Development and Psychometric Evaluation of Registered Nurses' Clinical Leadership Scale (RN-CLS) in Bangladesh

Md. Abdul Latif

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Thesis Title	Development and Psychometric Evaluation of Registered Nurses' Clinical Leadership Scale (RN-CLS) in Bangladesh
Author	Mr. Md. Abdul Latif
Major Program	Nursing (International Program)

Major Advisor

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

Co-advisor

……
(Assoc. Prof. Dr. Aranya Chaowalit)

Examining Committee:

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

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

……Committee
(Assoc. Prof. Dr. Aranya Chaowalit)

……Committee
(Assoc. Prof. Dr. Busakorn Punthmatharith)

……Committee
(Assoc. Prof. Dr. Marisa Krairiksh)

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).

…….
(Assoc. 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. Nongnut Boonyoung)

Major Advisor

…….……..Signature

(Md. Abdul Latif)

Candidate

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

..……..Signature

(Md. Abdul Latif)

Candidate

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Author Mr. Md. Abdul Latif

Major Program Nursing (International Program)

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ABSTRACT

For nurses as the largest and frontline healthcare workforce, effective clinical nurse leadership (CNL) is vital to ensure cost-effective high-quality patient care and implement positive change in improving the standard of clinical care. However, there was no any instrument existed in Bangladesh to assess leadership skills of clinical nurses. This study aimed to develop and evaluate the psychometric properties of a Registered Nurses' Clinical Leadership Scale (RN-CLS) in the context of healthcare in Bangladesh.

In developing RN-CLS, the scale development guidelines of DeVellis (2017) were used that comprised two phases including development phase and evaluation phase. The study participants were selected from two medical college hospitals in Bangladesh using a purposive sampling method. A total 627 clinical RN's data were used to examine the factor structure of the RN-CLS. The construct validity was examined by exploratory factor analysis (EFA) and known group techniques. The internal consistency reliability was examined by Cronbach's alpha coefficient and stability reliability was ensured by test-retest methods.

The EFA confirmed the RN-CLS with 9 (nine) factors for 92 items with a total percentage of accounted variance 52.06%. The extracted factors were: assessment and evaluation; patient-centered intervention; imply quality and safety; caring relationship; interdisciplinary collaboration; skills of communication; professional values in caring; decision-making and problem-solving; and professional development. The overall internal consistency Cronbach's alpha was 0.96 and across the factors ranged from 0.84 to 0.92. The result of the contrasted group validity found a significant mean difference on the scores of RN-CLS between low and high-performance groups ($p<.01$). A significantly high correlation ($r= 0.92$, $p<.001$) was found between the two tests scores on the RN-CLS, indicated a high stability reliability.

In conclusion, RN-CLS demonstrated the acceptable level of construct validity and reliability. These results supported the usefulness of RN-CLS as a valid and reliable measure for assessing the clinical leadership skills of the RNs in Bangladesh.

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CHAPTER 1

INTRODUCTION

Background and Significance of the Study

As a result of globalization, the healthcare system in Bangladesh is facing increasing radical changes due to medical advancements and increasing demands for high-quality patient care (Islam & Biswas, 2014; WHO, 2010). These emerging changes not only affect expansions of healthcare infrastructures but also affect the knowledge and skills of healthcare professionals including nurses in clinical care (ANA, 2010; IOM, 2010). In clinical care, nurses are the frontline and largest healthcare workforce responsible to ensure quality patient care (Clarke & Donaldson, 2008; Hughes, 2008). Hence, a strong clinical leadership among nurses is vital for an effective response to the growing need reform calling for innovations to meet patients' satisfaction and evolving healthcare challenges (AACN, 2013; Al-Sawai, 2013; IOM, 2010).

The roles of a clinical nurse leader (CNL) in clinical care settings are dynamic to build a strong collaborative partnership with patients, relatives and multidisciplinary healthcare teams to create a patient-centered caring environment (IOM, 2010; Porter-O'Grady, 2011). Thus irrespective of position, all nurses in clinical care must be a leader competent to design, implement, and evaluate the effectiveness of care along with the role being an advocate for ongoing reforms affecting patient care (AACN, 2013; CAN, 2009). The National Health System Leadership Academy of the UK (NHS, 2012) acknowledged that an active clinical leader in healthcare continuously emphasizes safe, high-quality, and compassionate care as a top priority. Therefore, the clinical leader

should enhance their capabilities through continuous development of knowledge, skills, and abilities that promote quality patient care and patient safety.

As in other countries, in Bangladesh, nurses are the second largest healthcare workforce in clinical care settings of public hospitals and responsible for direct patient care. According to the report of 2016 from Directorate General of Nursing and Midwifery (DGNM); about 95% of nurses in the public sector are working as bedside clinical nurse in different hospitals throughout the country. But the quality of nursing care in the public hospitals still is a major concern and considerably low standard in comparison to its neighboring countries (Andaleeb & Millet, 2010; Andaleeb, Siddiqui, & Khandakar, 2007). Some authors reported that the issue of poor quality nursing care in Bangladesh is linked to the positive or negative image of nursing (CANM, 2011; Yeh, Khan, Harlow, Biswas, Akter, & Ferdous, 2016).

Despite some controversy regarding factors associated with the quality of patient care; several studies claimed that along with various limitations, the below standard quality of patient care is largely associated within effective role performance and skills of clinical nurses (CANM, 2011; Lund, Berland, & Huda, 2013; Yeh et al., 2016). According to Yeh et al. (2016), there were three major challenges for the lack of access to the quality of nursing care in Bangladesh: the scarcity of nurses in clinical care; the lack of appropriately skilled nurses, and the lack of professional independence or leadership. Consequently, nursing has been suffering from poor recognition and received less priority in health care than other members of the teams (CANM, 2011). Moreover, due to outdated knowledge and lack of self-confidence, nurses frequently keep away from involving in active participation in the clinical care decision making process or management on change (Andaleeb et al., 2007, 2010; Hadley et al., 2007). As a result,

they usually depend on the physician's orders, instructions in managing patient care, or avoiding to take clinical decisions (CANM, 2011; Latif, Thiangchanya & Nasae, 2010).

The issues of inefficient professional leadership in nursing do not only occur at the clinical level, it is also a concern for each level of nursing in Bangladesh (Lund et al., 2013; Yeh et al., 2016). However, problems associated clinical nurses' leadership is more serious at the level of clinical care because it is directly linked to the outcome of patient care and patient satisfaction. In addition, the quality of clinical nursing care mirrors the quality of nurses and the quality of healthcare services (Cheung, Aiken, Clarke, & Sloane, 2008). Therefore, the improvement of healthcare in Bangladesh is in a great need and depending on the development of clinical nurses with required knowledge and skills that enable them to lead the future healthcare and response the nursing care challenges.

According to Yeh et al. (2016), ineffective professional leadership among nurses is also a major challenge for advancing the nursing profession in Bangladesh. Similarly, Lund et al. (2013) acknowledged that in Bangladesh improving health care delivery is quite impossible without an increasing number of well-prepared nurses. Moreover, both of these above studies also acknowledged that due to a lack of expected leadership role, nurses in Bangladesh were unable to demonstrate any visible change at all levels of nursing care including clinical services. Besides, some studies also heightened that insufficient professional preparation, poor hospital environment and support, and extreme shortage of nurses are most causing factors accompanied with the expected performance among nurses in clinical care (Lund et al., 2013; Yeh et al., 2016).

For example, according to Soomal (2012), nurses in Bangladesh were not adequately prepared to effectively respond to rapidly increasing demands in providing

quality healthcare. In addition, they have very limited opportunity to update their knowledge and skills in response to the advancement in nursing practices (CANM, 2011; Latif et al., 2010). A study noted that after obtaining a basic nursing degree, the majority of nurses do not get the opportunity to continue in-service education throughout their service life (CANM, 2011). Furthermore, nurses in the public hospitals of Bangladesh need to work with several limitations in terms of human resources, budgets, and equipment and infrastructures to deliver quality patient care (CANM, 2011; Latif et al., 2010). These factors negatively affect nurses' ability to perform their expected role in clinical care as leaders. Therefore, although, the individual motivation factor to ensure quality care may play an important role, without one's knowledge and skills in leadership expected outcomes of leadership may not be achieved.

Several international studies proved that an effective clinical nurse leader is capable to deal with complex situations through the development of systems to monitor performance in achieving healthcare reform objectives, providing timely care, and integrating monitoring efficiency in providing care (ANA, 2010; Daly, Jackson, Mannix, Davidson, & Hutchinson, 2014). An active leader is well equipped with the different sets of knowledge and skills required to become an expert clinician as well as to support required changes relevant to the nature of the conditions and needs (Curtis, DeVries, and Sheerin, 2011). But in Bangladesh, despite several discussions on the importance of clinical nurses' leadership in the literature, any visual initiative to develop CNL had received less priority. As in this context, there was a lack of study about the outcome of CNL including a lack of any leadership models or frameworks also not existed in Bangladesh. Neither was local knowledge available about what types of leadership skills might be appropriated for the clinical nurses in Bangladesh. Moreover,

it was also unknown to what extent existing nurses in Bangladesh were prepared in terms of required skills to meet growing demands in healthcare. Therefore, it was important to explore an evidence-based about the situation of clinical nurses' leadership abilities in meeting the existing and future healthcare needs. In addition, there was lack of a valid, reliable and context-specific measure to assess the clinical leadership skills of the nurses in Bangladesh.

A number of instruments were identified in the existing literature, but a specific measure of clinical nurse leadership was very limited. The National Health System Leadership Academy (NHS, 2012) developed a tool for healthcare professionals "Clinical Leadership Competency Tool (CLCT)". But it was not specifically designed for clinical nurses. Similarly, another scale developed by Smola (1998) "Self-Assessment Leadership Instrument (SALI)" in the USA, which was developed to assess the leadership behaviors in undergraduate nursing students. Thus, the item contents of these two scales were not fully consistent with the scope of leadership for the registered nurses (RNs) as the clinical leader including the context of healthcare in Bangladesh.

Other two measurements were even consistent with the target population of the present study (Clinical Leadership Survey, CLS; and Self-Efficacy Scale for Clinical Nurse Leadership, SE-CNL), but these were developed in the different context of healthcare services from Bangladesh. For example, the CLS was developed in Canadian healthcare context by Patrick, Laschinger, Wong, & Finegan (2011) and the SE-CNL was developed in the USA by (Gilmartin & Nokes, 2015). The contextually both of these countries healthcare system was highly updated and modern in comparison to the context of Bangladesh as developing country. In addition, the review also revealed that the CLS had limited content domains as observable variables that should include in

clinical nursing contexts of Bangladesh. Moreover, the psychometric evaluation of SE-CNL was performed only by pilot study. Furthermore, both of these tools were not used in any other studied after development. Therefore, it was difficult to find an appropriately valid and reliable measure to assess the clinical nurses' leadership skills in the healthcare context of Bangladesh.

Further, most leadership scales were derived from other disciplines and used in nursing as a general leadership skills measurement. Additionally, some measurement scales were only suitable for assessment of nursing leadership at administrative levels, and most tools were developed in western developed countries. From considering above various limitations of existing tools, an exploration of the current state of context-specific knowledge regarding nursing leadership was vital to develop a valid and reliable measure for nurses in the clinical care of Bangladesh. Moreover, nursing leadership experts also stated that any measurement scale on nursing leadership must be a context-specific measure and relevant to nurses' fields of practice to examine their particular working attributes (Curtis, DeVries, & Sheerin, 201; Cummings, et al., 2008). Thus, it was believed that the newly developed RN-CLS will be a context-specific, valid and reliable measure to assess the clinical leadership skills among RNs in Bangladesh. Thereby, the RN-CLS will contribute to identify the areas of leadership strengths and weakness among clinical nurses in Bangladesh, as an input to a specific initiative to develop leadership. In doing so, it may help to increase nurses' ability to bring a positive change for the improvement of the quality of nursing care and skills in clinical nursing management as an active member of healthcare teams.

Objectives of the Study

1. To develop a Registered Nurses' Clinical Leadership Scale for Bangladesh (RN-CLS, BD).

2. To examine psychometric properties of the newly developed Registered Nurses' Clinical Leadership Scale for Bangladesh (RN-CLS, BD).

Research Questions of the Study

1. What are the appropriate components of the Register Nurses' Clinical Leadership Scale in Bangladesh (RN-CLS, BD)?

2. How valid and reliable is the newly developed RN-CLS, BD to measure leadership skills of the clinical registered nurses in Bangladesh?

Conceptual Framework of the Study

The conceptual framework of this study was developed based on an integration of three major aspects: (1) the Theory of Leadership Skills Approach (Katz, 1974), (2) the Concept of Clinical Nurse Leadership (CNLs) (AACN, 2007), and (3) Focus group discussions with Registered Nurses (RNs) in Bangladesh.

1. Theory of Leadership Skills Approach (Katz, 1974)

An extensive review of theories related to leadership identified four main leadership approaches. These were: the trait approach, behavioral approach, the contingency approach, and the skills approach. Each of these leadership approaches

presented different perspectives, which depending on the objectives, address the nature of work and the context or environment in which a leader practices her/his roles. Based on the purpose and context of leadership in the present study, Katz's (1974) 'Three Skills Leadership Approach' was selected as an appropriate theory to provide a foundation for the conceptual framework of the present study. The aim of the present study was to develop a scale for the leadership of the clinical nurses. Therefore, the suggested three skill components including the technical, human and conceptual skills (Katz, 1974) were more relevant to the leadership scope of practice of the clinical nurses. It was assumed that development of these three areas of leadership will allow the clinical nurse leaders to perform their leadership roles in clinical decision making proficiency or expertise as well as the practical proficiency or expertise to effectively deal with the patients, families, teams and clinical care management issues pertinent to clinical decision making or problem-solving (Chase, 1994; 2010; Packard, 2009).

Based on Katz's firsthand observation, administrative experiences, and rigorous research on the administrative field, in 1974, Katz conceptualized and proposed leadership effectiveness in terms of skills (Packard, 2009; Wright & Taylor, 2007). Katz defined these skills as "the ability either to perform some specific behavioral task or the ability to perform some specific cognitive processes that are functionally related to a particular task". This leadership approach described the effectiveness of leadership in terms of a professional's specific skills/proficiencies as the primary foundation of a leader, and general skills and creativity that influence the group to lead forward for positive change (Wright & Taylor, 2007).

Katz's (1974) theory suggests that leadership effectiveness is measured by outcomes of proficiency, which are a direct result of a leader's skills and the indirect

result of one's individual attributes (Packard, 2009). According to Katz's (1974) theory, the leadership skills approach comprises of three categories of skills including (1) technical skills, task/domain- specific proficiencies or skills; (2) human skills, people-related proficiencies or skills; and (3) conceptual skills, proficiencies or skills in working with ideas, creativity and imagination. According to some leadership experts, although, each of these skills categories is very broad and general; within each category, numerous more narrowly focused abilities could be identified based on the contexts and demands of a particular leadership practice (Packard, 2009; Peterson & VanFleet, 2004). The details of each skill category were discussed below:

Technical Skills: Katz (1974) defined the technical skills as "the understanding of, or proficiency in, specific activities that require the use of specialized tools, methods, processes, procedures, techniques, or knowledge". It is the domain or a set of task-specific skills of the leader (Northouse, 2010; Packard, 2009). For clinical nursing, the technical skills refer to the abilities or concrete proficiencies of a clinical nurse in providing direct patient care with an understanding of professional nursing knowledge.

Human Skills: Katz (1974) defined human skills, as "the people-related skills/proficiencies that enable the leader to work with people". It is the ability of a leader to work cooperatively with others and to communicate effectively as an effective team player and role model of influencing others' behaviors or actions (Peterson & VanFleet, 2004). For clinical nursing leadership, the human skills can be referred to the abilities or proficiencies of a clinical nurse to effective communication, working with the cooperation and collaboration of patients, families, coworkers, and teams (Chase, 1994; 2010).

Conceptual Skills: According to Katz (1974), conceptual skills are abilities of a leader to see the organization as a whole and adopt a systemic viewpoint that encourages a leader's creativity and imagination to move the organization for future advancement (Peterson & VanFleet, 2004). These are abilities of the leader to work with ideas and concepts that enable to understand and better decide on actions and measures that have to be taken in a particular field of work (Northouse, 2010). For clinical nurse leadership, the conceptual skills can be explained as clinical nurse's abilities in dynamic cognitive reasoning to understand the process of clinical and professional problem solving and improve the way to standardize the patient care process and profession. Thus, based on considering clinical nurse leaders' role and scope of leadership practices as discussed above, Katz's three skills leadership approach in the present study was considered as appropriate to guide the theoretical framework of proposed scale development.

2. The Concept of Clinical Nurse Leadership (AACN, 2007).

The aim of this aspect was to understand the nature and attributes of CNLs skills as explained in the global nursing literature. Based on an extensive review, the concept of CNL proposed by AACN (2007) was selected to inform this study's conceptual framework on the nature and attributes of CNL skills or competencies. The concept of CNL as a newly emerging role development in nursing and healthcare leadership that was first introduced by AACN in 2004 in response to the Institute of Medicine's (IOM) report on healthcare quality and safety in 2003 (AACN, 2007). The focus of CNL was to equip nurses with the ability to ensure high-quality patient care,

patient safety and with the competencies needed to thrive in the current and future healthcare system.

According to AACN (2007) there were ten key assumptions in terms of the implications for CNL in healthcare: (1) CNLs function primarily in clinical micro-systems as direct care provider; (2) the performance of CNLs is measured by the extent to which a leader succeed to provide quality care; (3) preparation of CNLs must address the underlying demands of evidence-based practice; (4) CNLs are capable to provide an emphasis on patient-centered care; (5) expert CNLs assist patients in competent clinical decision-making and self-care; (6) CNLs manages and coordinates for comprehensive clinical care; (7) CNLs hold the accountability for efficient use of resources as measure of cost-effective quality care; (8) CNLs deal and practice essential nursing values-alarmism, accountability, human dignity, and integrity; (9) effective CNLs use communication proficiencies to facilitate continuity and comprehensiveness of care through ongoing interactions with patients, families, and teams; and finally, (10) CNLs assume guardianship for the profession.

These assumptions of AACN's (2007) CNL were integrated and categorized into three broader aspects of Katz's theory (1974) based on the descriptions of the particular skills dimension of Katz's three skills and contents explained in each assumption of AACN for CNL. The integrated skills were: (1) Technical Skills of Clinical Nurse Leadership (TS-CNLs); (2) Human Skills of Clinical Nurse Leadership (HS-CNLs); and (3) Conceptual Skills of Clinical Nurse Leadership (CS-CNLs).

Technical Skills of CNLs (TS-CNLs): By integrating the Katz's (1974) skills leadership theory and the AACN's (2007) assumptions implications of CNL, the TS-CNLs was defined as 'the clinical registered nurses proficiencies or expertise in

providing direct patient-centered quality care that must be guided by a sound professional nursing knowledge base and the best practice guidelines for evidence-based nursing practice'. In the present study, the technical clinical leadership skills of the RNs consisted of: (1) patient-centered quality care, (2) evidence-based practice, and (3) advanced skills in healthcare technology.

Human Skills of CNLs (HS-CNLs): Incorporating the AACN's (2007) CNLs assumptions and Katz's human skills (1974), the HS-CNL was defined as 'clinical RN's capabilities as an effective communicator; maintain intra and interdisciplinary relationships for team working and collaboration through demonstrating a positive outlook, honesty, and integrity in all aspects of nursing practice'. In the present study, based on AACN (2007), the clinical nurse leader's human skills consist of; (1) communication, (2) interdisciplinary team collaboration, and (3) moral behaviors.

Conceptual Skills of CNLs (CS-CNLs): Conceptual skills are cognitive creative thinking ability that allows a leader to see the entire organization, work with ideas and through thinking to find the relationship between two abstract concepts (Katz, 1974). Aligning the AACN's (2007) assumptions about the effective CNLs with Katz's (1974) the concept of conceptual leadership skills approach, in the present study, was defined as a 'clinical nurse leader's ability to make a sound clinical decision grounded in reasonable clinical judgment. The conceptual skills of the CNL were identified as the RN's ability in (1) clinical creativity and innovation and (2) skills in professional advocacy.

Based on the above integrated evidence of Katz's (1974) three skills leadership approach and the skills of effective CNLs as delineated by AACN (2007); it can be concluded that Katz's theory combined with the conceptual basis of AACN is

appropriate to guide the present study. However, the contextual validation of pre-identified skills of CNL as integrated above needed further examination to ascertain whether these identified skills are appropriate for CNLs of RN in Bangladesh.

3. Focus Group Discussions (FGDs)

The contextual issues have a strong influence on the types of leadership, leader's required skills and the effectiveness of a leader; such as the situation, types or nature of work, healthcare delivery model, education, experiences, environments etc. (Curtis et al., 2011; Cummings et al., 2008).Therefore, conceptualization of CNLs based on theory and literature only might not be appropriate for the RNs in Bangladesh. Thus, it was essential to validate these identified skills with an assumption that there may other context-specific skills or components that might more important. Therefore the next step involved identification of eventual other dimensions in leadership skills that could appropriate for clinical nurses in Bangladesh through a focus group discussions with RNs in Bangladesh, as part of a contextual analysis, and validation of above predetermined aspects of CNL.

Two focus group discussions and interviews were conducted with the participation of nurses working at three levels: nurse administrators, nurse educators, and clinical RNs. The purpose of this step was to explore the context or culture-specific views from the participants on CNL skills and validate those fundamentally important skills for clinical RNs in Bangladesh. The discussion guidelines were developed based on selected integrated components of Katz's theory and AACN's assumptions of CNLs (Appendix A; Figure 1). After verbatim transcribing collected data from focus group discussions, a thematic content analysis was used to identify agreement and

discrepancies on CNL skills for RNs in Bangladesh. After analysis, twelve themes emerged from the dataset with regards to CNL skills appropriate for nurses in Bangladesh (Appendix C; Figure 1). The emerged themes were not entirely mirrors with the integrated components of the Katz's with AACN's; but several identified themes were very consistent with the selected components.

