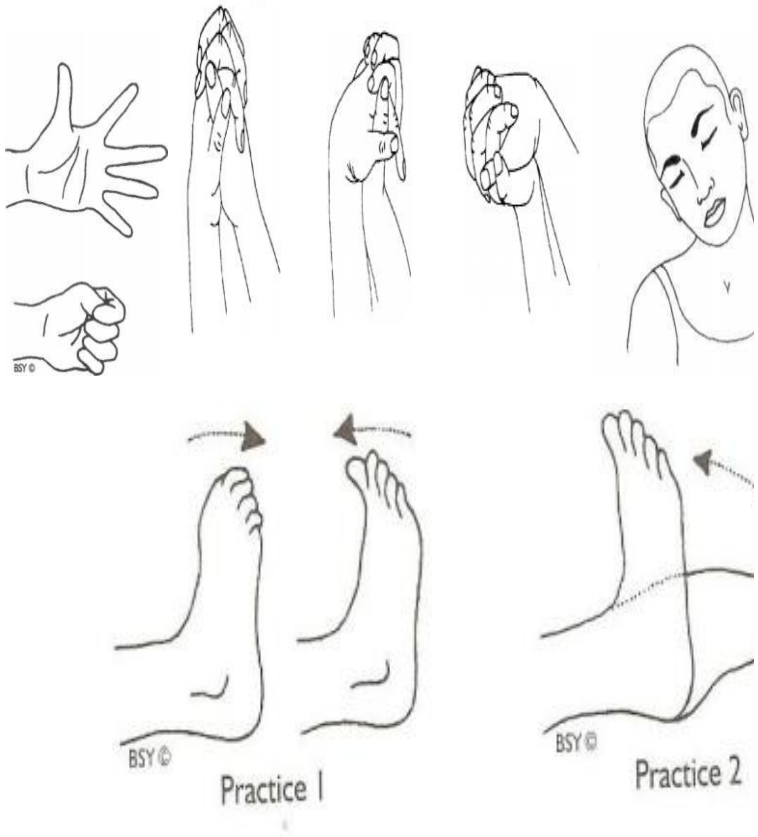
Strengthens the chest and shoulders core muscles and hip flexors and improves posture

2. Yoga *Namaste* **Benefits**



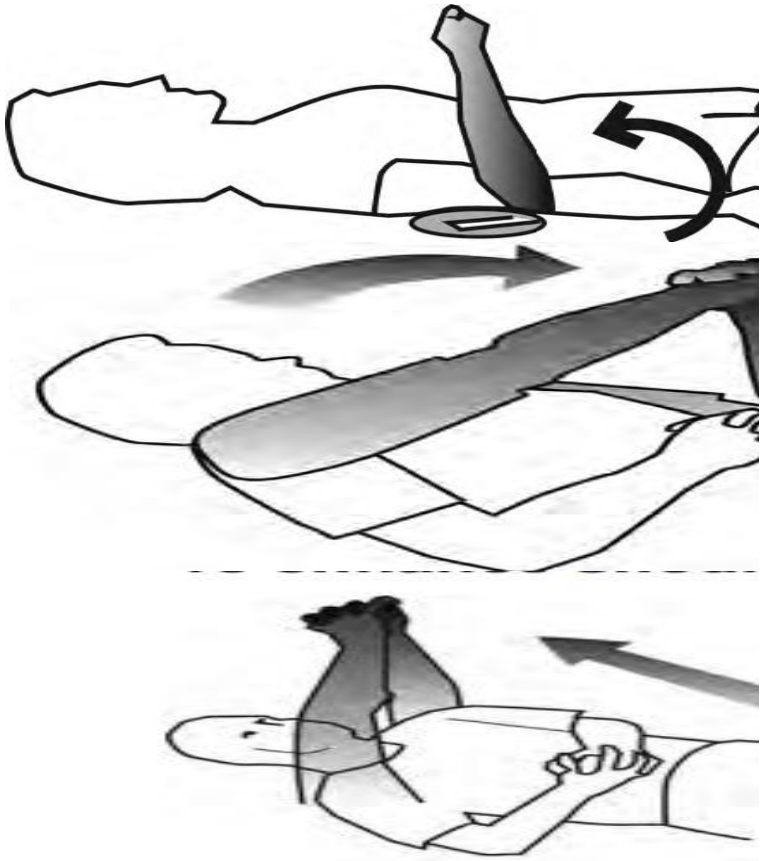
Equal movement of both hands,
Improve in range of motion of shoulders, elbow, wrist, and finders
Spiritual connection with self, other, God,
Showing, concern respect kindness,
positive feelings toward self and others
Feeling calm, relax and peace of mind
Develop, trust, faith, and hope