Therefore, based on the commonality matrix (Appendix C) between integrating selected components of Katz's with AACN's and the emerged themes from focus group analysis together with considering the context of clinical nursing in Bangladesh; eleven skill categories were selected as predetermined components for the Clinical Leadership Scale of the RNs in Bangladesh (RN-CLS, BD) (Figure 1). A brief description of each predetermined selected components were as follows:

Diagnose genuine problems and needs of patients: referring to the clinical RN's ability to perform an in-depth clinical assessment of patients about their health status, authentic problems and needs, including the physical, psychological, social, spiritual and functional status, pertinent to patient's health and illness.

Develop patient-centered intervention: it was described as the clinical RN's ability in providing care to a patient with an individual understanding and attention for identified health needs, problems, preferences or values as part of involvement of patients and families in the care plan.

Imply quality and safety in patient care: These skills referred to the clinical RN's ability to provide nursing care services to individual patients that achieved desired outcomes and are consistent with current professional nursing knowledge, empirically credible, as a standard to ensure patient safety.

Monitor and evaluate clinical effectiveness: These skills referred to a clinical RN's ability to ensure continuous monitoring and evaluation of patients' condition to make judgments on patients' progress toward attainment of expected care outcomes.

Integrate medical equipment for optimizing patient care: these skills referred to a clinical RN's ability to use various available advanced patient care equipment or machinery in performing aspects of patient care to maximize comprehensiveness of care.

Establish caring relationship with patients and families: These skills deal with a clinical RN's ability to develop and maintain a respectful, a helping and a trust relationship with patients and families in dealing with their needs of concern.

Encourage interdisciplinary collaboration: These skills referred to a clinical RN's ability to work in partnership across health professions, including other healthcare team members, in a constructive and collaborative manner.

Demonstrate understandable communication skills: These referred to an RN's ability of comprehensible mutual exchange of ideas and information with patients, families and with the members of care teams as necessary to understand the feelings of others and demonstrate a sense of positive self-translation.

Practice with professional values of nursing: this referred to a clinical RN's skills in translating professional values to practice through an ability to integrate core values and principals into their clinical nursing practices while dealing with patients, families, and members of healthcare teams.

Problem solving and decision-making skills: These skills referred to an RN's ability to arrive at reliable, valid and durable clinical solutions or decisions in relation to patient care; with an understanding of causes, defining and clarifying patients' clinical problems, and for clinical nursing issues related to the quality of care.

Participate in enhancing professional advancement: These skills were viewed as an RN's ability to demonstrate a role as a professional representative or guardian in support of the constructive change, professional advancement, and nurses' empowerment.

Finally, based on existing literature and focus group, the definitions of these eleven predetermined components were modified for resulting in a preliminary Clinical Leadership Scale Components of the RNs in Bangladesh (RN-CLS, BD). The conceptual formwork of RN-CLS for this study showed in Figure 1.

Leadership skills Approach

(Katz, 1974)

1. Technical Skills (Ability to working with things)

- Domain-specific knowledge and task-specific proficiency
- Specific skills to perform specialized tasks using tools, methods or techniques related to tasks

2. Human skills (Ability to work with people)

- People related skills
- Cooperatively work with others
- Communicate effectively and resolve conflict
- Understand the behavioral principles and values
- Interpersonal proficiencies

3**. Conceptual skills (Ability work with abstract ideas)**

- Visionary and system thinking
- Through thinking and work with ideas of organizational system
- Creativity and imagination

Concepts of Clinical Nurse Leadership

(AACN, 20007)

1. Practice at the microsystems level
- Direct care provider

2. Client care outcomes as a measure of quality practice.
- Cost effective quality care (safe, efficient, timely ness, and quality)

3. Practice guidelines based on evidence.
- Evidence-based practice to guide actions

4. Intra and interdisciplinary client-centered practice
- Share and discuss client's problems,
- Design and coordinate course of actions as appropriate to the patients
- Advocate for clients in interdisciplinary team members.

5. Information maximizing self-care and client decision-making.
- Provide knowledge of self-care and decision-making to clients for care options

6. Nursing assessment as basis for theory and knowledge development
- Perform comprehensive assessment;
- Use information to support decisions

7. Good fiscal stewardship as a condition of quality care.
- Efficiently utilize healthcare resources within the system of the organization

8. Social justice as an essential nursing value
- Practice with professional values (asterism, accountability, human dignity, integrity & social justice)

9. Communication technology facilitating continuity and comprehensiveness of care
- Ongoing contact with clients, families, and teams;
- Use advanced technology for providing -client interaction.

10. Assuming guardianship for the nursing profession
- Assume positions for nursing profession (policy, organization and in care facilities).

Integrated Skills of Clinical Nurse Leadership

(AACN, 2007; Katz, 1974)

A. Technical Skills of CNL (TS-CNL)

1. Providing Patient-Centered Quality Care
2. Evidence-Based Practice
3. Advanced Skills in Health Technology

B. Human skills of CNL (HS-CNL)

1. Communication
2. Interdisciplinary Team Collaboration
3. Moral Behaviors

C. Conceptual skills of CNL (CS-CNL)

1. Clinical Creativity and Innovation
2. Professional Advocacy

Themes from the FGD of the RNs in Bangladesh

1. Performing complete assessment on patient's clinical health problems and needs accurately;
2. Providing care for the patients based on their needs, priorities and preferences;
3. Ensuring that provided care is adequately safe and quality for responding to patient's problems,
4. Updating care through proper monitoring as need to modify or change,
5. Using patient's care related equipment or machineries to support the care to be comprehensive,
6. Developing and maintaining harmonious relationship with the patients and families,
7. Establishing professional relationship with the members of teams and coworkers,
8. Expressing the skills in verbal and non-verbal communication,
9. Valuing to the responsibility and accountability for profession and patients,
10. Possessing the ability to respond for making decision on clinical and patient related problems,
11. Fostering the improvement for clinical standards in patient care,

Predetermined Components of RN-CLS, BD

1. Diagnose the genuine problems and needs of the patients.
2. Develop patient-centered intervention
3. Imply quality and safety in patient care
4. Monitor and evaluate clinical effectiveness
5. Optimize patient care with the competence in medical technology
6. Establish caring relationship with patients and families
7. Encourage interdisciplinary collaboration
8. Demonstrate understandable communication skills
9. Practice with professional values of nursing
10. Problem-solving and decision –making skills
11. Participate in enhancing professional advancement

Figure 1: The Conceptual Framework for RN-CLS, Bangladesh

Measurement Framework

The selection of an appropriate framework for measurement of scale development is central to determine the purpose of the measure, contents of the measure and utilization of the scale (Waltz, Strickland, & Lenz, 2010). It was essential to determine a scoring system required to interpret the results of the tests. There are two major forms of measurement frameworks; the norm-referenced and the criterion-referenced. In the present study, the norm-referenced measurement was used as a framework to develop and interpret scores for the RN-CLS scale in Bangladesh.

According to Waltz et al. (2010), the norm-referenced framework is used to evaluate a subject's expected performance compared to the performance of other subjects within some well-defined norm group. The RN-CLS is a measure to assess the leadership skills of clinical RNs who are working with direct patient care. A subject's achieved a score on RN-CLS will be evaluated by ranking and comparing the scores relative to the others representative subjects who will be taken the same test using the same scale. This assessment will provide the information on how a subject performs in expected skills on the scale in comparison to another subject who was on the same test. Considering the purpose of the RN-CLS, a norm-referenced framework was appropriate.

In addition, norm-referenced measurement is useful when the population norms are not available in the measure and the comparison is not made against any set standards (Waltz et al., 2010). In regards to RN-CLS, it will not be used with any set standard criteria or cut-off score to determine the subjects grading on the test results. The score of RN-CLS will be a comparative interpretation of achieved score among the subjects in relation to the score of other subjects in similar comparison groups under the

same measure. In summary, the above clarifications on the use of the RN-CLS justify the norm-referenced framework as an appropriate measure in the present study.

Definitions of the Terms

Clinical Nurse Leader (CNL): A clinical nurse leader is a Registered Nurse (RN) who has acquired a prescribed course on a scientific basis of nursing under a recognized state council of nursing. The CNL is directly involved in providing bedside patients care and exhibits a high performance that meets certain prescribed clinical nursing and leadership skills, which influence other nurses providing high-quality care.

In the present study, the skills of clinical nurse leader were measured as how an RN (CNL) was performing his/her roles, activities or skills in relation to patient care in selected public hospitals of Bangladesh as study settings.

Clinical Leadership Skills of Registered Nurse (CLS-RN): refers to the RN's ability to work as a frontline clinical leader in the provision of direct patient care, dealings with people in clinical care, and managing problems and decisions in clinical care.

The clinical leadership skills of RNs in present study were composed of eleven skills categories including (1) diagnose genuine problems and needs of patients, (2) develop patient-centered intervention, (3) imply quality and safety in patient care, (4) monitor and evaluate clinical effectiveness, (5) integrate medical equipment for optimizing patient care, (6) establish caring relationship with patients and families, (7) encourage interdisciplinary collaboration, (8) demonstrate understandable communication skills, (9) Practice with professional values of nursing, (10) Problem-

solving and decision-making skills, and (11) Participate in enhancing professional advancement. Each of these dimensions and skills is defined below:

Diagnose Genuine Problems and Needs of Patients: refers to the clinical RN's ability to conduct in-depth clinical assessment of patients, identify critical health problems; gather subjective and objective data, identify need of care modification and special needs, assess potential risk, use modified techniques conduct critical inquiry, and verify information and draw conclusions.

Develop Patient-Centered Intervention: refers to the clinical RN's ability to prioritize needs for immediate intervention, integrate patients' preference/values, involve patients/families in care, support patient-centered decision-making, determine patient's abilities focus on unique needs, up-date care as needed, and collaborate in care teams.

Imply Quality and Safety in Patient Care: refers to the clinical RN's ability to use the relevant and valid information to respond clinical conditions, apply current knowledge-based practice, apply patient safety tools in caring, discusses patient safety, careful appraisal of clinical data, early risk reduction, articulate observation of clinical condition.

Monitor and Evaluate Clinical Effectiveness: refers to the clinical RN's ability to evaluate patients' clinical prognosis using continuous follow-up, identify and use specific clinical indicators, identify distress, interpret and manage clinical changes, identify areas of modification, document and use data pertinent to patient needs, receive and analyze patients' feedback, and determine the gap in existing care.

*Optimize Patient Care with Competence in Medical Technology***:** refers to the clinical RN's ability to optimal use existing routine and advanced medical equipment in direct and indirect patient care including patient mobility, communicating information, development, and sharing of clinical knowledge, and risks assessment and risks prevention.

Establish a Caring Relationship with Patients and Families: refers to the clinical RN's ability to show respect to patients; being sensitive to patients' needs; display empathic listening and feelings of concern; talking with optimism; tolerance toward negative reactions, exhibit warmth; respecting privacy, keep commitment, free expression, and display therapeutic connection.

Encourage Interdisciplinary Collaboration: refers to the clinical RN's ability to demonstrate acceptance of individual uniqueness, to focus on group interests, to encourage collective opinions, to display team responsibility, to handle criticism and mistakes positively, to encounter conflict with rationale, to manage one's own feelings, to share in groups, and to encourage professional relationships and maintain safety in teams.

Demonstrate Understandable Communication Skills: refers to the clinical RN's ability to provide timely and truthful information, to express skills in verbal and non-verbal communication, to manage time to discuss, to understand a patient's views, to assist in communication, to speak genuinely, bridge with lay language, and to use feedback and negotiation skills.

Practice with Professional Values of Nursing: refers to the clinical RN's ability to exhibit a sense of self- accountability, honest to own mistakes, protect patients'

rights and privacy, treat people equal, adhere professional standards, display empathy/morale, and tolerance and advocate for patients.

Problem-Solving and Decision-Making: refers to the clinical RN's ability to define and clarify problems, collect and analyze data, evaluate acuteness, offer discussions, evaluate context, be innovative in solving problems, ability in routine and critical decision making, accept risk and accountability, and integrate past experience.

Participate in Enhancing Professional Advancement: refers to the clinical RN's ability to demonstrate skills in identifying professional issues, provide recommendations to solve problems, to act as a professional collaborator, to be a role model, to prepare one's self-and one's team for future challenges, to develop clinical guidelines, to seek for new knowledge, be a competent public speaker, and contribute to developing the professional image.

Finally, based on these identified key attributes or specific skills, preliminary item pools of the RN-CLS were generated. There were 122 items for eleven skills categories as stated above which were developed based on three main sources including a review of relevant literature in terms of theory and in terms of scales, and inputs from the focus group discussions.

Significance of the Study

The RN-CLS was designed and developed as a theory grounded and contextually valid and reliable measure, which was established by empirical data involving the clinical RNs of Bangladesh. It was a self-assessment multidimensional instrument designed to assess clinical leadership skills of RNs in Bangladesh. Therefore, this scale was considered as a useful instrument to identify the state of leadership skills of the clinical nurses as a whole and in the particular areas of clinical leadership. Hence, RN-CLS will contribute to identify the areas of leadership strengths and weaknesses among clinical nurses in the groups or individuals, which could facilitate an input to the specific initiative of development of leadership skills. Moreover, the RN-CLS may be used as the guideline to develop leadership education and development program for the clinical nurses and for nursing students as future effective clinical nurse leader. Thus, it was expecting that RN-CLS will be an influencing tool to guide the leadership development program for nurses to prepare them as expert clinician or become an active clinical manager that was vital for improving the quality of nursing and patient care in Bangladesh.

Finally, it can be stated that significance of the RN-CLS was not only imperative for assessing leadership skills of the clinical nurses; it is also vital to bring a positive change in healthcare and enhance nurses ability to contribute in improving quality of care in Bangladesh as fundamental for clinical nurses as the frontline largest healthcare providers workforce.

Scope of Study

The study was conducted to collect data from the clinical RNs as direct patient care providers of two tertiary level medical college hospitals in Bangladesh; Dhaka Medical College Hospital (DMCH) and Mymensingh Medical College Hospital (MMCH). The participants involved in this study the clinical RNs from various units of these two hospitals including the medical and surgical units, ICU, CCU, pediatric, gynecology, orthopedic and the burn unit's nurses.

CHAPTER 2

LITERATURE REVIEW

This chapter describes the states of substantive knowledge and the overviews about of the Clinical Nurse Leadership (CNLs) Skills and its related concepts. The major concepts that reviewed and included in this chapter were: (1) concept of leadership in nursing; (2) theory related to leadership in nursing, (3) leadership skills for clinical registered nurse, (4) dimensions of the CNLs skills, (5) Nursing leadership in healthcare of Bangladesh, and (6) the measurements of nursing and CNLs skills. The details of each of these topics and sub-topics were discussed below based on the existing related literature. The topics and sub-topics of this chapter were organized as follows:

1.Concept of Leadership in Nursing

- 1.1 Definition of Leadership
- 1.2 Definition of Nursing Leadership
- 1.3 Philosophy of Clinical Nurse Leadership
- 1.4 Importance of Leadership in Nursing

2. Theory of Leadership in Nursing

- 2.1 Traits Approach to Leadership
- 2.2 Behavioral Approach to Leadership
- 2.3 Contingency/Situational Approach to Leadership
- 2.4 Skilled Approach to Leadership

3. Clinical Nurse Leadership Skills

- 3.1 Definition of Clinical Leadership

3.2 Definition of Clinical Nurse Leader

3.3 Definition of Clinical Nurse leadership

4. Attributes of Clinical Nurse Leadership

4.1 Professional Leadership Attributes

4.2 General Leadership Attributes

5. Dimensions of Clinical Nurse Leadership

5.1 Technical Skills of CNLs (TS-CNLs)

5.2 Human Skills of CNLs (HS-CNLs)

5.3 Conceptual Skills of CNLs (CS-CNLs)

6. Nursing and Healthcare System in Bangladesh

6.1 Nursing Services in Bangladesh.

6.2 Scope of Leadership in Nursing

6.3 Clinical Nurse Leadership in Bangladesh

6.4 Factors Influence the Clinical Nurse Leadership

7. Measurements of Clinical Nurse Leadership (CNLs)

7.1 Clinical Leadership Competency Tool

7.2 Clinical Leadership Survey

7.3 Self-Efficacy Scale for Clinical Nurse Leadership

7.4 Task and People Oriented Questionnaire

7.5 Self-Assessment Leadership Instrument

1. Concept of Leadership in Nursing

This part explored the literature related to the definition of leadership, definition of nursing leadership, philosophy of nursing leadership and the importance of leadership in nursing**.**

1.1 Definition of Leadership

Leadership has been defined in several ways by different authors and there is no single definition to explain the complete meaning of leadership (McKenzie & Manley, 2011). However, there is some consensus among the definitions is that the leadership is a process of influence that encompasses vision, passion and the desire to meet challenges (Bishop, 2009). Katz and Kahn defined leadership as 'an influential increment over and above compliance with routine directives of the organization' (Mele, Pels, & Polese, 2010).

According to Katz, (1974), leadership is the ability of a leader to go beyond the routine role performance in which leader requires three basic skills; human skills, conceptual skills, and the technical skills. The human skills are people skills or soft skills as effective communicators for multi-party negations. The conceptual skills are the ability to deal with ideas and concepts that have the potential to shape the future. The technical skills are job knowledge required for a particular leadership role (Gupta, 2009).

According to Oxford handbook of practical leadership, 'the leadership as an asymmetrical relationship of influence in which one actor guides or directs the behaviors of others towards a certain goal'. On the hand, Weihrich & Koontz (2005)

defined leadership as ‘the art or process of influencing people so that they will strive willingly and enthusiastically toward the achievement of mutual goals’. Leadership involves the use of interpersonal skills to influence others to accomplish a specific goal (Sullivan & Garland, 2010).

Porter-O’Grady (2003) provides a contemporary definition of leadership as ‘a multifaceted process of underlying a goal, motivating other people to act, and providing support and motivation to achieve mutually negotiated goals’. Spector (2006) has given a common theme that seems to run through many other definitions. Curtis et al. (2011) commented that Spector’s definition of leadership involves influencing the attitudes, beliefs, behaviors, and feelings of other people.

From above definitions and concepts of leadership, it can be concluded that leadership is considerably a complex and multidimensional concept that is interrelated with different sub-dimensions as leaders hold to exercise leadership (Bass, 1999; Porter-O’Grady, 2003). For example, Mahoney (2001) described leadership as ‘being visionary, equipped with strategies, a plan and desire to direct their teams and services to a future goal’. A comprehensive definition of leadership has been given by Winston & Patterson (2006) and stated that ‘leadership is the process of influences one or more follower(s) who have diverse gifts, abilities, and skills and focuses the follower' (s) to the organization’s mission and objectives causing the follower (s) to willingly and enthusiastically expand spiritual, emotional, and physical energy in a concerted coordinated effort to achieve the organizational mission and objectives’.

Winston and Patterson (2006) acknowledged that the process leader appeals to influence the followers is conveying a prophetic vision of the future to the followers in clear terms that resonate with the follower's beliefs and values. This

leadership process influences the followers to be creative and innovative to achieve the goals or objectives. The above discussions confirmed that in spite of some general common and ideal characteristics of effective leadership irrespective to any disciplines; effective leadership also requires the context-specific knowledge and skills, where the leader will perform his/her leadership role. According to Katz (1974), this contextual knowledge and skills refer to the technical proficiency or skills of the leadership. Moreover, although, there were some dissimilarities across the various definitions of leadership, the vast number of definitions provided us an in-depth understanding of the diverse features or and qualities of leadership from various points of view.

In conclusion, based upon the above definitions; effective leadership can be described with several qualities. For example, leadership is a process involves power of motivation, an influence of moral and emotional sensitivity, an enthusiastic striving to change and improve process, a combination of knowledge and skills, and a commitment to high performance, a vision of change, and an outcome focus strategic initiative to lead the people for achieving certain goals. Therefore, leadership involves communication, skills of relational interaction, creative thinking, and decisiveness, moral sensitivity, assertiveness and caring by which leader influences others and acts as a role model.

1.2 Definition of Nursing Leadership

Nursing leadership is the essence of professionalism for nurses and considered as an essential aspect in all the fields of nursing, including administration, education, practice and research with a broader view of nationally and internationally (Kelly, 2008). Nursing leaders require the mastery of leadership in both for the clinical fields as well as in non-clinical fields-such education, social interactions, organization,

administrative and management. By origin of nursing education, nurses have the expert medical and nursing knowledge and the skills of communication to deal with a diverse society and situations. Therefore, each nurse can utilize this knowledge and skills as the key power of leadership within the health care through his or her practice and outside of the organizations to respond the social needs. Grounded this above argument, every nurse is a leader irrespectively to consider their position or place. However, contents of the definition of nursing leadership skills should be primarily focused on the clinical leadership that nurses primary and fundamental fields of activities.

In nursing literature, leadership has been defined or explained as a complex and multidimensional process which involves of providing support, motivation, coordination of resources to enable individuals and teams to achieve collective objectives or goals (Davidson, Elliott, & Daly 2006; Wong, Cummings, & Ducharme, 2013). But unfortunately, in spite of huge discussions in the existing literature on the importance of nursing leadership in the healthcare and professional advancement; very few of them clearly defined the term "nursing leadership". According to Clark (2009), the definition of nursing leadership should be linked to the contexts and the traits of nurses involved in their practice. Understanding the descriptions provided by Clark (2009) and Stanley (2006), nursing leadership can be defined as, ‘the nurses ability to demonstrate as a friendly, accommodating member and professional body of knowledge to the patients, their relatives, and healthcare professionals that could inspire, motivate, and empower others with matching their values and beliefs about nursing and care to their practice’.

According to Canadian Nurse Association (CNA, 2013), the primary focus of any levels of nursing education is to improve the patient care. Based upon the views of CAN defined nursing leadership as “the competent and engaged practice of

nurses, who provide exemplary care, think critically and independently, inform their practice with evidence, advocate for patients and communities, insists on practicing their legal scope and push the boundaries of practice to innovative new levels". Cook (2001) also focused the nursing leadership by linking with clinical nursing leadership and provides a definition of a nurse leader as 'A nurse who is directly or indirectly involved in providing clinical cares that continuously improves care through influencing others.'

Houser and Player (2004) concluded that effective nursing leadership involves some important characteristics such as- thoughtful, responsive, committed, creative, resilient, visionary, scholarly, courageous and innovative. The CNA (2009) was also concluded that "nursing leadership is the critical thinking, action, and advocacy which happen in all roles and domains of nursing practice and has an impact on the entire health system and its services". According to this definition, a nurse leader should have the involvement in the process of developing, analyzing, reforming and interpreting the policy of nursing and healthcare with an integration of the leader's team working knowledge, skills, and behaviors.

Curtis et al. (2011) acknowledged that nursing leadership is different from the other general leadership skills and qualities. According to Curtis et al., nursing leadership is as "nurses assuming responsibility for influencing and improving the practice environment, quality of nursing services and health care outcome". However, Antrobus and Kitson (1999) explored nursing leadership within the framework of nurses' roles in the clinical, academic, executive and political sphere. The authors defined nursing leadership as 'powerful, influential operator to empower others, a strategic thinker to facilitate learning, development of nursing knowledge, reflexive thinker to

bring change, working with and through others to achieve success and transformational change'.

Mannix, Wilkes, and Daly (2015) stated that effective nursing leadership requires the leader to have a clear idea of their own values and evaluate the values of others, and these values to be reflected in their actions. Through a qualitative study, Mannix et al. (2015) identified three themes for leadership in nursing such as- 'embodying or exemplifying principled practice, practice ethical leadership in ambiguous situations, and being open to peoples' concerns through providing fair and just solutions'.

Finally, grounded on the above different definitions, it can be concluded that the primary focus of nursing leadership is a client-centered approach and clinical leadership skills. These skills require the professional nursing knowledge and skills with the team leadership ability; such as communication as human relationship skills, analytical and decision-making as conceptual skills, and the professional practice skills as the technical skills. The roles of the nurse leader are: teaching, helping, guiding and inspiring confidence; empowering others to improve performance; rewarding and recognizing the individual contribution; leading change to develop services and supporting the organization by bridging its members and teams.

1.3 Philosophy of Clinical Nurse Leadership

Over the last decades, knowledge generation on nursing leadership has been received the top priority in the healthcare system. The philosophical emphasis was to extend the nurses roles in healthcare and ensure effective contribution in care efficiency that goes beyond the routine nursing care (Benner, Tanner, & Chelsea, 2009; IOM, 2010; Pullen, 2003). Due to the nature of work as human interactions and practice

discipline, nurses require the theoretical nursing knowledge, professional skills, and skills from other disciplines that concern with promoting the health and healing of individuals, families and sick. Therefore, becoming an effective clinical nurse leader as role model; he/she requires both the scientific nursing knowledge and aesthetic behavioral art of practice that encompasses with empirical, practical, ethical, personal and socio-cultural understanding (ANA, 2013; Leininger, 1984). Hence, this is an abundant challenge for nurse educators, leaders, and administrators about how the future nurse leaders should be prepared with the leadership skills as mastery in nursing practices (Mahoney, 2001). It is believed that these expected leadership skills could enable the nurses effectively response to uncertain changes and endless reforms in the healthcare industries.

According to Curtis et al. (2011), the philosophical aim of knowledge development on nursing leadership is entirely different from the leadership of other disciplines. Leadership, in general, contained the values-based ideas on how a leader should be; act to be effective; and what are the sources of a leader's power (Marquis & Huston, 2009). Whereas, a nurse leader need to be actively involved in the acquisition and implementation of the healthcare systems and the quality improvement processes that are connected with the patients, organization and process development of care. Thus, the socially desirable values, contextual behaviors, and skillful arts in the ways of thinking, behaving and practicing are highly expected (Northouse, 2010). Hence, considering these roles of nursing, all nurses should be the leaders: leader in the clinical care, leader in management, and leader in the organization.

According to Mahoney (2001), the emancipatory attributes of the nursing leadership are the capabilities to demonstrate compassionate experts nursing care, create

a caring environment, and use advocacy to effect positive change that will benefit from patients and healthcare organization. The role of nurse leader is not only influencing or inspiring the followers; but also the ability to empower the clients, colleagues, and teams (Curtis et al., 2011).

In addition, nurse leader is also responsible for facilitating the learning for nurses and generating nursing knowledge that improves nursing practice roles in achieving the success for the profession and the organization (ANA, 2013; IOM, 2010). Thus, nurse leaders require the integrity and professional commitment to providing efficient, compassionate and safe patient care by addressing the quality in a financially responsible manner (Mayberry, Nicewander, Qin, & Ballard, 2006). McGaha (2012) stated that goal-oriented leader has the ability to view the potential reality and think outside of the box and have innovative ideas. Leader's personality traits, skills, and leadership abilities could make them successful in the new ways of thinking to look and move forward with a new approach.

According to Carper (1978), the aims of nursing knowledge development are to determine the types of knowledge, organized them and tested the gathered knowledge to be applied to improve nursing care. Accordingly, the philosophical aims of the present study are to explore the essential professional leadership elements for the clinical registered nurses in Bangladesh; and provide a formwork of developing skills in the identified clinical leadership elements that would contribute to the promote the nursing practice as safe, standard and quality care and add the professional advancement.

The primary aim of the present study is to frame a clinical leadership model and develop a scale to assess the leadership skills of clinical nurses in Bangladesh. It is expecting that the study will contribute to developing clinical nurse containing the

patient-centered values-based ideas, professional knowledge based power, and the contextual and patient need based understanding that expected to be in the ways of thinking, acting and behaving the process of nursing. Thus finally, it is strongly believed that to shape the future changing needs, understanding the present experience or situation of nursing leadership in Bangladesh is fundamental.

1.4 Importance of Leadership in Nursing

The healthcare and nursing researched shown that effective nursing leadership were directly linked to improved patient outcomes; patient safety; and lowered cost of patient care (Cummings, 2013; Macphee et al., 2012; Wong et al. 2013; 2015). As the anticipated purpose of CNL is to provide leadership at direct point of patient care, ensure that care delivery is safe, quality-based, and targeted to the optimal outcomes in clinical care (Reid & Dennison, 2011). Although, extensive review of literature identified several outcomes of effective CNL; broadly these can be categorized in to five major aspects linked to the patients, nurses and organizations including (1) quality and safety, (2) nurse empowerment, (3) organization and unit management, (4) healthcare advancement and (5) professional advancement.

Quality and Safety of Care

The important and key quality of a good leader is the ability to explore personal identity and team motives or beliefs in accomplishing a change and perceived vision of success (Oliver, 2006). Therefore, nurse as clinicians must have leadership skills in all settings to identify and implement change founded on good clinical decision-making and around a patient-centered approach to improving the safety and quality care (Cooper, 2003). The patient safety is the most important concern in the quality of

healthcare, which is interrelated with creating the safe environment and quality of nurses' self-efficacy in providing care (Rhodes, Morris, & Lazenby, 2011). An effective and relational approach to leadership contributes to healthy work environments through support, open and honest communication and trust. Wong's (2015) study identified that supportive nursing leadership is positively correlated with positive patient safety outcomes; such as- lower medication errors, nosocomial infections, and patient mortality. Another systematic review conducted by Wong et al. (2013) from 20 studies and identified positive relationships between positive relational leadership styles and higher patient satisfaction and lower patient mortality, medication errors, restraint use and hospital-acquired infections.

Nurse Empowerment

The concept of leadership is considered as the power of influence and potentiality of a leader to the inspiration that affects others beliefs, attitudes, and course of actions. And nursing leadership has been proved to have a direct effect on promoting nurses' self-efficacy and self-awareness (Manojlovich, 2007). Bender, Connelly, Glaser, & Brown (2012) identified a significant correlation between clinical nurse leadership and improved patient satisfaction, nursing care, skill level and keeping patients informed. There is growing research evidence that effective nursing leadership is positively influenced by team cohesiveness among nurses and other team members (Sherman & Pross, 2010; Shirey & Fisher, 2008).

Nurse leader is responsible for patients and professional advocacy, who able to play a key role in helping to give nurses a voice to improve patient care and create a satisfying organizational culture at the unit and organizational level by involving other nurses in the development of shared values in their work (Sherman & Pross, 2010).

Based on a systematic review Wong et al., (2013) concluded that there is a positive association between nursing leadership and improved patient outcomes. The authors also identified that effective nursing leadership is key to increase patient satisfaction, reduce patient adverse events and complications, and increase, collaboration among all healthcare teams and group efforts. Shirey and Fisher (2008) found a significant correlation between effective nursing leadership and interpersonal relationship in the workplace that was fundamental to reduce nurses' work stress, burnout, and absenteeism.

Organization and Unit Management

Nursing leadership has been identified as a key element of effective organizational management and effectiveness (Bender et al., 2012; Ott et al., 2009). Nursing leadership at both organizational and unit levels has a major influence on professional nursing practice (Manojlovich, 2005). According to Sherman (2003), the role of clinical nurse leaders was directly likened to the quality of patients' care, team building goals, process development at the unit level. AACN (2013) acknowledged that without the support of nurse leader, healthy work environments cannot be made that are essential for patients' safety and quality of healthcare services. According to Sherman and Pross (2010), the role of CNL in healthcare include creating collaborative and communication rich practice culture; a culture of accountability; increasing the numbers of qualified expert, competent, credible, visible leadership of nurses; environment of shared decision-making; fostering professional practice and continued growth; realizing the value of nursing's contribution; and helps to recognition by nurses for the their meaningful contributions to practice.

According to National Health Service (NHS, 2012), the healthcare effectiveness largely depends on the collaborative efforts of all health care providers,

particularly, in hospital settings nurses roles are significantly important. The Institute of Medicine (IOM, 2010), USA identified six core performance of effective nursing leadership in the healthcare: establishing safety healthcare system; care matched with evidence-based, patients' centered and socio-cultural context; reducing waiting time of care; ensuring equity of health care; and improving the efficiency of care management and reducing the cost of care (Baernholdt & Cottingham, 2010). The IOM also recommended that in order to create safer healthcare environment and reduce life threating medical error, the role of nursing leadership is critically important. Bender et al., (2012) study examined that clinical nurse leader's cross-disciplinary collaborative role is significantly correlated and effective for integrated quality care enhancement in an acute care microsystem and it contributed to increase patient satisfaction with the care.

Healthcare Advancement

A nurse leader can play a key role in shaping the nursing profession to be more responsive to the changing needs of the healthcare system and its sustainability (CAN, 2009, ANA, 2010). According to Hassmiller (2010), there are nine challenges in the healthcare system, where the nurses individually and as a professional group must address with the help of leading the healthcare system of a country to ensure the equitable and high quality of care. These are: (1) use nurse-led innovations that contribute to expand access to care and improve quality at lower cost, (2) generate evidence by conducting nursing research to build the scientific foundation for clinical practice, (3) redesign nursing education to possess basic competencies to meet the demands and diversity of healthcare, (4) expand the scope of practice, (5) diversity of nursing workforce, (6) embrace technology to improve quality of service, (7) foster inter-professional collaboration for high-quality care, (8) develop leadership at every level to

empower the nurses contribution, and (9) be at the policy to direct healthcare and positioned to provide leadership in healthcare. All of these roles of the nurses are fundamentally link to the effective leadership quality of the nurse leaders and it is for this reason that nurses is often at the forefront of initiatives to improve safety and quality in health care systems.

Professional Advancement

The successful engage of nurse leader in health care policy development and decision making, are the milestone to the development of nursing as a profession and facing the professional challenges (Adeniran, Bhattacharya and Adeniran, 2012). Wong, Cumming and Ducharme (2013) stated that the nurse leader's role of effect leadership acts as a mediator to influence of other nurses personal and professional development initiatives which also affects the performance of practices. A study was conducted by Manojlovich (2007) to examine the effect of unit-level nursing leadership on the relationship between structural empowerment and nursing self-efficacy to professional nursing practice behaviors. The result of her study found that nursing leadership was positively contributed to the effects of empowerment and self-efficacy on practice behaviors. In addition, the effect of nursing leadership was explained 46% of the variance in nursing practice behaviors. Similarly, Sherman and Pross, (2010) acknowledged that nurse leader can support the creation of a positive and supportive culture at the unit level by engaging staff in the development of shared values in their workplace and can empower them.

According to Ferry (2015) an effective leadership is the essence of professional growth, advancement and empowering the members of the profession. A study conducted by Macphee et al. (2012) about the nurse leaders' perspectives on the

outcomes of a formal leadership program conducted. The result of the study revealed that that leadership program had effective contribution to increase the self-confidence with respect to carrying out their roles and responsibilities; positive changes in their leadership styles; and positive changing perceptions among the staff. In Greco, Laschinger, and Wong's (2006) study found nurse leader's empowering behaviors were positively correlated with the perceived empowerment of staff nurses, increasing work engagement, and preventing burnout, which is also having an implication to the current nursing shortage in the healthcare.

Based up on the above empirical evidences, it can be concluded that the nurses as the frontline care providers, several clinical outcomes are relating with their effective role in the clinical care. Therefore, irrespective to the position of leadership, a clinical nurse should have the effective leadership quality in direct patients' care that linked with quality and safety, clinical expertise in managing the patients, team empowerment and self as well the unit, organization, individual and professional growth and advancement.

2. Theory of Leadership in Nursing

Leadership theories are dynamic and continue to change, which produced several schools of thoughts over a long time (Bolden, Gosling, Marturan, & Dennison, 2003). However, the interest of nursing leadership had received greater emphasis in an early twenty-first century and by this time; it generated a considerable amount of leadership research (Curtis et al., 2011). Although different leadership theories emerged with different philosophical thoughts, the key essences of each leadership theory

involved influencing group activities and coping with changes (Al-Sawai, 2013). Based on underpinning philosophy and characteristics of different leadership theories, they can be broadly categorized into four main branches: the trait approach; behavioral approach; the contingency or situational approach; and the skills approach to leadership (Clark, 2009; Northouse, 2010; Packard, 2009).

2.1 Traits Approach to Leadership

It was the first systematic approach to leadership study based on the assumptions that people inherit certain qualities and traits that make them better suited to leadership (Cherry, 2014). McCall and Lombardo (1983) explained four primary traits for a leader success or failure including staying calm under pressure; admitting errors and owning up to mistakes rather than covering them up; persuading others without restoring to negative coercive tactics; and being an expert in a broader range of mental, rather than having a narrow-minded approach. Although these traits were important for leadership, it was criticized that there is no any certain consistent set of traits that can make a difference from a non-leader to a leader in across all situations (Northouse, 2010).

2.2 Behavioral Approach to Leadership

This theory belief that great leaders are made not born and people can be learned to become a leader in education, training, and observation (Cherry, 2014; Clark, 2009). The contribution of the behavioral theory is; it provided a possibility for the flat gate of leadership development, in which everyone can be a leader (Northouse, 2010). But, there were certain criticisms that it neglects or failures to integrate the situational

and environmental variables where the leadership will be demonstrated (Hartog & Koopman, 2001). Thus, it may be unrealistic to expect that a given set of behaviors would work equally under all circumstances.

2.3 Contingency/ Situational Approach to Leadership

The contingency theory focuses on the particular variables related to the environment that might determine which particular style of leadership is best suited for the situation (Northouse, 2010).Contingency theory assumed that a single leadership style is not best suited to all situations and different people can be effective in different situations (Cherry, 2014; Saylor Foundation, 2013). According to McQueen, (2009), contingency theory is quite suggestive to apply nursing process, which focuses on assessing a situation, diagnosing the problem, planning an intervention, implementing the intervention, and evaluating the outcome. But the main limitation is; it is quite difficult to define and quantify the maturity of leadership in various situations (Bolden et al., 2003).

2.4 Skilled Approach to Leadership

The skills approach leadership, which was first proposed by Katz (1974) based on his firsthand observations, administration experiences and research (Packard, 2009; Wright & Taylor, 2007). This theory emphasizes what a leader does, rather than personal characteristics (Northouse, 2010). The skills approach to leadership implies that an effective leader requires certain knowledge, skills, and abilities that can be learned and developed (Northouse, 2010; Packard, 2009). Katz defined these skills as technical skills, human skills, and conceptual skills. Although this theory was not widely used in

nursing research but may nurse researchers used and suggested the skilled approach as most suitable for nursing leadership skills development, in particular to clinical level (Chase, 1994; Cherry, 2014; Georgette, 1997).

For example, Cherry (2014) stated "at the staff nurse level of management, a considerable amount of technical skill and clinical expertise is needed because the nurse generally is involved in direct supervision of patient care". Chase (1994) conducted an online national survey to explore the nurse managers' competence based on Katz's (1974) three skills leadership approach; and study found the nurse manager competencies included nursing theory, case management, the research process, effective communication, retention strategies, effective discipline and decision-making (Chase, 2010).

Furthermore, Georgette (1997) conducted a replication study based on the study findings of Chase (1994) to identify specific behavioral competencies important for hospital-based nurse-managers' effectiveness. Georgette's study revealed that for first-line nurse managers of younger clinical nurses, the human skills were the most significant, while in managing older nurses (> 45years) conceptual and technical skills were most significant. But according to Cherry (2014), ineffective nursing leadership to leading and managing at staff nurse level are required three types of practice skills; such as technical, human and the conceptual skills. According to the author, although at staff nurse level, a considerable amount of technical skills are most important as clinical expertise and direct patient care providers, the concept skills also essential for making expert clinical decisions. Thus, based on the review of the different approach to leadership, Katz (1974) three skills leadership approach was considered as most

appropriate to guide theoretical framework t of the present study. The components of Katz's (1974) three skills leadership are explained below:

Technical Skills in Leadership: The technical skills refer to the proficiency, based on specific knowledge, in a particular area of work. The leaders with technical skill mean that the leader should be competent and knowledgeable in regards to the activities specific to the organization and its standards and operating system (Northouse, 2010). In nursing, the technical skills are the knowledge base proficiency in performing specific nursing procedures in providing patient care that ensures the patient's safety and standard of care as a role model. According to Marquis and Huston (2009), the technical skills of clinical nurse leaders are also essential for influence a process of persuasion by an individual that influences others to take action towards the goals of the leader.

According to Verma, Paterson, & Medves (2006), "leadership skills in nursing is a multifaceted and dynamic concept that refers to the understanding of knowledge, clinical skills, interpersonal skills, problem-solving, clinical judgment, and technical skills. A clinical registered nurse is most frequently engaged in varieties of leadership activities in their daily routine; in which, some skills are usually naturally adopted as an effective leadership style. Whereas, others skills or competence may need to find in the concept of leadership in relation to the particular work contexts or nature of work (Bolden et al., 2003; Frankel, 2011). According to ANA (2010), an effective clinical nursing leadership is included with professional knowledge and clinical nursing skills as well as the skills of leadership in general. In this perspective, the skills leadership approach can be an effective approach for developing leadership in clinical nursing (Chase, 2010).

Human Skills in Leadership: It refers to the interpersonal proficiency in working with people based on a person's knowledge about people and how they behave including the skills in effective communication, understanding the motives, attitudes, and feelings (Northouse, 2010). In nursing, particular to clinical nursing, human skills of any nurse are fundamental for the successful outcome of individualized nursing care of each patient and team working (Kourkout & Papathanasiou, 2014). These skills required to effectively influence to develop a nurse-patient relationship, work with superiors, peers, and subordinates. For example- the skills of communication is a vital element in nursing in all areas of activity, such as prevention, treatment, therapy, rehabilitation, education and health promotion. According to Northouse (2010), the leaders with higher levels of human skills are better able to adapt their own ideas to other people's ideas and are more sensitive and empathetic to what motivates others and create an atmosphere of trust relationship with followers.

Conceptual Skills in Leadership: The conceptual skills of the leaders are the ability to think creatively, analyze and understand complicated and abstract ideas that allow the leader to think through and work with ideas (Northouse, 2010). The leaders with higher levels of conceptual skills have the high levels of ideas and creativity to formulate a vision for the future and understanding the economic principles underlying their organization's effectiveness. The conceptual skills of clinical nurses are the ability of clinical judgment that is important to make sound clinical decisions and to solve clinical problems, which involves observation, rezoning, the critical thinking, analyzing (Phaneuf, 2008). According to Phaneuf, conceptual skills allow clinical nurses to understand the patients' symptoms and ideas, planning to create elevation by providing

logical interpretation, and helping patients to support for physical, psychological and spiritual needs.

In conclusion from the above review of the different leadership approaches, we can see that chronological development of different theories had different philosophical views for the success of a leader and leadership. In spite of some limitation of each theory of each, they also had some common consensus that leadership is a process of influence to others attitudes, beliefs, values, behaviors and practice to achieve the common goals. Although, the early theory focused on qualities that make a difference between leaders and followers; but the subsequent theory considered the other variables into account for effective leadership. These variables include the environment; situation; and leader's roles, knowledge, behaviors, and skills.

However, in present study, considering the target population such as for clinical nurse leadership; leadership skills approach was considered as more appropriate as theoretical guideline of the RN-CLS development. The researcher believed that the role of CNL is diverse and continue accountable and responsible for providing direct patients care; for the unit or units; and for maintain vital link with patients and families, coworkers and teams, and integrations of administrative strategies or plans to the point of care (AONE, 2015). Thus, to effectively perform the roles of the CNL; the technical, human and conceptual skills of leadership are fundamentally important. Hence, considering the nature of works, scope of leadership practice and assuming roles of the CNL; the Katz's theory of leadership skills approach (1974) was considered as most appropriate in the present study. It was believed that these three skills concepts can provide a concrete strong basis for leadership development of the clinical nurses in Bangladesh that currently should address.

3. Clinical Leadership Skills in Nursing

Effective clinical nurse leadership is crucial for improving the care environment and increasing the effectiveness and outcomes of care (Casey et al., 2011). The focus of this section was to discuss the current state of knowledge about the topic of the clinical leadership and clinical leadership in nursing including the definition, attributes, and the skills dimensions of the clinical nurse leadership. The details of each aspect were discussed in the followings:

3.1 Definitions of Clinical Leadership

In healthcare system, the definition of clinical leadership is not an exclusive domain for any specific professional group such as the doctors, nurses or others staffs (Daly et al., 2014). Rather, each member of the clinic care team is an identified clinical leader (Davidson, Elliott, & Daly, 2006). The traditional leadership definitions were mostly focused on the personality traits and behavioral characteristics of the leader as effective leadership style (Northouse, 2010). While, the contemporary definition of leadership focuses on the leader's cognitive, affective and psycho-social skills which contribute the superior performance in accomplishing the certain tasks, inspire others behaviors, promote communication and collaboration, and support to create a safe and interactive work environments (Bass, 1999; Carpenter, Bauer, & Erdogan, 2009; Sherman & Pross, 2010). According to these contemporary concepts, the clinical leadership is a position of the leader that requires both the technical skills for demonstrating the professional practices, the non-technical skills that influence the

behaviors of others, and the skills of cognitive for leader's creativity (ANA, 2013; Leggat & Balding, 2013).