3. Joints movements: Hands, Neck and Legs (Repeat 10 times)



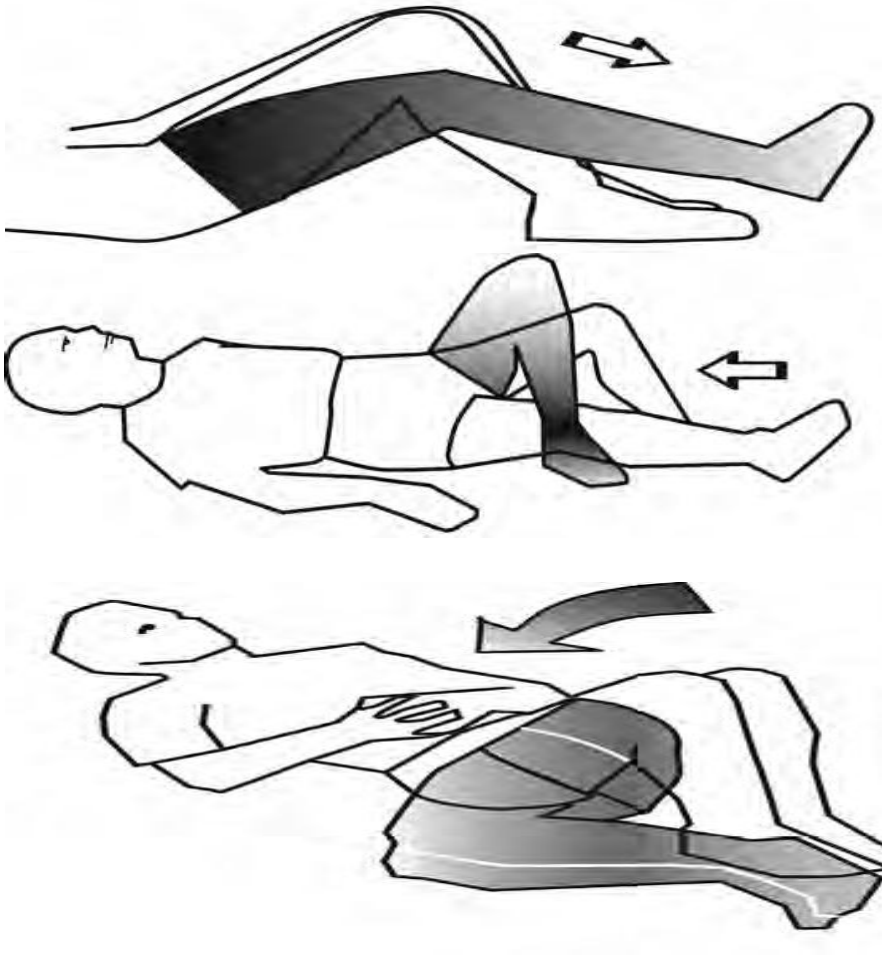
Benefits: Improve range of motion exercise, flexibility and strengthen the muscles and joints

4. Shoulder joint movement



Benefits: relief strain, pain and spasticity, improve the flexibility of elbow and shoulder joint, strength the muscle around shoulder and chest. Practice slowly