Despite the limitations of an identical definition of clinical leadership, a number of healthcare leaders and researchers sought to describe the successful or unsuccessful characteristics or attributes of effective clinical leadership. According to Daly et al. (2014), "effective clinical leaders have been characterized as having advocacy skills and the ability to affect change, which are linked to facilitating and maintaining healthier workplaces." Another definition provided by Harper (1995) and stated that a clinical leader is "One who possesses clinical expertise in a specialty practice area and who uses interpersonal skills to enable nurses and other healthcare providers to deliver quality patient care". According to Happer's this definition, the role of clinical leader is the ability to work in collaboration with other members of the team to enhance the patient care and to positively enhance the professional role of nursing in the provision of care.

Citing the role of clinical leader, Lett (2002) specified that the CNL is an expert nurse who leads their followers to better health and health care and provides vision to their followers and empowers others'. As Lett; Cook (2001) defined the clinical nurse leader as "a nurse who directly involved in providing clinical care that continuously improves care through influencing others". Other expert in clinical leadership Stanley (2006) concluded that an effective clinical leader requires leadership skills for team building, confidence in and respect for others and a combination of expertise and communication skills, as well as vision and empowerment.

As Harper's (1995) definition of clinical leadership; Mannix et al., (2013) identified four groups of key clinical focus characteristics of the clinical leadership

including specific clinical practice skills; specific expert knowledge on leadership and management; use evidence-based rationale; and systematic, critical and rapid thinking skills. A most acceptable and well-defined definition provided by Olsen, Husebø, Qvindesland, & Lorentzen (2015) based on the four core values of the clinical role of the leader. According to Olsen et al., a CNL as "the leader who takes responsibility for clinical decision-making, within the scope of his/ her role in a clinical team at any given time, with a patient-centered perspective addressing the values of trust, quality, responsiveness, and efficiency."

3.2 Definition of Clinical Nurse Leader

According to the University of San Francisco, the clinical nurse leaders are registered nurses who are directly involved with designing, implementing and evaluating patient care. They also coordinate, delegate and supervise the care provided by healthcare team members at the clinical care levels".

According to Alleyne and Jumaa (2007), ‘an effective clinical nurse leader critically appraise the clinical process, incorporate tried and tested management and leadership frameworks and the concepts into clinical practice, and make a decision in order to improve the quality of patient care’. Cook (2001) provided a fundamental viewpoint about the definition of the clinical nurse leader; who defined the clinical nurse leader, ‘as a nurse who directly involved in providing clinical care that continuously improves care through influencing others.’

According to Chavez and Yoder (2015), the Cook's definition provided us a comprehension about the required skills of clinical nurse leader. Based on Cook’s; Chavez and Yoder identified three essential elements of clinical nurse leader including

(1) with a direction, (2) influence, and (3) empowerment of the staff nurses that contribute to improving the process of care and collaboration of making a caring environment.

Hence, based on the concept and definition of clinical nurse leader, it can be concluded that clinical nurse leader processes the influence of quality care to the clinical staffs and organize the care environment to make it supportive for patient care delivery. Moreover, the leader ddemonstrates him/her-self as role model for others nurses and teams through using the clinical expertise, clinical knowledge and behaviors that fosters a vision of empowerment and team cooperation.

3. 3 Definition of Clinical Nurse Leadership

Nursing is the key for accelerating the quality of healthcare and maintaining a sustainable quality working environment in patient care (AACN, 2013; CAN, 2013). Thus, as frontline care providers, nurses were supposed to be an effective clinical leader; as the quality of healthcare and its expected outcomes are largely depend on the quality of clinical care service provided by the nurses (Sullivan & Garland, 2010). Consequently, in recent years, the concept of CNLs has received as most prominent discussion topic in healthcare literature arround the world. Although it was first introduced by the AACN in 2004 in response to the quality and safety issues report of the Institute of Medicine (IOM) in 1999 (AANC, 2007).

Over the years, in spite a lot of efforts to develop nurses with the skills of clinical leadership, still there was a lack of agreement on a typical definition of clinical nurse leadership (CNLs) in the existing literature. Thus, the definitions of CNLs have received a mixed reception in nursing due to lack of clarity about the specific roles of the

nurses as a clinical leader and integration of the professional nursing knowledge and skills in leadership (Monaghan, 2011).

Despite to acknowledge the lack of a standard definition of CNLs, many authors identified some common themes about the characteristics of the CNLs as described in literature. According to Joseph and Huber (2015), CNL is "as the process of influencing point-of-care innovation and improvement in both organizational processes and individual care practices to achieve quality and safety of care outcomes". The authors stated that roles of CNLs involved the use the skills of general leadership, skills in managing the care delivery, and skills in using evidence-based practice for problem-solving and outcomes management. A most simple but a leading definition was provided by Gilmartin and Nokes (2015), as the clinical nurse leadership is the process of "the management of client-centered care and clinical excellence at the point of care". According to Gilmartin and Nokes, the CNLs is the process of involving a nurse as a clinician to actively manage care coordination activities, clinical outcomes management to promote evidence-based practice and data-based clinical decision-making, and care environment management to promote clinical quality and safety.

Therefore, from the review, it can be concluded that despite some variations in the above definitions of clinical nurse leadership as found from literature; several characteristics or attributes as explained to CNLs were very common and over lapped. The provided definition revealed that several authors were agreed on one concept that becoming an effective clinical leader, a nurse must have the professional nursing knowledge and skills as mastery of technical clinical performance and the skills in non-clinical leadership to influence others as a role model. Thus, summarizing the above definitions, the CNLs skills can be described as, a nurse's ability to exhibit the

professional knowledge, technical skills, and arts of interactions that influence others and are consistent with a desirable nursing practice which describes the excellence in performing clinical management and advancement. The desirable features of the CNLs should be a dream of leading change, leading self, leading people, results driven, coalitions and supportive building relationship focused and skills in effective communication and morality.

4. Attributes of Clinical Nurse Leadership

Several key attributes were described in the current literature for effective leadership for a clinical nurse, some may be naturally adopted and others may need to be learned from the concept of clinical nurse leadership. The attributes of CNLs that in literature can be broadly categorized into two main domains: (1) the clinical or professional attributes; such as clinical expertise, visibility in practice, patient-centeredness, transference of care, and caring (Cook, 2001; Daly et al., 2014; Mannix, Wilkes, & Daly, 2013; Stanley, 2006); (2)Non-clinical or general leadership attributes including approachable; careful listener; interpersonal skills; empowered decision maker; respectful; supportive and flexibility; role model; and change agent (Cook, 2001; Curtis et al., 2011; Daly et al., 2014; Stanley, 2012). The brief descriptions of all attributes are as follows:

4.1. Professional Leadership Attributes

These refers to the skills of CNL which deals with the professional nursing characteristics and reflect leaders professionalism as essential for the

development of clinical excellence such as commitment to patient care, organization and profession; personal values and ethics; reflective practice; resilience, adaptability and self-confidence (RNAO, 2007). These skills serve as the foundation for ongoing professional development, personal satisfaction and career engagement (AACN, 2007; Neese, 2015; Stanley, 2012). Some of the key professional attributes were discussed below:

Clinical Expertise

Nursing is practice discipline that requires the expert nursing knowledge and specific nursing practice skills to become a good clinician to changing relevance and changes in the patient's responses to the nature of his condition over time (Benner et al., 2009). The clinical nursing expertise is central to quality patient care that included with practical and theoretical knowledge in nursing (McHugh & Lake, 2010). According to Stanley and Sherratt (2010), clinical expertise includes specific clinical knowledge, clinical inquiry, and clinical judgment to make clinical decisions. This study also acknowledged that demonstrating clinical expertise of a clinical nurse is the central pillar to being recognized as a clinical leader. A qualitative study conducted by Supamanee, Krairiksh, Singhakhumfu, & Turale (2011) in Thailand and identified the clinical skills as surface characteristics of the clinical nurse leadership.

Visible Nursing Practices

According to CAN (2009) "clinical nurse leader must be energetic, consistent and knowledgeable who are visible, inspire and support professional nursing practice". Visible nursing practice reflects that clinical leaders are present in the clinical practice fields and they have actively involved them in clinical activity (Stanley, Harris, & Rosseter, 2011). According to CAN (2009), the visible clinical nurse leaders advocate

for quality care, act as collaborator and mentor, take a risk and demonstrate his/her as a role model.

Patient Centeredness

The patient-centered care is a highly desirable attribute of the clinical nurse leader (Davis et al., 2005; Mannix et al., 2013). Patient-centered care refers to the respectful care of the patients by acknowledging patients' preferences, needs, and values; provide heart and hands for care as biopsychological perspectives rather than purely a biomedical perspective; and establish partnership within patient and career (Greene, Tuzzio, & Cherkin, 2012). An effective clinical nurse leader focuses on accessing and improving the patient's care; educate and share knowledge with patient and family for awareness and involvement in care process (Stanley et al., 2008); coordinate and collaborate with clinical team management (Davis et al., 2005); respect patient needs or preferences in planning the care; and put the patient's care first (Greene et al., 2012).

Transference of Care

The clinical nurse leaders are responsible for ensuring the effective transference of the patients' care as professional responsibility (Davis, et al., 2005). The patients may be transferred from acute care either to immediate or long-term nursing or residential cares, where, a clinical nurse leader must look back to make sense of the patient's journey to date and onward to deliver the information necessary to support the ongoing care (Currie & Watterson, 2007). Thus, the transfer of care involves clinical leader's engagement in providing care; sharing with patients, family, and teams; measuring the outcome and comparing with the objective of care designed. The key elements of transfers the care are involvement and participation, communication and

documentation; and providing timely and relevant information to the patients on families (Currie & Watterson, 2007).

Caring

Basically, nursing is a profession of caring that provides an insight and desire to care for the sick individual (Vance, 2015). Caring leadership provides an answer to the challenge of encouraging the heart that brings the core values of the heart of a caring leader (Williams, McDowell, & Kautz, 2011). The clinical nurse leader's role of caring provides the role model for the subordinates, colleagues, and co-workers; and brings respect and love for the patients. According to Ray (2010), the essence of caring is love, empathy, authenticity, compassion, co-presence, and availability. Based on the nursing literature, Vance (2015) provided top ten caring behaviors of the clinical nurses including- attentive listening, comforting, honesty, patience, responsibility, assist the patient to make an informed decision, touch, sensitivity, and respect.

4.2: General Leadership Attributes

These skills refer to the abilities of the CNL that deals with the qualities of the leader in effective communication and interpersonal, creative problem-solving, support and flexibility, and acts as a change agent. The important general attributes of the CNLs as follows:

Approachable

Approachability was identified as a most important and critical attribute of clinical nursing leadership. From a survey reteach on 830 registered nurses in 36 clinical areas, Stanley (2006) identified that 97.3% of nurses were pointed out that approachability and openness are the most desirable characteristics and qualities of

clinical nurse leaders. The approachable leader values them self and values others; talk with respect, friendly and understanding and they always open and caring, knowledgeable and fair, calm and confidential (Stanley, 2006; Stanley & Sherratt, 2010).

Active Listener

An effective leadership is always a good listener. Careful listening involves hearing others with meaning and feeling, understanding the message and its importance to the speaker (Rynders, 1999). Listening skills are the central attribute for effective communication and developing the interpersonal relationship between leaders and followers. A clinical nurse leader must be an empathetic listener, which means that listen with compassion and understanding before making your suggestions to the followers (Stanley, 2012; Stanley et al., 2011). As a clinical nurse, both of these qualities are vital to understanding the patient's concerns or needs, working with the team and providing support to the patients and to the teams. According to Rynders (1999), listening skills are to seek first to understand and then to be understood.

Interpersonal Skills

An expert clinical nurse leader is a great nurse who has excellent interpersonal skills to work well in a variety of situations with different people (Stanley et al., 2011). Interpersonal skills are the foundation of conflict resolution and communication such as cooperation, self-confidence, and process thinking skills (Neese, 2015). According to Rynders (1999), a leader’s interpersonal skills involve showing desire to understand the person, reflect the person’s feelings and meanings, pace the person’s sensory and nonverbal behaviors.

Empowered Decision Maker

Empowered decision making is a process in which, the leader gain more control over a decision that affects their lives or existence (Stanley, 2006). It is a pro-active role of leader that encourages an active and initiative-taking approach to any decision-making (Chen, Mullins, Novak, & Thomas, 2016). Stanley (2006) acknowledged that clinical nurse's decision-making is not only important for patient care but also regard to entire clinical issues central to clinical leadership including effective delegation and problem-solving. According to Stanley & Sherratt (2010), the effective clinical leaders are being enthusiastic but rapid thinking, make colleagues feel confident, provide an evidence-based rationale, support and encourage.

Respectful

An effective clinical nurse leader in healthcare is continually emphasized safe, high quality, compassionate care as the top priority. They are always respectful to the voice of patients, colleagues, and teams; concern with patient experiences or needs; offer assertiveness, collaborative and negotiable support (Davidson et al., 2006; Mannix et al., 2013; Stanley, 2006). West, Armit, Eckert, West, and Lee (2015) identified the characteristics of supportive clinical leaders such as the leader deals with empathic, fair, respectful, compassionate and empowering leadership, which offer appreciation in creativity and promote continuous development of the knowledge, skills, and abilities of self and staff to improve the quality of patient care and safety.

Supportive/Flexibility

According to Supamanee et al. (2011), flexibility refers to the CNL's ability to be flexible in working with the team as well as with the existing rules and

regulations where no need to be much firmed to apply. As the CNL works at the point at which care is delivered by providing the hands-on care of their patient; their role is not primarily as a direct caregiver but rather a facilitator of direct care. Therefore, the roles of CNL are involving in the care of the patients; provide support and assessment of patients who have complex healthcare, provide direction and delegation to care (Monaghan, 2011). According to RNAO (2007), the flexibility and supportive attributes are motivational factors and understanding the patient's perspective including assisting the patient with their needs, and reflect being knowledgeable about policies that impact on the delivery of care.

Role Model

Clinical nurse leadership is an embryonic role of nurses, in which a nurse leader works in partnership with the clinical nurses, doctors, allied health professionals, patients and families as team approach (Stavrianopoulos, 2012). Therefore, the behaviors of the leaders should be exemplary and identifiable for others to influence (Stanley, 2006). According to Supamanee et al. (2011), a true leader is one who respected the colleagues and valued the opinions of other nurses with a view of role model. A role model clinical leader demonstrate the standard of care as visible, show a positive attitude towards the nursing profession, leads with ethics and morality express self-confident, acknowledge own strength and weakness, and adopt leadership style by context (Mannix et al., 2013; Stanley, 2006).

Change Agent

An effective clinical leader is visionary, creative and manages change as responsive to the needs of the patients, profession, and organization to enhance and ensure quality and safety of patient care (Stanley et al., 2011; Stavrianopoulos, 2012).

According to Marquis and Huston, (2009) 21st-century healthcare leader must be proactive and change-oriented for organizational restructuring and quality improvement. Stanley (2012) acknowledged that innovative and change clinical leaders are creative problem solver and the author identified six characteristics of change clinical leader; such as searching common way to change, cope with problem-solving or overcoming the barrier of change, being responsible for making change, showing commitment, think outside the box, and acting with force for change by mastery.

The above discussion on leadership attributes of clinical nursing is representing that the key characteristics of effective clinical nurse leadership essentially involve two types of attributes. First, the professional leadership attributes are encompassed with the specific clinical nursing knowledge, practical skills, and professional behaviors that support the highest level of professional performance and understanding the professional issues. Second, the general leadership skills, which composed of the conceptual and human skills as necessary in all forms of leadership to be analytical, creative, decisiveness and influential motivators.

5. Dimensions of Clinical Nurse Leadership

Effective CNL had demonstrated the ability to address the required changes and improvements in clinical care that impacts the efficiency and quality of patient care by utilizing the various skilled qualities. From the extensive reviewed of literature related to the quality, skill, competency or component of CNL; a vast number of dimensions were recognized that varied or similar across the literature to literature. Based on the nature of definitions, descriptions and contents of explanations; broadly

they can be categorized into three major perspectives of leadership dimensions including (1) the technical skills of the CNLs, (2) the human skills of the CNLs, and (3) the conceptual skills of the CNLs. The common and important identified specific dimensions of CNLs are discussed in below as underlying components of each category:

5.1. Technical Skills of Clinical Nurse Leadership

The CNL uses the various strategies or techniques in providing the patients' care including the assessment, evaluation, screening of patient problems and anticipated risks. At the same time as direct care provider, the CNL is responsible to design, implement and evaluate plans of care for the patients. These require the leader to use sound professional knowledge and the practical skills in combinations of customizing the routine methods or techniques but scientifically valid for the achievement of patients and units related outcomes. Based on the review of skills related literature of CNL, the technical skills which explained in this part include: clinical management, patient-centered care, evidence-based practice, and the skills of healthcare technology.

Clinical Management

Clinical management capability of a registered nurse is the highly important role and expected skills to demonstrate him/her as an effective clinical nurse leader (ANA, 2010). According to CAN (2009), the role of nurses in the clinical management is not a care provider, but also a leader to support nursing leadership. The skill in clinical management of a CNL is the surface characteristics as it is associated with the quality of patient care (Supamanee et al., 2011). The CAN has explained numerous skills of a nurse leader in clinical management; such as- advocate for quality

care and support work environment to promote patient safety; review, record, monitor and manage the policies and procedures as performance improvement plans for the staff; and provide ongoing communication to the clinical team on management issues and goals. Others roles of a clinical leader in clinical management include: communicator, change agent, planner, educator, and clinical manager as a member of the profession (CAN, 2009; Cook, 2001; Stanley, 2006).

According to Covey (2004), the functions of management and leadership are distinct. But they are complementary to each other; and a leader can't be true leaders without becoming good managers first (Algahtani, 2014). In nursing, the clinical management skill of a nurse leader is the first role; particularly to evaluate the leadership practice as a clinical nurse leader. As, the primary focus of nursing education is to prepare a nurse with the fundamental clinical nursing knowledge and practical management ability as expected to be provided high-quality patient care, ensure patients' safety, and continuity of care (Hudak, Brooke, & Finstuen, 2000*;* NHS, 2012). According to Levett-Jones et al., (2011) clinical management skill is necessary for sound clinical reasoning and decision-making; such as to collect the right cues and to take the right action for the right patient at the right time and for the right reason.

Harper (1995) defined clinical management skills of the nurse leader as "one who possesses clinical expertise in a specialty practice area and uses interpersonal skills to enable nurses and other healthcare providers to deliver quality patient care". Stavrianopoulos (2012) identified several roles as clinical management skills of nurse leadership; such as: using evidence-based information to design and coordinate the care delivered to individuals; having nursing knowledge of illness and disease management, health assessment, and innovative nursing interventions; preparing to lead quality

improvement initiatives to reduce medical errors and increase patient safety; acting as interdisciplinary care team manager and patient advocate regarding preferences and values as partners in care and decision-making; able to using information systems and technology as pertinent to improve health care; acting as an educator of the patients and families; and actively engaging in the acquisition of knowledge and skills to effect change in healthcare practice and profession.

Patient-Centered Care

The primary role of clinical nurse leader (CNL) is providing direct patient care at micro levels, who is accountable for the care outcomes of the patients ate clinical levels (AACN, 2007). Therefore, the care providers' clinical actions to meet the patients' needs and satisfaction in terms of expected outcomes, safety, effectiveness, and quality are the central part of patients or person-centered care (ACSQHC, 2014).

The existing literature frequently acknowledged that the individual patient's needs, preferences, and values are the principal considerations in the provision of person-centered quality care and guiding patient-centered clinical decision (CAN, 2013; IOM, 2010). Thus, performing a comprehensive and holistic assessment by addressing the patients' physical, emotional, intellectual, social and spiritual needs are the fundamental aspects to ensure a respectful and responsive patient-centered quality care (ACSQHC, 2014; IOM, 2010; McCormack & McCance, 2006).

The IOM (2003) defined patient-centered care as "providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions". The IOM identified six core elements of high-quality patient care as safe, effective, patient-centered, timely, efficient and equitable. According to Australian Committee on Quality and Safety in Health Care

(ACSQHC, 2014), the dimensions of patient-centered quality care includes respect patients preference and values, emotional support, physical comfort, information and education, continuity and transition, coordination of care, involve family and access to care.

Hobbs (2009) stated that patient-centered care (PCC) is a process of developing a deeper connection between nurses and patient that involve a patient-centered interaction and assessed by patient's outcomes satisfaction in regard to provided care. McCormack & her colleagues develop a cultural support patient-centered nursing practice framework that addresses five important aspects with five patient-centered outcomes (McCance, Gribben, McCormack, & Laird, 2013). According to McCance et al. (2013), the important tenants of PCC are nurses' ability of the practice to work with patient's values and beliefs, nurses' personal and team engagement for better understanding of person-centeredness, share decision-making for mutual trust and understanding, having a sympathetic presentation, and provide holistic care.

Besides the above, several clinical nursing literature which were also focused on various attributes for nurses in providing patient-centered quality care; such as self-awareness, commitment and strong professional values (CAN, 2013); role orientation, heterogeneous response, whole, and uniqueness, caring, centralize and decentralize power, therapeutic endearment (Hobbs, 2009); patient choice, culture, social context and respect specific needs (Baernholdt & Cottingham, 2010). According to Robinson, Callister, Berry, and Dearing (2008), the fundamental characteristics of PCC are patient involvement in care and the individualization of patient care that involves shared decision, patients' empowerment, and the provision of partnership and

individualized care by knowing patients, physiological examination, tailoring acre, accessible human care.

Evidence-Based Practice (EBP)

According to the AACN (2007) on of the main assumptions of clinical nurse leadership preparation is focusing on the demands of evidence-based nursing care in every aspect of healthcare. The IOM (2003) strongly recommended that the client care decision-making should be based on the best available scientific knowledge in order to avoid over or underuse and illogically vary from clinician to clinician or from place to place. Thus, the EVP have received as a top priority issue in healthcare to ensure the patients quality and safe care delivery system. According to Sammer et al., (2010), the evidence-based practice is an important aspect to ensure the patient safety culture in the organization that increases standardization and decreases the variation of care providing. Thus, the process is designed to achieve a high reliability and best practice guideline through critical analysis, synthesis and integrate the results of primary studies.

The AACN (2007) acknowledged that as microsystem direct care providers, the skills of clinical nurse leader must be measured based on the degree to which clinical leader's ability to incorporate new evidence into practice as a measure of quality improvement and safety. The AACN (2007) some specific skills of the CNL for evidence-based practice: such as acquisition of sound theoretical nursing knowledge; outcome-oriented care; integration of new knowledge into practice; manage, design and implement system change; sharing new knowledge; clinical reasoning skills; ability to learn from teamwork; and integrate the best evidence with clinical expertise and patient values.

Baernholdt and Cottingham (2010) claimed that clinical nurse leader's ability of evidence-based practice is depending on the capability of using critical thinking and analysis of research findings to plan evidence-based interventions that can be visualized by effectiveness, efficiency, and integration of evidence in the plan of care. According to Melnyk, Fineout-Overholt, Stetler, & Allan (2005), a clinical nurse with high ability of evidence-based practice appreciates, facilitates change and engages to find new know knowledge; having self-deliberation and commitment to positive change; search evidence to make a change as relevant to the environment; and demonstrate the positive attitude to generate new and encourage excellence.

Skills of Healthcare Technology

The healthcare technology has become increasingly complex; but a more useful transforming way of facilitating the continuity and comprehensiveness of patient care (AACN, 2007). The healthcare technology is also known as healthcare informatics, which was defined by the ANA (2010) in the Scope of Standards of Nursing Informatics Practice as "a specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, and knowledge in nursing practice". According to Daniel and Oyetunde (2013), nursing informatics facilitates the integration of data, information, knowledge, and wisdom to support the patients, nurses, and other providers in their decision-making in all roles and settings. The CNL's skills of information or healthcare technology are vital to access the current and updated information using technology and processing the information as relevant to nursing practice (Hughes, 2008).

The CNL’s skills of nursing technology are vital for storage, manipulate, sharing and presenting information related to patient data and nursing practice (McNeil

et al., 2005). The role of CNL is not only applying the personal skills of using the patient care technology but also ensures the ethical use of information and information systems including safety, privacy, confidentiality and security of evidence-based practice (McNeil et al., 2005). According to AACN (2007), the basic skills of the CNL in using healthcare informatics or technology include information management; efficient use of patient care technology; monitoring patient's condition using technology; sharing knowledge and knowledge gather; use for networking, coordination and improve care and use technology as a source of lifelong learning. The ANA (2010) put the education and practice of information technology as a first line nursing research agenda focusing on nursing informatics as a means of enhancing patient care.

McBride (2005) identified the promise of informatics in reshaping nursing and healthcare practice in terms of seven aims for improvement including safety by continuous monitoring the patients; system effectiveness by facilitate dissemination of standards and policies; promote patient and family centeredness by supporting their decision-making; timeliness as just time intervention; efficiency by remove redundancies; equity as making information in the patient's language; and it makes possible of global connectedness that permit a no-borders approach to health care.

5.2. Human Skills of Clinical Nurse Leadership

The CNL needed continuously to coordinate, communicate and share the human concern, such as with the patients, families, coworkers and the teams for environmental and material resources for the cohort of patients within the unit microsystem to ensure cost-effective care. The CNL works with the multidisciplinary care team to provide quality care to the patients. Therefore, a high level of human skills

is fundamental for an effective clinical nursing leadership. The review summarized CNL's human skills, such as communication, interpersonal skills, multidisciplinary collaboration, moral behaviors, and the professionalism.

Communication

Communication has been identified as most important skill attribute of clinical leadership in nursing (Cummings et al., 2010; Ennis, Happell, & Reid-Searl, 2013; Mcgilton, Irwin-Robinson, Boscart, & Spanjevic, 2006; Supamanee et al., 2011; Watts & Gordon, 2012). In nursing, communication is a complex, ongoing interactive process that forms the basis for an interpersonal relationship with patients, families, nurses and other allied healthcare team members (AACN, 2007). According to Arnold and Boggs (2011), effective communication in healthcare is as two-way exchange of information among clients and health providers ensuring that the expectations and responsibilities of all are clearly understood.

The effective communication skills of the clinical nurse leadership involve critical listening, critical reading, quantitative literacy, oral, non-verbal and written communication skills (AACN, 2007). Communication leads to understanding the both parties, the senders, and receivers in timely and accurately using the information and feedback that are vital for nurses dealing with diverse patient needs and work with multidisciplinary healthcare settings (Arnold & Boggs, 2011). According to Bach and Grant, (2009), effective communication skills among nurses ensure patient-centered interaction and care, gain patient satisfaction, facilitate adherence to treatment options and therapeutic engagement.

For effective clinical nurse leader, communication acts as a vehicle for sharing the ideas, develop team building and team relationship, therapeutic relationship

with patients, and empowering and engaging the patients in the care process and inspire the followers and colleagues (Ashurst & Taylor, 2010). A leader's inspirational communication is the expression of positive, optimistic and encouraging messages that build a motivation and confidence for the followers to the leaders (Matveev & Nelson, 2004). However, still, despite a vast agreement about the importance of communication skills in nursing; develop communication skills and evaluate its effectiveness in nursing is challenging (Bach & Grant, 2009; Mccarthy, O'Donovan, & Twomey, 2008). As, nurses needed to communicate with verities of people and with diverse backgrounds and needs, in which emotional intelligence, self-awareness, and understanding the audience including the time, place and person are an important concern for effective communication (Mccarthy et al., 2008; Watts and Gordon, 2012). Arnold and Boggs (2011) acknowledged that for effective communication proficiency, a clinical nurse needs to use the knowledge, skills, and attitudes to incorporate personal values and preference to give safe, caring and compassionate effective care that refers to patient-centered concern.

The skill of effective communication for CNL is important to create a positive, interactive and safety care environment. A clinical leader uses communication as a means of quality improvement by identifying the different views from patients, families, colleges and health teams in grads to the quality of patient care (Arnold & Boggs, 2011). Thus, the critical attributes of the CNL should involve the ability to exhibit and offer self-translation, relation focused and collaborative by applying mutual respect, openness, and sharing (ANA, 2010).The review of literature, although several skills were identified for effective communication skills of clinical nurse leadership; but it can be categories into some important aspects,; such as awareness of choosing the

language; use of non-verbal closeness skills to increase cognitive understanding and credibility; listening attentively for meaning and feelings, and relevance- identifies the relevance of the interaction (Bach & Grant, 2009; CAN, 2009,2013; Ennis et al., 2013; Watts & Gordon, 2012).

Interpersonal Skills

The interpersonal skills are primarily referred to the human relations skills of a leader and include the characteristics of personality, attitudes, and integrity, which are equally important as communication (Arnold & Boggs, 2011; Lussier, 2010). The leaders use the interpersonal skill to establish a trust relationship between the leader and followers, which is the essence of effective leadership. In clinical nurse leadership, the interpersonal skill is the part of the therapeutic process as required for establishing a therapeutic relationship between the nurse and the patient, and it is inclusive to work with a multidisciplinary team (Boykins & Carter, 2012). According to Supamanee et al. (2011), interaction skills valued as surface skills of the CNL that is important to perform the CNL's role as coordinator and collaboration with the patients, and teams.

Interpersonal skills of a leader are the foundation of a human relationship that allows a leader to work with a diversity of people (Lussier, 2010). According to Bass (1999), relational leadership permits the leader not only to understand the need for each individual but provides an environment of open communication and trust. A relational leader is always supportive and empathetic to empower the group members. Cherie and Gebrekidan, (2005) identified that leader characterized his /her behaviors as; is ready to listen, is compassionate, offers acceptance of individuals, exhibits a shared problem-solving attitude, is open-minded, and values equality in the workplace. Matveev and Nelson, (2004) acknowledged that interpersonal relationship is an inspirational

communication that expresses positive and encouraging messages that build motivation and confidence.

The review of the literature identified a range of skill aspects of effective relational leadership, which some instance were interrelated to the effective communication skills of the leaders. According to Ennis et al. (2013), clinical nurse leaders inter-personal relationship skills is characterized by: have good human skills, communicate with relation framework, spend time and sit with people, approachable and helping, explained what is doing and why; show empathy, respect and understand, become patience, values honesty and work with integrity, try to develop mutual trust, treat people in respectful way, follow strategies to establish rapport, and support to the people in a non-judgmental way. Lussier, (2010) highlighted nine human relation guidelines as qualities of interpersonally skilled leaders; such as- be optimistic, be positive, be genuinely interested in other people, smile and develop a sense of humor, call people by name, listen to people, help others, think before you act, and create win-win situations.

Multidisciplinary Collaboration

Multidisciplinary team working is a complex process in which different health professional work together to share expertise, knowledge, and skills that impact on quality of patient care (Nancarrow et al., 2013). The CNL is primarily responsible to design, coordinate and management of healthcare for the patients in collaboration with multidisciplinary healthcare teams. According to AACN (2007), the essential skills to the role development of CNL in interdisciplinary team working require the ability of horizontal leadership for collaboration, negotiation, delegation, coordination and

evaluation of interdisciplinary work and design and apply the care plan as outcome-based practice model.

According to IOM (2003), in quality patient care, the cooperation among healthcare providers is more important than professional prerogatives and roles". Nancarrow et al., (2013) ten key characteristics of the interdisciplinary collaboration of the nurses for working in a team as joint decision-making and patient-centered communication that includes the mutual respect, trust development, good communication, cooperation, and coordination, sharing responsibility and knowledge about the team. According to AACN (2007), the assumptions of role development of client-centered practice is interdisciplinary, in which the role of CNL discusses the client's problem and agree on a common course of action. The ACCN highlighted the four principal roles of CNL in interdisciplinary and team collaboration; such as collaboration and consultation about patients' problems and interest, advocates for a client in the team, establish and maintain effective working relationship with an interdisciplinary team.

Bender et al. (2013) defined the interdisciplinary collaboration "as an inter-personal process characterized by healthcare professionals from multiple disciplines, with shared objectives, decision-making responsibilities, and power, working together to solve patient care problems". The authors proposed six areas of CNL's role in interdisciplinary collaboration in relation to micro-system patients care environments; promote horizontal decision-making and environments that values actively seek collaboration, enhance the nursing resources as accountable for lateral integration of care, use advocacy for patients in formal rounding discussions, advocate for team approach to patient care, foster a sense of confidence to develop trust, communicate

professional policies and standards across the team, and utilize the approach for conflict resolution.

Moral Behaviors

The practice with moral justice is the most important and essential value in nursing. According to AACN (2007) the nurses moral practice skills are professional value-based behaviors that involve altruism-welfare and wellbeing of others; accountability-right, power and competence to act; human dignity- respect inherent worth and uniqueness of individuals; integrity- acting with the integrity of appropriate code of conduct; and social justice that reflects the humanistically legal principles and values.

According to Fesenfeld, (1998) the moral leaders are doing by knowing based upon the considerations of what is right and what is wrong; the morally right actions are done and wrong is avoided. The morality is the set of norms, values, and beliefs that address the dignity and rights of others, and it enables a person to determine the distinction between right and wrong or good and bad behavior (Butt & Rich, 2005). Moral courage helps the leader to address ethical issues and take action when doing the right thing is not easy (Jormsri, Kunaviktikul, Ketefian, & Chaowalit, 2005; Murray, 2010). The moral skills of the leader are a higher level of human skills; in which leader has ability to work with an awareness of one's own perspective and others perspectives at the same time.

Northouse (2010) acknowledged that leaders with a higher level of human skills are more sensitive towards the moral, ethical and empathic behaviors and actions that attract the followers confident and trust. Murray, (2010) acknowledged that the CNL as direct care provider frequently needed to work with complex situations that lead to

value conflict and creates a potential moral and ethical distress. In such situations, moral reasoning skills are fundamental to an effective response by the moral intelligence of the leader. Ethical and moral practice skills of a nurse are assumed as the standard and professional nursing practice ability that combines with the assimilation of nursing knowledge and the integration of professional dignity, regulation, respect, values and ethics in nursing practice (Ghadirian, Salsali, & Cheragh, 2014). According to AACN (2007), the moral leader is critical to preserving the patients 'rights and safe nursing practice, promote professional accountability and develop professional commitment that is important to establish a trust relationship with patients and families.

Showing Professionalism

The professional nursing practice is described skills as "a competent level of activities and behaviors in the professional role that ensures nurses accountable for their professional actions to themselves, their patients, their peers, and ultimately society" (ANA, 2010). The skilled professional nursing practice requires sound clinical nursing knowledge and clinical practice skills that liked to clinical experience and the confidence to guide others. According to Stanley (2006) it a clinical leader must be able to show and/or to do with known to facilitate the learning or teaching others about clinical issues. The professional nursing practice represents the knowledge, awareness and values, and behavioral characteristics which are in alignment and expected for professional nursing identity (Kim-Godwin, Baek, & Wynd, 2010). Girard, Linton, & Besner, (2005) defined professional nursing practice is "a commitment to compassion, caring, and strong ethical values: continuous development of self and others; accountability and responsibility for insightful practice; demonstrating a spirit of collaboration and flexibility."

The American Nurses Association (ANA, 2010) acknowledged that clinical nurse leadership requires a high standard of professional knowledge and practice skills along with non-professional leadership skills for an appropriate response to evolving changes in the healthcare and enrich the nursing practice environments. Professional knowledge and skills are fundamental for nurses to uplift the professional image and ensure the quality, safety, and evidence-based care. According to CAN, (2009) to create a culture of professional practice excellence require making clear a set of values and professional performance expectations to which all nurses can commit and comply the professional behaviors. Similarly, Supamanee et al. (2011) in their qualitative study defined this term as self-concept of the CNL in regards to demonstrate the positive attitudes towards nursing profession as hidden skills of the CNL.

Professional practice reflects a sense of professionalism and is essential to growing feelings of professional behaviors. According to Hammer (2000) professionally skilled nurses are always putting the patients' best interests in the first; they held accountable for their actions to the patients, society, and profession; demonstrate excellence as exceeding expectation; commitment to duties, adherence to a personal and professional code; and respect others. According to Girard et al. (2005), professional practice skills demands knowledge as well as technical abilities in both the broad base and depth in the chosen area of practice, desire to continue developing that knowledge and skills, and share it with others. According to Nursing and Midwifery Board of Australian (NMBA, 2010) professional practice skills are comprehensive knowledge of nursing practice that addresses the actual patient's needs; practices within a professional and ethical nursing framework and legislation; and advocates for and protect patients' rights. According to Dehghani, Salsali and Cheraghi, (2015) nurses who continue

practice these skills, can be a great deal to develop professionalism, which we expressed in our attitud**e,** appearance, behaviors, and practice.

5. 3 Conceptual Skills of Clinical Nurse Leadership

Conceptual skills are extremely important for any leadership positions; particularly in the clinical care these skills are vital for dealing with multiple clinical problems and decision-making. The CNL are involved in the interdisciplinary decision-making and planning processes in respect to the overall patient delivered on the unit. A very important conceptual skill is the ability to analyze and evaluate the patient problems and creatively manage the patients and coworkers. The most important categories of conceptual skills of the CNLs that identified from the literature were: creativity and innovation, logical thinking, decision-making, system thinking, goal-oriented, and advocacy.

Creativity and Innovation

The health care leadership continues to run under a transactional style that may be causing nurses to leave the system and effectively respond to the changing needs of the healthcare to meet the patient's demands. The creativity and innovation are the real visible leadership outcomes for an effective clinical nurse leader in the current and upcoming complex healthcare systems as essential for continuous healthcare change management (Huston, 2008; Porter-O'Grady, Clark, & Wiggins, 2010). According to Joseph and Huber (2015) innovation is defined as "use of a new mindset in a different context to enable creative linkages that will generate a solution or adaptation to a practice problem". Thus, an innovative and creative leader requires the conceptual critical

thinking ability in order to wraparound support system or environment that incubates innovativeness.

According to IOM (2010), the vision of innovations in health care directs the improved health outcomes, quality service, timely care, efficiency and cost-effectiveness of the healthcare services as a patient-centered approach. According to Horth and Continuum (2015) three are six critical skills for creative leadership such as paying attention more deeply and beyond first impression; personalizing-tap into personal experience to gain fresh perspectives; imaging- bring information to life through metaphor; seriously play to generate insight through exploration and experimentation, collaborate inquiry to foster productive dialogues; and crafting synthesis rather than analysis.

According to AACN (2010), the creative leader always fosters a positive change to improve the quality of care and ensure patient safety by creative problem-solving approach. The creative leader leads by example to foster and influence the change, integrates leadership skills into performance evaluations, talk with everyone touched by change and listen to the customer as means to identify the need for change.

Logical Thinking

The logical thinking skills are inherent in nursing judgment and making a sound clinical decision by analysis and evaluating the available information (Hughes, 2008). Logical thinking is a “purposeful, self-regulatory judgment that uses cognitive tools such as interpretation, analysis, evaluation, inference, and explanation of the evidential, conceptual, methodological, criterion, or contextual considerations upon which judgment is based" (Facione, 1990). This is an intellectual process of applying skillful reasoning as a guide to belief or action. For clinical nurse leadership, skills in

logical thinking is indispensable for clinical decision-making process, where a nurse needs the ability to think in a systematic manner and logically with openness to question and reflect on the reasoning process used to ensure safe nursing practice and quality care (Lipe & Beasley, 2004). According to Sheahan (2015), these skills enable the leader to break down the complex issues, information or a series of comprehensive data to analyze, criticize, synthesize and apply to a problem in order to come to a solution.

In addition, logical thinking in nursing is considered as most important in the problem-solving process to make decision, formulate and implement the plan and to evaluate the patient care outcomes. According to (AACN, 2007), a clinical nurse has an unparalleled opportunity to address the critical issues to face the current health care system; both in nursing practice as well as in the professional development.

A logical leader is not only emphasizing the importance to think differently but also they "promote an organizational culture in which followers are encouraged to question old assumptions, beliefs, and paradigms (Jung, Bass, & Sosik, 1999). In existing literature, the CNL logical thinking skills were described as a leader uses nursing theories or models as appropriate in care; apply research-based knowledge in particle; assumable clinical judgment and decision-making; analyze and interpretation of situations and problems encountered; appraise evidence and arguments appropriately; communicate the results with self-reflection and relevant to professional practice; use acquired date to evaluate the outcome; and design care based on the outcomes and evidence-based knowledge.

According to Profetto-McGrath (2003), logical thinking in nursing is a goal-directed thinking process used to identify the clinical problems, finding solutions or

to improve the process of care environment as obviously important for today's complex healthcare and high-tech healthcare environment. A leader with high logical thinking ability demonstrates discussed the problems or concern with the groups to attempting figured it out and tries to solve it, consultation with the group.

Decision-Making

Decision-making is often thought to be synonymous with effective management skills and one of the important criteria on which leader's skills and qualities are judged (Marquis & Huston, 2009). In nursing, decision-making skills is an essential part for nurses to make an effective clinical decision that contributes to the quality of patient care (Dorgha & Mahmoud, 2013). Lee and Kim (2013) defined decision-making is "a process by which one chooses the best from numerous alternatives through a comparative evaluation in order to solve a matter in hand".

The clinical decision-making in nursing integral part for the entire nursing practice and affects the patients' outcomes. According to Huston (2008), expert decision-making skills are one of the third essential leadership skills for 21st-century nurses' leaders. A sound clinical decision must be based on the scientific empirical evidence so that the desired outcomes can be achieved (ANA, 2010). A continuous involvement of a nurse in clinical decision-making process contributes to increasing their clinical reasoning skills (Tang & Sung, 2012). A sound making process involves engagement in systematic thinking, searching valid evidence, collecting, organize and prioritize given information in order to make a solution or decision (Huston, 2008). According to Pardue (1987), although, the fundamental elements of nursing practice in clinical decision-making is a very complex process and in which nurses need the abilities to seek

information, process information and make a decision. However, it is a pre-requisite for CNL to ensure leaders active participation in the clinical decision-making process.

According to Stanely (2006) skills in decision-making, not only important for patient care process or clinical issues but also, it is central to all activities of clinical nurse leaders. Because, a clinical nurse is involved with all aspects of nursing care process including- assessment, diagnosis, planning, implementation, and evaluation (ANA, 2010). Thus, to be an autonomous clinical nurse practitioner, decision-making skills are fundamental. Vroom and Jago, (1974) described the six steps process that an expert clinical nurse leader need to be followed to make an empowered decision-making: such as--follow the decision-making process for individual or group problem: lists the problems need to solve; gather information to learn different option; decide the option is best suited to the steps; recognize the pores and cons in both long and short term to make the best choice; act and evaluate by providing reflections.

Smith, Higgs, & Ellis, (2007) discovered that clinical nurse leader's decision-making skills are not static and rather it is mostly the contextual cognitive understanding. Reviewing the literature, the authors identified several attributes of leadership as effective decision-making skills: such as- unique and contextual decision-making; gather information to guide the decision and certainty; consider the significance of decision related to the outcome and values; think for stability and dynamic decision-making while received new data; evaluate the urgency for decision; familiarity for extent to which the decision being made is similar to the past; match and correspond the decision to the goals, environment and problems; consider the amount of data need to take decision and relevance; and estimate the chance of adverse or negative outcome

may occur as a result of the decision (McCallum, Ness, & Price, 2010 ; Smith & Stitts, 2013).

System Thinking

Review revealed that system-thinking skills for clinical nursing leadership are vital to meet the growing challenges of health care, moving nurses' role beyond individual patients and families, and accelerate the overall improvement of healthcare quality and safety (Dolansky & Moore, 2013; Watts & Gordon, 2012). According to Dolansky and Moore, "system thinking is the ability to recognize, understand, and synthesize the interactions and interdependencies in a set of components designed for a specific purpose". These are vital to enhancing nurses' problem-solving skills in nursing practice that allows nurses in better engagement in the thought process of planning, delivering, and improving patient care (Schyve, 2005). According to Study.com (2015), "system thinking is a method of critical thinking by which one analyzes the relationships between the system's parts in order to understand a situation for better decision-making".