5. Pelvic, hip and knee joints



Benefits: Strengthen the hip joints, hamstring lower back

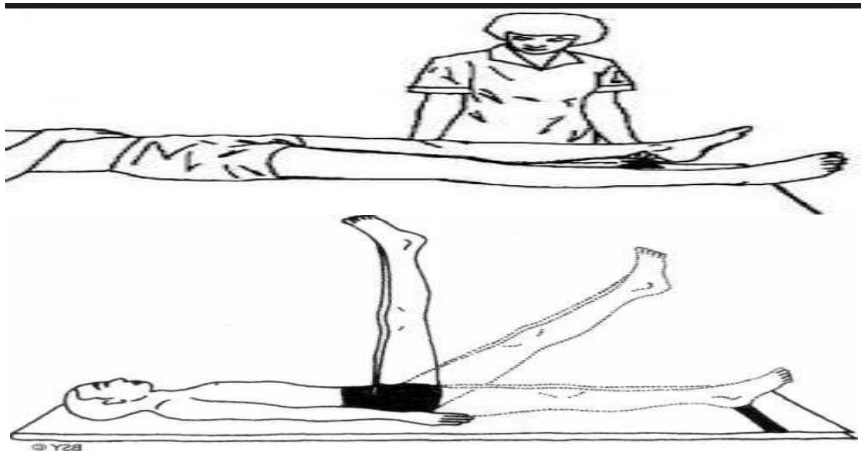
6. Bridge Pose

Benefits: Improve weight shift and control for proper walking technique

7. Bending forward pose

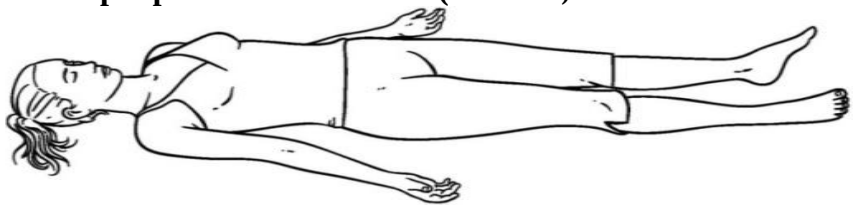
Benefits: Strengthens back, shoulders, abdomen muscle

8. Leg movement side by side and raise up pose



Benefits: Strengthen hip joints, hamstring lower back, pelvic and abdominal muscle

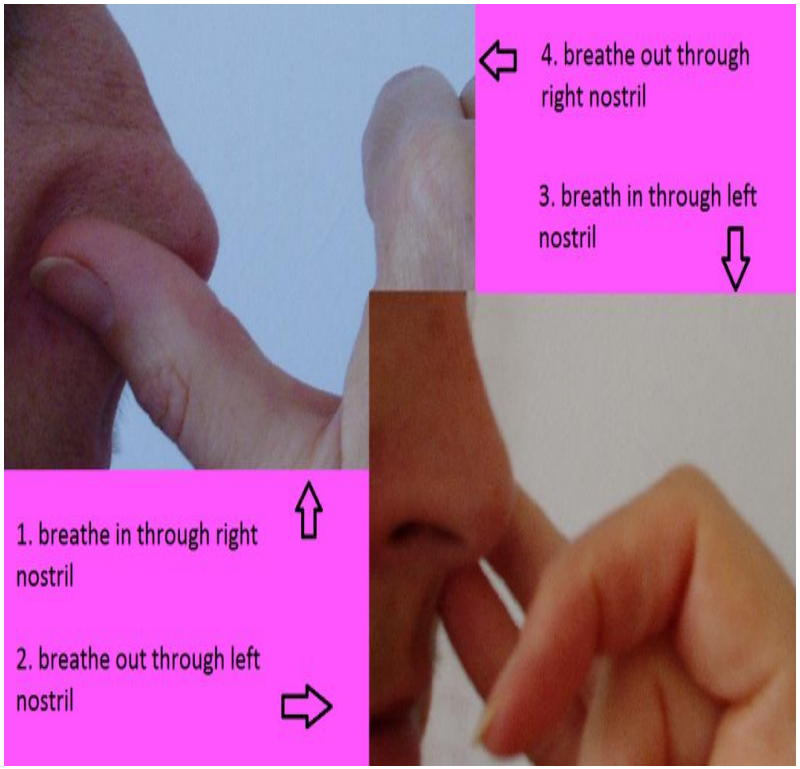
9. Corpse poses for Relaxation (Savasan)