Stanton and Welsh, (2012) defined systemic thinking as "a simple thinking technique or method for gaining an in-depth understanding of the insights into complex situations and problems". Study.Com, (2015) stated that system thinking involve 5 step process; such as- analyze the environment that has potential influence on all or part of the system, the input of resources, throughput as the transition of the resource as a system, evaluate the output of the system, and provide feedback for necessary change. Thus, in line with the analytical skills, the system thinking aims are almost similar. For example-the, analytical thinking is analysis for today as the parts are primary and the whole is secondary. The system thinking is synthesized for the future as the whole is primary and the parts are secondary (Stanton & Welsh, 2012). The purpose

of analytical thinking is to solve the problem and the system thinking is to seek the solution. According to Rodrigo and Pachón (2011) systems thinking is a problem structuring methods that include concepts, ideas, and methodologies for problem-solving in organizations.

There are two effective techniques, which a leader uses in the system thinking process to make an effective decision on about a situation or to solve the complex problem: analytical thinking; and synthetically- thinking. The analytical thinking is the process of analyzing the parts or elements of a situation; whereas, the synthetically thinking is about how those parts or elements work together (Stanton & Welsh, 2012). This process helps the leader's ability to recognize, understand, and synthesize the interactions and interdependencies or interconnection of the elements or sources of problems that guide to make the correct decision.

Goal-Oriented

The term goal-oriented is referred to the creative and inspirational quality of effective leadership that provides the typical feature of leadership (Bass, 1999). According to Bass, using this skill a leader provides the directions to the followers for proactively moving forward and achieving the challenging vision. The goal-oriented leadership is close to transformational leadership, which leaders often use vision about future as a way to mobilize followers and teams (Abbas & Asghar, 2010). The goal-oriented is the creative quality and ideological skills of a leader by which leader acts for turning new and imaginative ideas into reality.

A good clinical nurse leader is able to inspire others staffs to work together in pursuit with a common understanding and goal to enhanced patient care (Mclellan, 2011). According to Elizabeth (2006), "the goal-oriented nurse leader views

nursing as both an art and a science by promoting caring and competence as the link between science and humanity." Elizabeth acknowledged three basic quality of a goal-oriented nurse leadership, which leader uses as a vehicle to inspire the teams and followers: excellent communication skills, commitment to quality patient care, and supports to promote nurses.

The important quality of the goal-oriented leader is, they are strategic and policy thinking in which leader translate the vision into actions to achieve the goal. Goal-oriented leader's strategic skills are "the ability to influence others in the organization to voluntarily make day-to-day decisions that leads to the organization's long-term growth and survival" (Rowe & Nejad, 2009). The strategic thinking encourages leader's innovativeness and creativity in transformative environments and contexts for moving forward.

Advocacy

The role of professional advocacy has emerged an important concept in nursing leadership in all spheres of nursing practices ranging from clinical nursing leadership to policy levels leadership (AACN, 2007; Sanford, 2012). According to AACN (2007), the CNL must assume as guardianship for the nursing profession and represent a member of the profession. The AACN acknowledged that the CNL is responsible to make the nursing profession as convenient with the society to protect and promote the health of the people. On the other hand, he or she also responsible for the professional presentation, encourage and embracing lifelong learning incorporate with professional values and practice (AACN, 2007).

Although, the concept of advocacy is very old and closest to the advocacy of patient rights as the tradition of nursing; but the role of nurse's professional advocacy

consists of two major aspects: the patient advocacy as the functional role and the professional advocacy as professional guardianship roles. Vaartio Leino-Kilpi, Salanterä, & Suominen (2006)) defined patients advocacy as "participating with the client in determining the meaning of health, illness, suffering; providing information and supporting clients in their decisions". The authors identified five key roles of the nurse in patient advocacy such as nurse enlightenment, analysis, counseling, responding and empowerment of the patients. According to Mallik (1997) the nursing advocacy has two key perspectives: one is the role in patient advocacy as functional dimensions of nursing and secondly the advocacy for the healthcare team and policy for both the patients and profession.

In summary, the extensive review of current literature in related to the dimensions, competences, skills or components of CNLs; identified a range of elements which were viewed as most important for the successful leadership of a clinical nurse in performing their proficiencies in clinical care. Although, across the literature these were varied; but review revealed that leading contemporary healthcare and nursing practices require the explicit efforts to develop CNLs skills at micro levels that should focus on nurse-patient interactions (Cummings et al., 2008; Daly et al., 2014; Grove, Barry, & Haas, 2007; Stanley & Sherratt, 2010). These skills require the knowledge-based practical methodology proficiency and the skills in human relationships and the skills conceptualization in regards to the innovativeness in making change, solving clinical problems and making right clinical decision in right times. Therefore, review mainly emphasized on leadership skills of the clinical nurses, who involved in direct patient care only and related to their scope of practices.

6. Nursing and Healthcare System in Bangladesh

This part of literature review included the health and nursing care services in Bangladesh, the scope of leadership for nurses in healthcare including the administration; education and clinical care, the situation of clinical nursing leadership in Bangladesh and finally the factors influence the CNLs in Bangladesh.

6.1 Healthcare and Nursing Services

Bangladesh is a most densely populated developing country in the world where the estimated populations of about 163 million are living in the land area of 1, 47,570 sq. km. (BBS, 2017). Constitutionally, the Government of Bangladesh is responsible for ensuring the better health and nutrition for the people of the country. Therefore, the health system of Bangladesh heavily relies on the government sector for financing and setting overall policies and service delivery mechanisms. The recent data showed that over the last decades, Bangladesh has achieved a significant progress the healthcare system for both the structurally as well as functionally (WHO, 2015). However, the health system of Bangladesh is faced many challenges, including the men, money, and materials to support a large number of populations of the country (Islam & Biswas, 2014). As developing country, the majority of people of Bangladesh largely depend on the public hospital's facilities to receive the treatments. But unfortunately, the quality of health and nursing care services in the public hospitals were remarkably low in compared to many others neighboring countries as well as some private hospitals in Bangladesh (Islam & Biswas, 2014).

This should be noted that in spite of a well-established infrastructure to support the healthcare services throughout the country; there were several limitations to support the quality of healthcare to people including the availability of resources, inadequate skilled manpower including nurses (Huque, 2011; Islam & Biswas, 2014; WHO, 2010). Although, nurses play the key role in carrying out the wide range of healthcare interventions; but Bangladesh is one of the countries in the world that have a low number of nurses than the medical doctors (WHO, 2010). There were approximately five doctors and two nurses per 10 000, the ratio of nurse to doctors being only 0.4; which was about 1:3 in 2010 (Mahmud, 2013). A study on healthcare in Bangladesh reported that more than 280,000 nurses were a shortage in the country comparing to international standard (BHW, 2011). These scenarios represented an opposite picture of the doctor-nurse ratio for many countries and were a feature of the extreme shortage of nurses in Bangladesh.

Furthermore, in regards to skilled manpower in nursing, several studies reported that along with nursing shortage, they also have lack of update knowledge and skills (CANM, 2011; Latif et al., 2010). Nurses are also inadequately prepared to meet the growing necessities of the healthcare reforming needs, as the education system of nursing in the country was not a high standard in terms of teaching facilities and resources. As a result, the expected flow of work for nurses and effective contribution to patient care are almost unseen. It was often claimed that there is an extreme crisis of effective nursing leadership in the healthcare of Bangladesh (BNLN, 2016; CANM, 2011).

According to Ahmmed et al. (2011), besides nurses' appropriate preparation with updated knowledge and skills in providing quality patient care; there

was a severe imbalance ratio of nurses to the patients and doctor. This study reported that the overall nurse to doctor ratio only 0.4:1 and 2.5 times more doctor than nurses (Ahmed, Hossain, Rajachowdhury, & Bhuiya, 2011). As a result sometimes nurses demonstrate a lack of interest concerning the quality of nursing care due to high workload. Hence, it might be true that personal motivation of a nurse may paly important role to provide quality care; but without proper clinical knowledge and skills it is impossible to maintain the desire standard of patient care. The existing literature suggested that effective CNLs are fundamental to maintain the standard of care, ensure patient safety and achieving the maximum clinical outcome with limited human resources as expected from a leader. Based upon the above discussions, it can be concluded that developing CNLs in Bangladesh is a time bounding issue to make a foundation nursing leadership for the profession as well as to ensure the quality of patient care and patient safety.

6.2 Scope of Leadership in Nursing

Like other countries, nurses in Bangladesh are working at different positions and levels including administration, education, and bedside patient care services. But, as a curative priority healthcare service system, in Bangladesh about more than 95% of nurses are working with direct patient care in the hospital settings. Administratively, the Ministry of Health and Family Welfare (MoH & FW) is the solely responsible to develop the policy and plan of health sectors, collaboration with its different administrative wings. In nursing, since 2016, the Directorate General of Nursing and Midwifery (DGNM) is the highest author to develop and implement any plan in nursing. An addition, for nursing and midwifery education, Bangladesh Nursing

and Midwifery Council (BNMC), an autonomous body under the MoH & FW is responsible to design and approve the education curriculum, conduct nursing practice qualify exam for registration, and renewal of the registration for nurses and midwives for both private and public institutions. In regards to DGNM, it has three major structural functions including (1) nursing administration, (2) nursing education, and (3) clinical nursing services.

Nursing Administration

The DGNM is the central administrative body and focal point of nursing and midwifery education and services, which was established as separate directorate under the MoHFW in 1977. As stated earlier, the DGNM is responsible for the planning, implementation, and evaluation of nursing education and services at national level in the public sectors. However, like other sectors of nursing, the DGNM is also suffering from the number of manpower and other support systems. As since its establishment, although, the functional responsibilities of DGNM (before DNS) had been extensively increased along with expansions of healthcare in the country; but any remarkable structural change and numbers of manpower in DGNM/DNS remained almost same as the early life of its establishment (CANM, 2011; DGNM, 2016).

Until the late of 2016, there were only six sanctioned posts in the DNS/DGNM; the Director General of Nursing and Midwifery (1), the deputy director (Education and Services) for 2, Assistant Director (Education and services) for 2, and a Project Officer. Unluckily, these posts are almost always filled with either a deputation nursing personnel or as an acting charge. Even, since after declaration of DGNM in 2016, until the position of the Directorate of DGNM is occupying the office of the MoH & FW as non-nursing personnel. This situation can be explained as a starting point for

the issue of the absence of professional leadership, even in the central control of nursing and midwifery sector of Bangladesh. For example, the holding of temporary position or acting charge, usually they may have a reluctant mood in taking the active responsibility being an originally posted person. They also have the limitation of formal power to make any decision independently.

Nursing Education

Mainly, the nursing and midwifery education is jointly controlled by the BNMC and the DGNM. But both of these organizations were extremely suffering for proper manpower to supervise and monitoring the nearly, 50,000 of nurses and midwives in the country in public (BNMC and DGNM) and private sectors (BNMC). Like, DGNM, the BNMC has only 3 nursing positions: the Registrar of BNMC and 2 for deputy registrar of BNMC. But the posts of the deputy BNMC is most of the time remain vacant. Thus, the BNMC is also mostly incapable to maintain their actual responsibility, needed to serve for a large number of nurses and midwives.

The total number of nursing and midwifery educational institutions in Bangladesh are 277, including both public and private sectors and ranging from the diploma in nursing science and midwifery (NScM) to the Master in Nursing in the year of 2017. In public sector, there are 43 nursing institutes for a 3-years program on diploma in nursing science and midwifery, 8 basis colleges for 4-years program on BSc in nursing and midwifery, and 4 post basic colleges in Bangladesh for 2-years program on BSc in Nursing/ public health nursing education. Along with these facilities, very recently (2017) has been started masters in nursing program in the country as a new journey for nursing higher education. Except for the 3-years program of nursing science

and midwifery, others all education programs are running under the various universities of the country (http://www.dns.gov.bd/DNS.html).

In regards to nurse educators, like other shortages, this sector also comprises with many problems including shortage of qualified teachers, posted teachers, recruitment systems, high teacher- students' ratio, teaching-learning resources and facilities and so on. The average teacher-student ratio was 1:23.8 in 2016 (DGNM, 2017). Most importantly, there was a shortage of subject-based teachers including a lack of proper guidance, supervision, monitoring, and evaluation. Thus, it is not unusual that the students are not adequately prepared with the expected skills necessary as future nursing.

In terms of scopes of in-service education and training, the current data showed that although opportunity of in-service education or training has been considerably increased than the past. But still is it inadequate to cover all categories of nurses and even for clinical nurses. Hence, most of the nurses in administration, education or nursing practices had limited opportunity to update their knowledge and skills with the growing change in healthcare (CANM, 2011; Latif et al., 2010). Consequently, the quality of preparing future nursing is needed to be a careful consideration in terms of the required clinical practice knowledge and skills.

Nursing Practices

The number of nurses and nurses required skills are the key issues in the nursing care services. Currently, there are 610 healthcare facilities available in the government sector, in which about 27,000 nurses are working against the 48, 934 hospital beds (DGNM, 2017; Health Bulletin, 2016). However, the truth is that the number of patients is usually 2-3 times higher than the actual number of section beds in

the hospital. Thus, nurses have to face continuously high workloads, the especially situation is acute in the secondary and tertiary levels hospitals. Moreover, the working environment of the public hospitals is seriously vulnerable in terms of facilities, resources, manpower, and the security of the nurses in the workplace (CANM, 2011). It should be noted that after obtaining the basic nursing degree, most nurses do not have any option to advance their knowledge or skills. Thus, all of these issues highly comprise the quality of nursing care services for the patients.

6.3 Clinical Nurse Leadership in Bangladesh

An effective CNLs is a key for the patients and families; nurses and nursing; profession and teams; and finally, for healthcare organization and unit, where the nurses are working (Wong, 2015). In Bangladesh, the nurses and nursing are increasingly being suffering for lack of effective professional leadership at all levels including nursing education, administration and practice (CANM, 2011). As a result, nurses in Bangladesh are very seldom considered as an equal partner of the healthcare team and they have limited voice in the organizational decision-making process (Lund et al., 2013).

In Bangladesh, nurses have an inadequate opportunity for further professional education and training after completing their basic degree (CANM, 2011). To uphold any administrative or managerial positions, they have no any formal or informal induction education program to be administrators or managers. The professional nursing education system is still at undergraduate level including the diploma in nursing and basic and posts diploma BSc nursing education. The in-country professional higher education; like- masters and Ph.D. nursing program not yet been started. The opportunity

for in-service or refresher education is very limited with the demands of growing needs for reforming health system and patient care management (CANM, 2011).

The issue for leadership crisis is frequently highlighted in the different professional dialogues (Lund et al., 2013); seminars; organizational reports (CANM, 2011; WHO, 2010) and researched on nursing education and services of Bangladesh (Minca, 2011; Oulton & Hickey, 2009). It was often being claimed that due to the lack of effective nursing leadership in Bangladesh, nurses demonstrate an inadequate contribution to the overall healthcare development and quality of services (Latif et al., 2010). As its consequences, both nurses and nursing remain unmet for many of their legal rights; and the unique knowledge and skills held by generalist and specialist nurses are often unutilized. The nurses have a lack of autonomy to apply any change in the practice settings.

The healthcare environments in Bangladesh are increasingly being interdependent on the combined efforts of nurses, physicians, patients, and other health professionals like other countries. A single solution doesn't adequately address the kinds of complex problems presented to the contemporary patient's care decision-making. Therefore, collaborative efforts of professional leaders to the solution are highly necessary to enhance patient outcomes, improve patient care and satisfaction, increase the impact of the healthcare team working, and reduce medical errors and costs of care. Therefore, as frontline contributors in multidisciplinary healthcare teams, the effective nursing leadership is expected to be the key to the achievement of those objectives. The existing global nursing literature is also strongly recommended that to face the challenges of 21st-century healthcare; nurses are needed to be prepared with fundamental leadership skills for an effective response to the evolving complexity of healthcare

organization that demands the quality and cost-effective healthcare services (IOM, 2010; Porter-O'Grady et al., 2010).

Based up on the above discussions, it can be concluded that the quality of nursing care in Bangladesh is largely affecting by both the appropriate nursing skills as well as effective clinical leadership by the nurses. Thus, in order to appropriately respond to these issues, clinical nurses' leadership roles are vital, which should be included in both the clinical skills as well as the generic leadership skills. Acquiring these clinical leadership skills would enable the clinical nurse to play a proactive and partnership role to work with multilevel health care teams and organizations and to uphold the effective professional role for its development and improving patient care quality. An effective clinical leadership skill for nurses in Bangladesh is fundamentally important as competent clinical care nurses that contribute to safe nursing practice and hold the leadership role for future nursing and healthcare.

6.4 Factors Influence the CNLs in Bangladesh

Several factors positively or negatively may influence to perform the effective roles in CNLs skills. In the current literature, the number of factors was discussed about the factors constrain and facilitate the leadership of clinical nurses in relation to their role performance. However, all of those factors may not be equally responsible for influencing the leadership of the clinical nurses in Bangladesh. Although there was a lack of research support, the factors influenced the CNLs in Bangladesh; but based on current situations of the nursing and healthcare context of Bangladesh, it can be discussed under two headings: (1) the inhibiting factors for the CNLs, and (2) the

supporting factors for influence the CNLs. The contextual analyses of those possible factors are discussed as follows:

6.4.1 Inhibiting Factors for the CNLs

The inhibiting factors are those, which de-motivate and discourage the interest of the leadership role taking responsibility. It also includes the unfavorable environments to develop leadership knowledge and skills; such as-

Individual Factors: The individual factors have a greater influence on leadership role taking and holding the responsibilities of leadership; such as self-motivation, self-confidence, and value congruence. Self-motivation implies the action and energy that inspire individual to hold leadership responsibility enthusiastically. However, the self-motivation is may depend on self-confidence about the knowledge and skills or experience, and self-awareness or value congruence (Vicki, 2015). Nurses in clinical settings in Bangladesh are usually demonstrated less motivation to take such responsibility due to many reasons. For example- lack of leadership skills, inadequate self-confidence due to lack of advanced nursing knowledge and skills, inspirational motivations or reward for doing good, inadequate professional accountability etc. Cook (2001) was reported that lack of willingness to learn from the other and clinical expertise and knowledge are responsible for avoiding leadership of clinical nurses.

Lack of Role Model: As inherent characteristics of human being, people follow others who can influence them and feel as significant to them, which refers to subjective norms (Ajzen, 1991) or charisma of the leader (Bass, 1999). As mentioned earlier that nursing in Bangladesh is being suffered from leadership crisis at all levels. Thus, there is a lack of role model who could influence other nurses to adopt leadership

role as a socialization process. Particularly, it is the fact that still in clinical settings; numbers of adequate professionally qualified nurses are very limited who can inspire and facilitate other nurses to develop their leadership behaviors as well as leadership practice performance. Cook (2001) stated that role model is the highlighting attributes of leadership and lack of external stimulus is a factor that constrained leadership and innovation.

Organizational Factors: The situation, context, and environment under which we learn and practice are largely influential factors of leadership development and practice (Cummings et al., 2008). Unfortunately, the organizational climate and commitment not much visible that may influence clinical nurse role performance as innovative leadership. According to Stirnger (2002), positive organizational climate influence employees' motivation, commitment, behaviors, and performance expectation towards the organization. The scenario of the Government hospital in Bangladesh as there is a lack of obvious and clear vision and mission that may encourage organization's employee to be loyal and committed to achieving. The quality improvement process got less priority and employees perceived less accountability. This culture in the organization may negatively influence the clinical nurses to their potentiality in the workplace.

Leadership Education and Training: Nursing practice involves the combination of knowledge from science and arts of nursing practice where the theory-based scientific knowledge and practical skills are necessary to demonstrate the caring skills. However, in Bangladesh, nurses have limited opportunity to develop their leadership due to the absence of formal and informal learning process on leadership. Such as- the absence of healthcare project, quality improvement project or program, peer

leadership activities etc. Although some leadership education contents are included in the curriculum, there is absent of subjects based teacher that hindering the effective learning methods of leadership development. Kim, Woith, Otten, and McElmurry, (2006) acknowledged that to encourage nursing leadership, formal and informal leadership programs are important. For example- a nurse who exposed to formal and informal leadership education demonstrated higher leadership behaviors who do not participate (Young, 1992).

Moreover, many studies reported that nurses in Bangladesh are inadequately prepared to fulfill the demands of quality care services and social expectations (CANM, 2011; Lund, et al., 2013; WHO, 2010). As a result, the quality of nursing care in the hospital is very poor and low standard in particular to government sectors. A focus group nurse participant in 2015 reported that "nurses' poor knowledge and skills in providing quality care and clinical management are largely linked with the existing education systems: such as poor teaching-learning strategy, lack of proper clinical supervision and monitoring, and memorizing based education rather than practice-based learning."

In addition, the teaching-learning strategy of nursing education in Bangladesh is in English, which is the second language of the country. Due to poor understanding levels among both the teacher as well as for students, many times the students just memorizing the answer to the question, rather its understanding. Thus, real knowledge and skills may not be achieved. This may be unlike from many other countries of the world that the promotion and recruitment policy of nurses in Bangladesh just based on the seniority of the government job and year of the pass, respectively. Consequently, the quality assurance system in both the promotion as well as recruitment

is totally absent. This situation may negatively influence the more committed nurses on their skills performance as well as for personal development, thereby; they may show less willingness for professional leadership (i.e. clinical leadership skills). Moreover, it was often seen that after completing the nursing graduation degree, the graduates needed to wait for a government job for minimum 5 years to 8 years. During this period majority of nurses kept them totally out of clinical practice fields that may raise a negative influence towards professional performance and commitment.

Clinical Environment: The clinical practice environment is the most important factors to prepare a nurse through applying the theatrical knowledge into practice, learn new skills through an understanding the problems and solve it in real worlds. Nurses in Bangladesh are performing their activities in the clinical settings with severe scarcity of resources including man, money, and materials as necessary to support the patients' needs (Latif et al., 2010). Although within these scarcities, effective nursing leadership is vital to ensure maximum outcome from minimum resources; but in reality, it is quite difficult and nurses have to face several dilemmas in daily practice. Cook (2001) recognized that poor organizational structure that fails to support clinical practice and unrealistic demands are negatively influenced clinical nursing leadership.

The clinical practice environment is the real field for a clinical nurse to demonstrate his/her leadership knowledge or skills. However, nurses in Bangladesh working with very poor clinical supervision and monitoring in their clinical practice performance, which may be a cause of relaxed feelings among nurses about the responsibility and lack of accountability. Moreover, along with several constraints, the performance management system in the organization is also not well established. As a

result, nurses who are committed and skilled they may have a lack of positive motivation to show the creativity.

Gender and Professional Domination: Although, the constitution of Bangladesh approved that the "women have equal footing with men in all spheres of public life"; but social views and domination of male over female is not unseen in the context of Bangladesh rather it is more obvious than many countries. Therefore, perceived traditional female gender's social role and the role of leadership as female may largely influence the female nurse's anticipated clinical leadership role performance out of the routine nursing only. By nature, Bangladesh is male-dominated society, where the nursing is a female-centered profession. The key roles of a female, even for highly educated female jobholders are mainly around the family role as first (Hadley et al., 2007). Thus, being female nurses needed to perform a dual role practice; primarily in the family and secondly in the job. As a result, female nurses show a lack of interest to hold leadership as out of their routine professional role. This concept may have a negative effect on nurses to perform an effective leadership role.

The issue of medical domination and value of nurses in the organization is a true concern in healthcare of Bangladesh. However, there is no visual evidence to support the situation. The study reported that nurses are seldom considered as important part of the healthcare team (CANM, 2011). This issue can be seen through observing the picture of doctor to nurse ratio in Bangladesh, which is 3:1, the lowest in the world (Mahmud, 2013). Many people believed that this medical domination to nursing due to nursing as a female-majority profession and ineffective leadership among nurses at local and national levels (CANM, 2011, Hadley et al., 2007).

There is a common view among many health administrators that nurses only should focus on nursing care using nursing knowledge related to patient care management (Shariff, 2014); not for leadership. Some doctors believe that nurses should only carry out the doctors' order and perform routine nursing care. This narrow view and negative organizational culture are not favorable for leadership role expectation from nurses including the clinical nurse. Therefore, as being female characteristics, nurses may show less willingness to involve in leadership or may avoid unnecessary conflict with management. Consequently, in changing those affects the healthcare or improve the organizational process, nurses are largely absent or avoid engaging them. The unreasonable workload, high paper-based work, inadequate resources, and facilities may also be the important factors to affect clinical nurses' leadership skills.

Social Factors: Masculinity and femininity are encompassed with two distinct aspects of the social culture in many countries including Bangladesh. Despite the remarkable positive changes of the social views towards the gender equality in the country, women are generally unseen or less involved with the public function activities like leadership that is outside of the domestic share. The general views of the female leadership are, the female is less potential of a leadership role than male (Nazneen, Hossain, & Sultan, 2011). Usually, the women status and position are measured in terms of education, income, and the role they play in the family (Hadley et al., 2007). Moreover, perceived social security being female is a usual concern within the socio-cultural context of Bangladesh.

Being a leader, it is a common view that leader has a hopping responsibility to attend in any conflicting or chaotic situations for the benefits of their followers or groups at any time. Therefore, he/she must always be ready to face and

move to go anywhere without considering the security issue of day or night. In such situations as being a female-majority profession, nurses may have a misperception about clinical leadership role as well. Hadley et al., (2007) study found that female nurse had to face social restriction in staying outside at night and accompany with another male.

In addition, the negative social attitude towards leadership is also play a big role in Bangladesh. The term leader is negatively viewed in Bangladesh due to personal and self-centered beneficial roles among most of the leaders. Public views of leadership in Bangladesh are mostly as bargainer and treat as the opposition of administrator and manager because of the usual hostile leadership practices role and unfriendly attitudes towards management executives. This negative view is also highly existed about the issue of nursing leadership in the country. Consequently, leadership is viewed as mostly in negative ways that result in an avoiding tendency among many nurses to hold a leadership role. However, the situation is gradually improving, but still; it largely affected the nursing leadership in the Bangladesh.

*6.4.2 Supporting Factors for Influence the CNL*s

The enhancing or inspiring factors are those that positively contribute to nursing leadership development, particular to clinical leadership skills development for nurses to an emerging nurse leader. Some of the influences of clinical leadership enhancement are described as follows:

High Expectations of High Skilled: Globally and nationally the healthcare system are more complex that markedly influences on clinical skills and standards of nursing care and require more advanced nursing knowledge, professional and human skills (ANA,2010; NHS, 2011). These situations have raised a competitive attitude

among nurses to develop themselves personally as well as professionally. Moreover, to hold any higher position, the previous traditional age-based promotion policy is going to be changed and replacing by qualification, professional background reputation, and experiences. Consequently, there are increasing numbers of clinical nurses have received professional higher education from inside and outside of the country. These growing competitions may positively influence the clinical nurses for their personal development and thereby professional development. Besides, growing advancement in the healthcare systems and technologies are also increasing a pressure among nurses to uphold clinical skills and responsibilities that are very conducive to clinical leadership skills development among nurses in Bangladesh.

Growing Healthcare Change: In Bangladesh, nurses are working in hospital settings within more complicated environments, where the role of clinical leadership is vital to support the care of the patients with an extreme shortage of both the man and materials (Latif et al., 2010). It is a routine picture in the public hospitals of Bangladesh that the numbers of patients in the hospital are mostly 2-3 times higher as the usual bed capacity of the patients. Along sides, there is a serious shortage of nursing workforces, which are sometimes 1: 50 or more. Additionally, caring support materials are also seriously shortage, in which, effective clinical nurse leadership is vital as direct care providers and managing the situations with minimum resources for maximum outcomes. These evolving complexities increase the awareness and fostering healthcare policymakers about the significance of developing clinical nursing leadership as neglected before (IOM, 2010). This growing awareness and organizational supports can positively influence about the importance to develop clinical nurses and nursing students with the quality effective clinical leadership and management skills.

Growing Social Image of Nursing: Sullivan and Garland (2010) stated that although nurses comprise the majority of healthcare professionals; but their contribution, knowledge, skills and judgment ability are largely invisible in the society. According to the authors, the social view of nursing and nurses are mainly based on personal experiences with the nurses, which may lead a narrow image of nursing. This personal experience may not be accurately reflected all picture of nursing and nurses' contribution to the healthcare. Therefore, in spite of a large contribution from nurses in healthcare, social view about the importance of nursing was not much respected in Bangladesh before. Although, this situation may largely affect the emotional response of nurses to avoid more responsibility, from the evidence of global nursing literature regarding the outcome of effective nursing leadership, have a positive influence.

Increased Government Support: Previously, nursing was not viewed as an honorable and respected profession in Bangladesh (Hadley et al., 2007). The people who were socially richer and established were less willing to admit their talent children to nursing. However, this concept is being changed and changing due to the highly supportive manner of the present government to improve the image of nursing: such as- increased nurses status from 3rd class employee to the 2nd class officer in general, funding for higher education in abroad, providing various short and medium-term courses in abroad etc. The government initiatives to increase the image of nursing and ongoing support higher education and abroad training for nurses in Bangladesh and expanding opportunity may highly encourage nurses' motivation to personal development as well as organizational and professional commitment.

Growing Educational Opportunity: Since 2006, nursing education in Bangladesh is in a positive transition in terms of expanding the higher education

opportunity, increasing the amount of short and medium-term foreign training of clinical nurses in different specialized areas, and raising the entry-level qualification for nursing students. Therefore, both in clinically as well as educationally nurses are being moved forward and grown up very rapidly. It is expecting that these growing number of qualified nurses and exposed from abroad nursing experience may positively contribute to the clinical skills development for nurses as well as clinical leadership.

In conclusion, it can be said that there are several factors which may negatively or positively influence the overall nursing leadership development in Bangladesh. But the focus of the present study was factor influence the clinical nursing leadership role expectation from nurses, who are working in the clinical settings and directly involved in the provision of patient care. The above discussions evidenced that there are numerous factors that may have the strong negative influence to constrain the clinical leadership; whereas, very few factors may have a little positive influence to encourage nurses to hold clinical leadership role performance. It is the fact that in Bangladesh, along with the lacking of entire professional leadership, clinical nursing leadership is also very poor evidence. Thus, it is the very timely demand of taking the initiative to improve nursing leadership in particular to the clinical setting to improve the image of nursing in Bangladesh through increasing quality of patient care.

7. Measurements of Clinical Nurse Leadership

The extensive review of current literature several tools on leadership were identified which used to assess the leadership practice, style, behaviors and skills or competencies of various categories of nurses. However, the measurement scales relayed

to clinical nurse leadership were very limited. The review identified three different types of leadership scales such as (1) the tools used from organizational and business leadership; (2) the tools developed and used to assess leadership at nursing managerial levels; and (3) the tools developed and used to assess CNLs for the staff nurses and nursing students. In this review, the researcher discussed only the measures that were used or developed for clinical nurse leadership as direct care providers.

The five following scales were found as measurement used in some studies to assess the CNLs of the registered nurses (RNs) and nursing students. However, the application of these tools in the research study was very limited. Some of them were just developed, but not used in another study. Only the CLCT and SALI, especially the SALI was used in several studies to assess the CNLs skills of the registered nurses. A brief description of the identified measures as follows:

7.1 Clinical Leadership Competency Tool (CLCT)

The CLCT was developed by the National Health System Leadership Academy in the UK (NHS, 2012) as a measure of health professional leadership scale including nursing. In current literature, only one study found that conducted by Moltio, Caranto, & David (2015) and used this tool for assessing the leadership competency of nursing students in the UK. The CLCT is a self-assessment 40-item, the 3-point Likert-type scale that measures five leadership domains: demonstrating personal qualities, working with others, managing services, improving services, and setting direction. In the development of CLCT, various professional experts were involved which was led by the NHS (2012) in the UK; but the psychometric properties in terms of statistical validity and reliability of this scale was not reported in the literature. Although Moltio et al. study

used the CLCT to assess the clinical leadership competency of nursing students; but a reliability level of the scale was not reported.

Strengths and weaknesses of CLCT: For strength, although, CLCT was not exactly a nurse's practice based scale, it can be useful to assess the clinical leadership for nurses as health team members. The five dimensions of CLCT consisted with several sub-sets of indicators, which can provide a clear understanding of each domain areas of measurement that might more specific to nursing. Since, in developmental of CLCT, nurse's leadership scholars also involved, the content validity of this scale can be desirable. In regards to the weakness of CLCT, it is not a clinical nurse specific measure. Although, CLCT could ensure the content validity as health professional of nurses; but, it might not ensure the total content validity to clinical nurses and the empirical evidence on the psychometric properties also not provided. Thus, the construct validity of the scale might be a concern. Moreover, none of the studies used the CLCT as a measure of CNL, except Moltio et al. (2015), who used it to measure the leadership skills of nursing students.

7.2 Clinical Leadership Survey (CLS)

Patrick et al. (2011) were developed the CLS, based on Kouzes and Posner's model of transformational leadership and tested the psychometric properties of the scale. This was developed assessing leadership behaviors of the staff nurses who worked in acute care settings in Ontario in Canada. A total 480 usable return survey questionnaire was used for data analysis and initial version consisted with 41items for five dimensions of Kouzes and Posner's (1995) leadership aspects. It was a five-point Likert scale ranging from strongly disagree to strongly agree. The confirmatory factor

analysis yielded only a 15-item scale of three items per dimension included clinical leadership for challenging the process; enabling others to act; inspiring share vision; modeling the way, and encouraging the heart. The overall Cronbach's alpha reliability coefficient of CLS was 0.86.

Strengths and weaknesses of CLS: The strength of the CLS includes; it was a theory grounded clinical nurse specific leadership scale and represented a good fit of CFA model with an acceptable level of reliability. However, in the CLS development, several limitations were identified: such as- inadequate developmental process (only based on theory) and the content validity was not reported; at least 5 items per dimensions are usually desirable to cover the content validity, but in CLS had only 3 items for each component. In addition, the CLS was developed for the clinical nurses in Canada in a developed country, which might not be fit well in the context of the current study. Moreover, in the database, none of the studies found that used CLS, hence, can be considered as absence of empirical evidence.

7.3 Self-Efficacy Scale for Clinical Nurse Leadership (SE-CNL)

Gilmartin and Nokes (2015) developed the SE-CNL on a pilot basis to assess the nurses' perceptions of their ability to function effectively as CNL in the USA. A web-based survey was conducted to gather data from nurses in the New York. The survey offered 1378 CNL certified nurses and got a return from 197 nurses, in which the SE-CNL consisted with 56 items. The PCA revealed 8 dimensions of CNL on perceived self-efficacy as confident and perceived leadership competence. The components include population care, care planning, strategic leader, financial resources, management, continuing education, mobilizing others, professional leader, and mentor. The construct

validity, discriminate validity and reliability were performed by the PCA with varimax rotation. The SE-CNL demonstrated high reliability.

Strengths and weakness of SE-CNL: In terms of strength of the SE-CNL scale, although, the content validity was not examined; others psychometric qualities were assessed and met the criteria. However, the number of subjects (N=147) with 56 items to run the factor analysis can consider as very low, although, the KMO report for subjects adequacy not reported and authors also claimed that it was a pilot study. Hence, as very new scale and pilot study, further research was necessary to be established empirical support. Contextually, the settings of the SE-CNL evaluation was also varied, which could be cultural sensitivity from Bangladesh.

7.4 Task and People Oriented Questionnaire (PTRQ)

The task and people-oriented leadership behaviors were explained and developed a measure by Joseph (1968). The aims were to identify how a leader emphasizes a task and relationship behaviors and how task behavior is related to relationship behaviors. The author proposed PTRQ as a research-based scale to test the Fiedler's contingency model of leadership effectiveness. A total 86 nursing students participated in this study for 14 tasks oriented and two relationships oriented leadership styles work as leaders in small groups. The leader’s roles to task and relationship-oriented behaviors to support the students were summarized and categorized into leadership 18 indicators.

Strengths and weaknesses of PTRQ: It might be a unique technique to develop a leadership scale in nursing, but following its development, none of the studies were found in the database of conducting any study using this scale. It was found as

unpublished scale in which the psychometric evaluation was not reported. In later several instruments were also found in the literature about the task and people-oriented leadership; such as- MLQ, LBDQ, Leadership, Self-Assessment Questionnaire (LSAQ), and Task and Relationship Questionnaire (TRQ) in the SAGE Publications of 2010. But the applicability of those scales was not found in available in nursing researched. In spite of the stated constraints as above, the concepts of task and people-oriented leadership provided a strong insight for understanding on how leadership is integrated with the real-life practice interactions of tasks and people that could help to design the current tool for clinical nurses in Bangladesh. Such as the tasks are the technical ability of a leader on specific work performance, while the people-oriented behaviors are the human skills of the leader to interact with the people and understand their behaviors.

7.5 Self-Assessment Leadership Instrument (SALI)

The SALI was developed by Smola (1988) in the USA incorporating various leadership theories and the work of Yura, 1970 (Waltz & Jenkins, 2001). It is a self-assessment 40-item five-point Likert scale used to assess the leadership behaviors of nursing students on critical thinking, decision-making, interpersonal relationships, group relations, and job relations. The higher score is indicating the increased occurrence of leadership behavior. The reliability of SALI in the original study, Cohen's K coefficient was 0.545 (Waltz & Jenkins, 2001) and later study conducted by Oh et al. (2011) and found the Cronbach's alpha of 0.95. The SALI also able to discriminate between groups expected to be different from leadership behaviors (cited in Larin et al., 2014). Several studies used SALI to measure different training program on nursing leadership and

clinical leadership behaviors for nursing students (Abdrbo, 2012; Benson, Martin, Ploeg, & Wessel, 2012; Larin, Benson, Wessel, Martin, & Ploeg, 2014; Oh et al., 2011).

Strengths and weaknesses of SALI: Although the psychometric properties of the SALI were not reported by the original authors, in several nursing studied used this tool as a reliable measure. Although, the inside contents of the SALI were not much consistent to the RN-CLS, BD in the present study; the dimensionally it was mostly consistent, such as decision-making, interpersonal relationships, and critical thinking as like as problem-solving skills in the present study. For weakness, even though, the SALI is nursing discipline specific scale for CNL, but the main focus of developing SALI was to assess the behaviors of nursing students, rather than skills in practices. Moreover, SALI is a very old western perspective measure that was developed for nursing students' leadership behaviors in general and not relates to clinical nursing. Thus, it will not be an appropriate measure to assess CNLs skills or proficiency.

In conclusion, the extensive review of the current literature identified a number of leadership scales that were used to assess the leadership skills, behaviors or styles in nursing. The most of the tools were used to assess leadership of others categories of nurses including nurse manager or administrators that were derived from the non-nursing disciplines and used in nursing either directly or after modification. Although 4-5 tools were found in relation of clinical nurse leadership, but several limitations were identified to these tools in the context of nursing and healthcare in Bangladesh. The most important limitations, such as (1) most of those scales were in development.

Summary of the Literature Review

The reviews of literature in the present study comprised the various aspects and topics related to CNLs including the concept, importance, philosophy of CNLs, the attributes of effective CNLs, factors influence, and the existing tools to measure the CNLs. The reviews revealed that the concepts of CNLs were multidimensional that required a clinical nurse being a leader the various knowledge, qualities and the skills blends including the personal and professional knowledge, qualities or skills as well as the general leadership qualities. However, despite the some dissimilar explanations or definitions about the concept of CNL; from the provided definitions revealed that several authors were strongly agreed in one important notion of effective CNL that was a nurse must have the professional nursing knowledge and skills as mastery of technical clinical performance and the skills in non-clinical leadership to influence others coworkers and teams as role model. Moreover, it was seen that the primary focus of CNL was a client-centered leadership approach to exercise leadership skills in direct patient care as an expert clinician through providing safe and high-quality clinical care.

Based on the review the researcher also found that several leadership theories were existed in the literature in general and for organizational leadership effectiveness starting from the earlier trait approach to the most modern contemporary approach to transformational leadership. However, there was a lack of established leadership theory to specifically deal with healthcare leadership or leadership in nursing. Therefore, it was essential to integrate a more suitable leadership theory from the existing approach as useful to describe the concept relevant to the leadership perspectives, roles, and scopes of the clinical nurses. Thus, based on the review and

comparison among various approaches, Katz's theory of three skills leadership was chosen as the best theoretical approach in the present study to explain the vital leadership perspectives of the clinical nurses. The perspectives that considered in the present study included: (1) the focuses on the field-specific leadership knowledge and skills, such as nursing; (2) behavioral interactions proficiency of the CNL as most important human leadership skills; and (3) the leader's visionary skill aspects that focuses the creativity and innovativeness of the clinical nurses leader to respond with the ongoing changing needs refers to the conceptual leadership skills.

When explored the specific attributes or skill dimensions of an effective clinical nurse leader; the reviews identified the various skills or competencies or components that described as the core elements of effective CNLs. Based on the explanations and essences of those identified attributes and dimensions; it was acknowledged that these dimensions can also be explained under the three major skills perspectives of Katz's theory as stated above.

Since from the reviews, we observed that the dimensions or attributes of the CNL explained in the literature was varied from literature to literature. Therefore, it provided us a different understanding of the importance of the exploration of the situational or contextual variables which could positively or negatively influence the effectiveness of clinical leadership among nurses in Bangladesh. In this perspective, although several studies frequently highlighted the importance and negative impact of the scarcity of effective nursing leadership in the healthcare of Bangladesh. But there was a lack of specific study in this context on the topic of interest to know the level of existing situations of CNL. Moreover, there was a lack of any existing model or

framework regarding leadership development of any group of nurses including the clinical nurse.

Even though, it was vital to find evidence-based findings of the current situations, knowledge or skills of the clinical nurses in regards to their clinical leadership abilities with the current healthcare contexts. But there was no available specific tool as similar or within the contexts of healthcare of Bangladesh for assessing the clinical leadership among nurses. A number of tools were identified from the existing published literature; but these tools had several limitations including the contextual or cultural differences, shortage of clinical nurse specific measures, the comprehensiveness of the scale, and the issue on psychometric evaluations. Therefore, the existing tools were not useful enough to the contexts and the objectives of the target populations in the present study. Finally, the researcher was willing to develop a scale on the CNL in the contexts of healthcare and nursing of Bangladesh that would able to capture the various roles and scopes of the nurses to practice their leadership and especially for specific to the clinical care in providing direct patient care.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter discusses the methodological procedures to achieve the objectives of the study and answer the research questions. The aims of this study were to develop and evaluate the Clinical Leadership Scale of the Registered Nurses in Bangladesh (RN-CLS, BD). Two research questions were proposed in this study: (1) what is to be the dimensions and the components of the RN-CLS, BD, and (2) how valid and reliable is the newly developed scale to measure leadership skills of clinical Registered Nurses (RNs) in Bangladesh. To answer these research questions, this study followed the two phase's eight steps scale development method of DeVellis (2017). This chapter presents the study methodology including the study design, methods of scale development, and the evaluation of the psychometric properties of the RN-CLS.

Study Design

This study used an inductive mixed-method research design aimed to develop and evaluate the psychometric properties of the RN-CLS, BD as a new measure that will be used to assess the clinical leadership skills of Registered Nurses (RNs) in Bangladesh.

The development and psychometric evaluations of the RN-CLS, BD consisted of DeVellis's (2017) two phase's eight steps principles of scale development were used in this study as guiding principles in the development and evaluation of the psychometric properties of the RN-CLS, Bangladesh. Phase-1 was about the

development of the RN-CLS containing three steps, and Phase 2 was for evaluation of psychometric properties of the RN-CLS containing five steps. The details of each phase and step are described below:

Phase 1: The Development of the RN-CLS, Bangladesh

This phase described the development steps of the RN-CLS, Bangladesh that included three process steps: (1) determine the content domains, (2) generate the item pool, and (3) determine the format for measurement.

Step1: Determine the Content Domains.

The purpose of this step was to search and specify a clear structure or construct of the proposed scale. According to DeVellis (2017), the first step of any scale development is identification and specification of the content domains or the constructs of the scale to be studied. In the present study, this step consisted of three aspects: (1) reviewed theories relating leadership, (2) reviewed literature relating clinical nurse leadership (CNLs), and (3) conducted focus group discussions. Each of these aspects is discussed below:

1.1 Reviewed Theories Relating Leadership

A number of leadership theories were explored and reviewed including the traits approach, the behavioral approach, the contingency or situational approach, and the skills approach. This review revealed that each of these theoretical approaches had some typical characteristics and assumptions as key to the success for a leader in a particular context, and style or purpose of the leadership. In this study, considering the

purpose of the scale to be used and the context of the study as healthcare leadership, Katz's (1974) "Leadership Skills Approach" was considered as most appropriate as a theoretical foundation of the proposed scale. According to Katz's theory, there are three broad typologies of skills that are necessary for a leader in his/her effectiveness in leadership such as:

(1) Technical skills- a domain-specific knowledge base of leaders. In nursing, these are the professional nursing knowledge base and scientific methodological procedural skills.