Benefits: Helps to purify the mind, allow the whole body and mind to relax completely and let go of all the worries, stress, fatigues, insomnia and concerns. Relaxes the whole psycho-physiological system

Generally, 1-2 minutes practice is enough in between asana practice

10, Breathing exercise for 15 -30 minute 3-4 times a day



Benefits*:* Helps to increase body awareness, relaxation, balance the paralyzed side, exercise to lungs and related organ, increase oxygen to entire body, decrease stress, and calmness, self-control, strengthen weak nostril

11. *Aum* Chanting 10-15-30 minutes 3-4 times a day

Position: Sit or lie down in comfortably

First concentrate in normal breathing with closing eyes

ke a deep breath then rounding the mouth like a water flow. As you chant, you should feel vibrations in your body

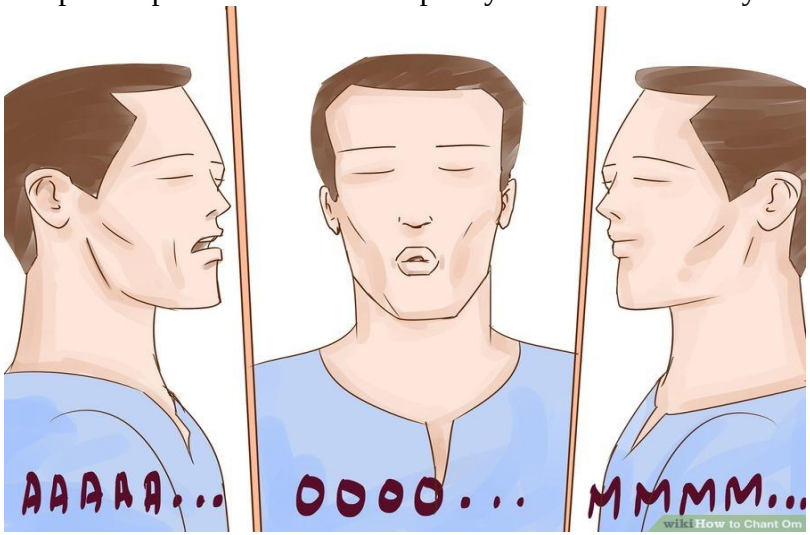
with chanting *A-U-M* as follows (See on a poster)

A-kāra (9 times) Focus on the lower part of the body – hips to toes. Feel the vibration.

U-kāra (9 times) Focus on the middle – shoulders to stomach.

M-kāra (9 times) Focus on the neck and head.

helps to feel a vibration, relaxation, sensation awareness, calmness, self-control, connectio to body and mind, improve speech & balance the paralyzed side of the body.



Home Yoga Practice Record Form ID:

Direction: Please record yoga practice as you do in your home

Tick (✓) in box below as you finished

Date *Asanas,Pranayama* & Chanting *Aum*

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Appendix M: Letters

Government of Nepal
Nepal Health Research Council (NHRC)
Estd. 1991

Ref. No.: 1686

29 January 2018

Ms. Kalpana Paudel Aryal
Principal Investigator
Prince of Songkla University
Thailand

Ref: Approval of Thesis Proposal entitled Development of a caring model incorporating Yoga for promoting physical recovery and wisdom of people living with stroke in Nepal

Dear Ms. Aryal,

It is my pleasure to inform you that the above-mentioned proposal submitted on 20 November 2017 (Reg. no. 471/2017) please use this Reg. No. during further correspondence) has been approved by Nepal Health Research Council (NHRC) Ethical Review Board on 27 December 2017.

As per NHRC rules and regulations, the investigator has to strictly follow the protocol stipulated in the proposal. Any change in objective(s), problem statement, research question or hypothesis, methodology, implementation procedure, data management and budget that may be necessary in course of the implementation of the research proposal can only be made so and implemented after prior approval from this council. Thus, it is compulsory to submit the detail of such changes intended or desired with justification prior to actual change in the protocol. Expiration date of this proposal is May 2018.

If the researcher requires transfer of the bio samples to other countries, the investigator should apply to the NHRC for the permission. The researchers will not be allowed to ship any raw/crude human biomaterial outside the country; only extracted and amplified samples can be taken to labs outside of Nepal for further study, as per the protocol submitted and approved by the NHRC. The remaining samples of the lab should be destroyed as per standard operating procedure, the process documented, and the NHRC informed.

Further, the researchers are directed to strictly abide by the National Ethical Guidelines published by NHRC during the implementation of their project proposal and submit progress report in between and full or summary report upon completion.

As per your project proposal, the total research amount is NRs. 1,30,000.00 and accordingly the processing fee amounts to NRs. 10,000.00. It is acknowledged that the above-mentioned processing fee has been received at NHRC.

If you have any questions, please contact the Ethical Review M & E Section at NHRC.

Thanking you,

Prof. Dr. Anjani Kumar Jha
Executive Chairperson

Tel: +977 1 4254220, Fax: +977 1 4262469, Ramshah Path, PO Box: 7626, Kathmandu, Nepal
Website: http://www.nhrc.org.np, E-mail: nhrc@nhrc.org.np

FACULTY OF NURSING

PRINCE OF SONGKLA UNIVERSITY

P.O. BOX 9, KHOR HONG, HATYAI
SONGKHLA, THAILAND, 90112
FAX NO. 66-74-286421
TEL. NO. 66-74-286456,
66-74-286459

MOE 0521.1.05/ 204

January 23 , 2018

To The Director
Tribhuvan University Teaching Hospital,
Kathmandu, Nepal

This letter is to inform you that Mrs. Kalpana Paudel Aryal ID. 5710430010, a doctoral student of the Faculty of Nursing, Prince of Songkla University, Thailand, is taking a thesis in her last semester. As part of the requirement of the course, she has to conduct a research study in Nepal. Her thesis is entitled: "Development of a Caring Model Incorporation Yoga for Promoting Physical Recovery and Wisdom of People Living with Stroke in Nepal" The thesis proposal has been approved on 7 July, 2017. Therefore, she will collect data from stroke patients, caregivers nurses, physician and physiotherapist in Neorology Ward, Tribhuvan University Teaching Hospital, Nepal during six months (January - June 2018)

I will be greatly appreciated if Mrs. Kalpana Paudel Aryal is permitted to collect data in Neorology Ward, Tribhuvan University Teaching Hospital, Nepal, as it will provide valuable information for this group of patients in the future.

If you need any further information regarding her study, please do not hesitate to contact us at the above address or e-mail to Assoc. Prof. Dr. Urai Hatthakit at: urai.h@psu.ac.th.

Sincerely yours,

Aranya Chaowalit

Associate Professor Aranya Chaowalit, PhD, RN
Dean, Faculty of Nursing
Prince of Songkla University
THAILAND

TRIBHUVAN UNIVERSITY
TEACHING HOSPITAL
INSTITUTE OF MEDICINE
1972

Cable : TUTHMED, KATH
Maharajgunj
Kathmandu, Nepal

Ref. No.

Date:.....
November 23, 2017

To Whom It May Concern

This permission has granted to Ms. Kalpana Paudel Aryal, student of PhD in nursing international program Prince of Songkla University,Hatyai,Thailand for conducting her research study entitled **"Development of Caring Model Incorporating Yoga for Promoting Physical Recovery and Wisdom of People living with Stroke in Nepal"** for data collection from November 2017 to July 2018.

I wish all the best for her future endeavor.

Ram Bikram Adhikari
Deputy Controller (Public Health)
Clinical Administration

Phone No. : 44-12303, 44-12505, 44-12707, Fax No.: 977-1-44-22553, Post Box o. 3578
E-mail: tuthdirector@iom.edu.np, Website : www.iom.edu.np