(2) Human skills, which deal with people related interactions skills of the leader. In nursing, it is the interpersonal proficiency and team working ability of a leader.

(3) Conceptual skills which are about a leader's ability to work with ideas and concepts. It is about the cognitive understanding and critical thinking ability of a clinical nurse leader, necessary for problem-solving and decision-making.

1.2 Reviewed Literature Relating CNLs

After reviewing the theory, it was assumed that the leadership in general and leadership in nursing as healthcare is not the same. The nursing profession must produce leaders throughout the health care system, who can serve in full partnership with other health professionals as well as their own contributions to delivering high-quality patient care (IOM, 2011). Therefore, to make an in-depth understanding of the concept of CNLs and to explore the primary content domains of the proposed sale; a thorough review was accomplished based on related literature including the concept of CNLs; existing models; dimensions, components, skills or competencies of CNLs; and existing related tools on nursing and clinical nursing leadership.

Both qualitative and quantitative published or unpublished researches and literature were included in the review. The search strategy began with the electronic databases such as ProQuest, CINAHL, Pub-Med, Medline, PsychInfo, Cochrane etc. In addition, the Google search and Google Scholar were also used. The keywords used included ‘leadership’, ‘clinical nurse’, ‘clinical leadership’, ‘skills or attributes’, ‘concept model’, ‘scale development’, ‘evaluation’ and ‘measurement or tool’. This searching process identified a substantial range of literature related to the concept of CNL skills including assumptions, attributes, dimensions and existing related scales. These reviews provided a vigorous understanding for the researcher about the concepts of CNLs and its various aspects including the definition, common and specific components, related skills, critical attributes and the nature of existing tools and their dimensions. Finally, in the present study, 36 papers were integrated in relation to the identified aspects of clinical nurse leadership. Although, besides the above literature, several clinical nurse leadership models or frameworks were also reviewed (AACN, 2007; CNA, 2013; ACN, 2015; NHS, 2012) to enhance understanding about the topic of interest. The outcomes of this literature review are provided in Chapter 4 ‘results’ in this report.

1.3 Conducted Focus Group Discussions

The purpose of the focus group discussions was to verify the selected components from theory and concept and to identify context-appropriate specific skills in clinical nurse leadership as best fit for clinical registered nurses (RNs) within the health and nursing care context of Bangladesh. Moreover, the review literature revealed that contextual factors or issues may have a strong influence on the type of leadership and the required skills for effective leaders: such as- the situation, types or nature of work,

healthcare delivery model, education, experiences etc. (Curtis et al., 2011; Cummings et al., 2008). Therefore, identifying components of leadership skills based on literature only would not suffice to arrive at appropriate leadership skills and attributes for clinical nurses in Bangladesh. There may have some other important or unique dimensions or components required for clinical nurses in Bangladesh which may differ from global literature findings.

Hence, it was essential to explore contextual leadership skills for clinical nurses in Bangladesh and verify these results with literature review findings. Therefore, in this study, two focus group discussions were performed with the involvement of 14 RNs of different categories such as: nurse administrators, nurse educators, and clinical practice nurses. Details about the focus group participants and methods of data collection and analysis are presented below:

Study subjects: The participants in the focus groups involved 14 RNs from various levels in Bangladesh including four nurse administrators and three nurse educators in one group and seven clinical RNS in another group.

Data collection: A protocol, using open-ended questions, was developed to conduct the FGDs based on Theory of Three Skills Leadership (Katz, 1974) and concepts of the CNLs (AACN, 2007). The FGD protocol consisted of two parts (a) a section to record demographic data of participants and (b) an open-ended semi-structured questionnaire (Appendix 1). The participants were asked to explain their understanding, views, and perspectives on the issues introduced by the questionnaire. They were also invited to describe CNLs skills considered important for an effective clinical nurse leader in the context of nursing in Bangladesh. The discussions were recorded using audio tape and note taking with prior permission of the participants.

Data analysis: The data analysis was initiated by transcribing audio tapes and field notes into complete verbatim transcripts. A thematic content analysis method was used to analyze the collected data and to identify emerging themes as guided by the Iceberg model (HayGroup, 2003). Data triangulation of sources and methods and involvement of experts in the analysis process assured reliability of data and findings. The individual and cross-group analysis were performed using a series of steps such as transcribing focus group data, coding, and categorizing the data into the specific skills categories, themes, and sub-themes. Eleven themes or skills categories of clinical leadership skills for RNs in Bangladesh emerged from analyzing the collected data set. Finally, these identified themes or skills categories were used to develop the Clinical Nurse Leadership Scale of the RNs in Bangladesh (RN-CLS, BD) and generate the item pool. Details on focus group discussions' findings were are provided in Chapter 4 and in the Appendix C.

Step 2: Generate the Item Pool

Followed by the identification of specific content domains/skill components, it was necessary to define the target constructs both conceptually and operationally to specify clear objectives of each measuring construct (DeVellis, 2017; Waltz et at., 2010). Therefore, an explicit operational definition was provided for each of the identified skill categories of the RN-CLSA based on the literature review and the focus group suggestions. Next, based on identified operational definitions and objectives of each skill category of the RN-CLS, a large number of item pools were generated as a self-assessment measure.

The initial item pool of the RN-CLS was generated in Bengali language in order to present item statements suitable with the culture and context of Bangladesh and to ensure correct understanding for nurses by using their native language. The initial draft (draft 1) of the RN-CLS consisted of 122 items for 11 skills categories/components (Appendix D).

Step 3: Determine the Format for the Measurement

According to DeVellis (2017), the format for responding to each item to be developed is based on the nature of the latent variables of interest. The response format of the RN-CLS was designed as a 5-point Likert-type with a summated rating scale, which allows a subject to respond with a varying degree of intensity on the scale items about how often a clinical nurse practices or performs the particular leadership skills. The response formats were ranging from 1= never perform/practice this skill to 5 = always perform/practice this skill. The score of each item was demonstrated as follows:

1= never perform/ practice this skill,

2 = very rarely perform/practice this skill,

3 = occasionally perform / practice this skill,

4 = almost always perform/practice this skill, and

5= always perform/practice this skill.

Thus, the lowest value of an item was 1 (one), and the highest value was 5 (five). The scores of all scales items of the component were sum together for making an average to yield an individual subject's skills on Clinical Leadership Skills against the component. These individual's skills, as reflected by the score was used to interpret his

or her clinical leadership ability or skill against the particular leadership component. According to Krosnic and Leandre (1997), 5-point Likert scale format of a measure offers a midpoint value on bipolar scales, which provide a neutral position, and increased scale reliability. It is a widely used format for norm-referenced measurement framework, which allows for obtaining the subject's preference of agreement with a statement or set of statements (Waltz et al., 2010) (Appendix D).

Following determining the scale format of the measurement, the generated item pools were then translated into English. To avoid translation bias the back-translation method was used by an independent translator. This English translated version was used to examine the content validity by using a panel of expert reviewers. The details of the translation process are explained below:

Back-Translation of the Item Pools

The aim of this step was to convert the original Bangla version (draft 1) item pool into an English version item pool allowing assessment of content validity by non-native expert reviewers (Non-Bengali). The translation process of the RN-CLS was accomplished using bilingual experts applying the back-translation method to ensure the semantic accuracy and equivalence of the two versions of the scale. Maneesriwongul and Dixon (2004) suggested that bilingual back-translation process is the most useful technique for testing both source language and target language versions of a measure to detect any discrepancy or inconsistency in the versions, especially for the uniformity of the meaning and clarity

In the present study, the process of translating the RN-CLS involved three bilingual experts as follow: first, a bilingual translator was used to translate the original

Bengali version of the item pool (draft 1) into an English version without any change in the meaning of the original statements. Second, another bilingual translator was to back-translate the translated English version into another Bengali version. Finally, in the third step, a comparison was made between the two Bengali versions (the original and the back-translated Bengali version) by another bilingual expert to examine the consistency or discrepancy of meaning between the two sets of item pools (List of Experts in Appendix O).

However, in addition to above, others two bilingual nursing experts were also used to examine the similarity of the meaning and the clarity of the statements between the original and back-translated Bengali versions. The experts included a nurse educator and a clinical registered nurse. Finally, after careful reviewed by these three experts (3rd bilingual translator and two bilingual nurses), they reached a consensus that the meaning of the item statements in both Bengali versions were consistent and similar. They also concluded that the translated English version was accurate in terms meaning with the original Bengali version. The next step involved assessment of the English version items pool for content validity by five content experts.

Phase 2: The Psychometric Evaluation of the RN-CLS, Bangladesh

The purpose of this phase was to examine the validity and reliability of the RN-CLS, BD to ascertain that the developed scale is valid and reliable to measure the leadership skills of clinical RNs in Bangladesh. This was done to ensure that the scale accurately measures a construct and to ensure that a scale accurately measures what it is supposed to measure (Waltz et al., 2010). This evaluation phase consisted of five steps:

(1) examine the content validity of the initial item pool, (2) conduct a pilot study for pretesting the items, (3) administer items to the development sample, (4) evaluate the items, and (5) optimize the scale lengths. The details of each step are described below:

Step 4: Examine the Content Validity of the Initial Item Pool

The purposes of this step was to determine the relevance of each item to the intended scale domains or constructs, domains representation, conciseness, and clarity of the items, by experts review. According to DeVellis (2017), among different types of validity in scale development, the content validity is a first important concern to determine how well the explicit items represent the universe of the item contents.

4.1 Experts of the Content Validity

The content validity was performed using content validity index (CVI) of the initial item pool (draft 1, English version) of RN-CLS by the involvement of 5 content experts. All the experts were from the nursing profession and having experiences in the different areas of nursing including nursing education, administration, leadership, and clinical nursing areas. The reviewers of the item pool consisted of one faculty from the Faculty of Nursing, Prince of Songkla University, Thailand; one faculty from the Faculty of Nursing, Chulalongkorn University, Thailand; and three experts from the discipline of nursing education in Bangladesh. Before sending the items for review, a letter of invitation was provided by the Faculty of Nursing, Prince of Songkla University, Thailand to each expert in order to obtain their valuable suggestions and comments on the items.

The content experts were asked to rate on each item of the scale to judge the degree of domain relevancy/representation and clarity of item statements. They rated on each item independently on a four-point agreement options about how close the statements reflect the ideas represented by the definitions of the skill components. In order to rate the items, rating scale options ranged from; 1= not relevant, 2 = somewhat relevant, 3= quite relevant to 4 = very relevant. Based on experts' ratings of item relevance of 3 or 4 were used to compute the CVI including the item content validity (I-CVI) and the Scale content validly (S-CVI).

Besides the relevance and clarity of the items, the experts also asked to provide the suggestions of any modification, change, adding or deletion of any item. After validation by the experts, the researcher made modifications and changes based on expert's suggestions and comments. The value of the computed CVI of at least .80 was considered as minimally acceptable for an individual item (Polit & Beck, 2012; Waltz et al., 2010). The CVI for each item (I-CVI) was computed by calculating the proportion of experts who rated on a score of 3 or 4. The CVI of the total scale (S-CVI) was computed by the proportion of items agreement given a rating of 3 or 4 by five experts involved in the process of content validly (Waltz et al., 2005). According to Lynn (1986), the formula of the computing the S-CVI is

$$\text{S-CVI} = \frac{\text{Number of items expert agreement rated 3 or 4}}{\text{Total numbers of experts}}$$

4.2 Determination of the Face Validity

After ascertaining the content validity of the RN-CLS, the revised Bengali version (draft 2) questionnaire was used to determine the face validity. The aim of the

face validity was the extent to which the scale design and method appears “on its face” to measure the construct of interest (Price, Jhangiani, Chiang, & Leighton, 2017). Five clinical registered nurses (RNs), similar to the anticipated subjects of the subsequent trial, were selected in this step to evaluate the face validity of the RN-CLS. The participants thoroughly reviewed the questionnaire and affirmed the face validity of the scale.

Step 5: Conduct Pilot Study for Pretesting the Items

The purposes of the step was to identify the potential problems with the RN-CLS (draft-2) including language clarity and appropriateness, timing, comprehensiveness of the items, and checking for the preliminary reliability of the scale by conducting a pilot study with a small number of representative subjects.

Study sample and sampling: To conduct the pilot study, thirty clinical register nurses were invited from a general hospital (SK Hospital) attached to the Mymensingh Medical College Hospital in Bangladesh. The selected nurses had similar background characteristics as the anticipated study subjects for a large-scale study. A purposive sampling technique was used to select subjects from the nurses involved as direct patient care. The inclusion criteria included: (1) being a clinical registered nurse involved in direct patient care, (2) hold at least a diploma in nursing and being registered by the Bangladesh Nursing Council (BNC), and (3) have at least 2 years working experience in government services. To ensure voluntary participation, a written consent form was signed by all participants after explaining the purpose of the study.

Instruments of the pilot study: The data collection instrument was the Bangla form of RN-CLS that consisted of two parts: (1) the Demographic Data Form

(DDF) included age, gender, education, work experiences, and current position; and (2) the RN-CLS (draft 2) with 124 items on clinical registered nurses (RNs) leadership skills. The response format for items was a 5-point Likert's scale ranging from 1= never performed/practiced; to the 5= always performed/practiced. The details about the response formats were given in step 3.

Data collection: The data were collected by the researcher after getting approval from the Institutional Review Board (IRB), Prince of Songkla University, Thailand; permission from the hospital authority, and obtaining a written consent from the study participants. The study objective was explained to the subjects and asked them to fill the questionnaire as instructed. The subjects were also asked to provide comments or suggestions, for any item they perceived as not clear.

Data analysis: All participating nurses returned their properly completed questionnaire to the researcher within the given time frame. The participants confirmed that all items of the RN-CLS were clear and readable. It took them about 50-60 minutes to answer all items. The collected pilot data were analyzed using descriptive statistics. The item analysis method was performed to check the necessity of further revising, retaining, or deleting any item based on the statistical findings (Appendix H). To examine the strength or level of reliability, internal consistency reliability was performed using Cronbach's alpha coefficient. Based on the results of pilot study, some items were revised or modified that revealed item-total correlation <.30. This revised item pool (draft 3) was re-administered to a large sample for field testing. Detailed results of the pilot study are provided in Chapter 4.

Step 6: Administer Items to the Development Sample

6.1 Field Test of the RN-CLS

The aim of this step was to determine the psychometric properties of the RN-CLS with a large group of study samples as empirical evidence. According to DeVellis (2017), this step is essential to examine construct validity and reliability of a new measure. Hence, after the pilot study; the RN-CLS (draft 3) was employed to 890 clinical registered nurses as study subjects in two public medical college hospitals of Bangladesh. The details about the study settings and subjects are described below:

Study Settings: The final field test data collection was carried out in two medical college hospitals in Bangladesh: (1) Dhaka Medical College Hospital (DMCH), Dhaka; and (2) Mymensingh Medical College Hospital (MMCH), Mymensingh. The study respondents were clinical registered nurses (RNs) of these two medical college hospitals. There are several types of public hospitals in Bangladesh such as- the upazilla hospitals, district hospitals, medical college hospitals, specialized hospitals, and tertiary hospitals. Among them, medical college hospitals are in great demand for delivering healthcare to the people of Bangladesh. Medical college hospitals offer accessibility to different healthcare facilities, offer quality care, and offer both general and special health care services. In addition, nurses in medical college hospitals need to work with multidisciplinary teams and with diverse patient problems. Therefore, as important healthcare providers, effective leadership among clinical nurses is fundamental, especially when working in partnership with multidisciplinary teams and deal with diverse patient problems and needs.

A large number of medical college hospitals are existed in the country. But in this study, the above mentioned two medical college hospitals were purposively

selected by the researcher as they offered the largest hospital capacity in Bangladesh and were most popular as service provider. For example, the DMCH is the biggest central hospital in Bangladesh, which is situated in the capital city of the country. Accordingly, the MMCH is also a very large divisional hospital situated central-north of the country. The latter is serving a population of about 11,370,000 and covering six to seven districts within the Mymensingh division as the only specialized hospital. Thus, the selected study settings were important in terms of the population served as well as in terms of employing sufficient a number of study subjects required for the present study. In addition to the above explained factors of convenience, the characteristics of the clinical nurses in these two hospitals were similar to those of other public medical college hospitals in Bangladesh.

Sampling: The study subjects involved the clinical RNs of the above two hospitals (DMCH and MMCH). A purposive sampling method was used to recruit the subjects for data collection of field test study. The inclusion criteria to **s**tudy subject selection include: (1) the clinical registered nurse involved in direct patient care, (2) at least diploma in nursing degree and registered by Bangladesh Nursing Council (BNC), and (3) at least two years working experience in the government services.

Sample Size: According to DeVellis (2017), the number subjects should be adequately large to run the factor analysis and produce a more stable factor pattern. Although, some experts stated that at least 300 subjects are adequate to run the factor analysis (Thompson, 2004). According to Munro (2005), the sample size can be varied from minimum 5 subjects per item to 10 subjects per item. In the present study, the RN-CLS (draft 3) consisted of 124 items. Hence, based on the calculation of Munro with the minimum sample requirements, for the RN-CLS with 124 items, 620 subjects were

adequate. However in the present study, to ascertain the sample adequacy and minimize the risk of any missing data, 890 study subjects were involved in data collection. Although 689 data were returned (77.45%); in the final analysis, 627 completed data were used to run the factor analysis after excluding the missing and outliers data (item to subject's ratio was 1:5.06. Thus, the number of subjects can be considered as adequate to run the factor analysis with 124 items for the present study.

The additional statistical test of Kaiser-Meyer-Olkin (KMO) of sampling adequacy was also run that met the criteria of adequacy of subjects with an acceptable value of ≥.60 (Field, 2005); while, in the present study it was .916. According to (Munro, 2005), the KMO is a very useful method to ensure the adequacy of subjects fit for factor analysis (Appendix I).

Data Collection: All ethical approvals were granted before starting the data collection procedures, which included: permission from the Institutional Review Board (IRB), Prince of Songkla University (PSU) (Appendix G); permission from the hospital authorities of the selected study settings; and consent from the study participants (Appendix F). The data collection questionnaire consisted of a demographic data section (DDS) in part-1 and the questionnaire on RN-CLS, BD in part 2. The participant's consent form for study subjects was provided along with the data collection questionnaire and subjects were asked to sign it, evidencing agreement of voluntary participation. The subjects who did not return the consent form, but returned their completed questionnaire, were contacted to take consent of their participation. The participants were asked to answer the questions as instructed in the data form and requested to submit it to the researcher or his representatives by a week after distribution.

6.2 Data Management and Analysis

As stated before, out of 890 distributed questionnaires, 689 (76.4%) were returned. The activities in data management included cleaning of data for any missing data (item non-response) or incompleteness and check the necessary assumptions of factor analysis. These included data coding, data entry, and data screening and cleaning, and finally, testing the assumptions of exploratory factor analysis (EFA). Thus, data management was completed in two steps: (1) preliminary data analysis, (2) test the assumptions of factor analysis and (3) final analysis.

6.2.1 Preliminary Data Analysis: The first step of data analysis was performed to examine the validity and accuracy of the collected data sets by checking the missing data and the number of outliers as underlying assumptions of multivariate analysis. In the collected 689 data, 51 questionnaires had some degree of missing values (>10%) to many items and 11 cases had outliers; which were excluded in the final analysis. Thus, for the factor analysis, 627 questionnaires were used as complete and valid data sets.

6.2.2. Test of Assumptions of Factor Analysis: Using univariate descriptive statistics, all the necessary assumptions were tested to examine the nature of data and check the appropriateness of data prior to running a factor analysis. Test assumptions include: (1) Test of outliers; (2) Test of normality, (3) Test of Linearly, (4) Test of multicollinearity, (5) Test for sample adequacy, and (6) Bartlett's Test of Sphericity. The overall there was no any marked deviation in the data set found that could violate the necessary assumptions of factor analysis appropriateness. A brief description of all assumptions is provided below (Appendix J):

Test of Outliers: To examine the possible outliers against each item of the data set, a multivariate statistical analysis was performed using Mahalanobis distance analysis with a set criteria of the p-values equal to .001, df=124 and the given chi-square value (X^2) of 178.408. The analysis revealed that in the present study, 11 cases were outliers, and therefore, they were excluded from the final analysis (case no- 20, 45, 57, 108, 153, 155, 190, 277, 290, 506, and 623). After excluded these cases, the researcher reevaluated the analysis and no any outlier was existed in final data set (Tabachnick & Fidell, 2007).

Test of Normality: After excluding the 11 outliers in early step, the distribution of 124 items or variables was examined to check the normality to each item by using normal Q-Q plots. A Q-Q plot is a scatter plot created by plotting two sets of quantiles against one another. If both sets of quantiles came from the same distribution; we can see the points forming a line. In our analysis which were roughly straight for each of the items (Ho, 2014); and finally, there was no any marked deviation from the normal oblique straight line in figures (Appendix J). Therefore, the assumption of normality was met.

Test of Linearity: For all individual items, the linearity was assessed using the inspection of P-P scattered plots of residual against the predicted values that provides the information about the non-linearity (Appendix J)**.** The scattered plot in the present study showed a positive linear relationship with all predicted values and residuals, indicating that the assumption of linearity was met (Ho, 2014).

Test of Multicollinearity: The multicollinearity refers to the situation where the predicted variables are highly correlated. Because a high correlation is a

problem with singularity in the factor analysis and it becomes difficulty to determine the unique contribution of the individual variable (Ho, 2014). In the present study, the multicollinearity was tested by correlation (r) matrix. The results found that the ranges of correlations among the variables were from (r = 0.28 to 0.72); in which, the value of r <0.90 is acceptable (Field, 2005). Thus, there was no any multicollinearity and assumption was met.

Test of Sample Adequacy: In factor analysis, the adequacy of the sample is important. As stated earlier, the minimum required sample size was at least 620 of 124 items with a ratio of 5:1. In the present study, 627 subjects were used a valid for factor analysis, which was assumed as adequate. However, for statistical confirmation, the 'Kaiser-Meyer-Olkin Measure of Sampling Adequacy' statistics was run. The value of ≥.60 indicates adequacy to run the factor analysis (Field, 2005). In the present study the value was .916, indicating that the assumption was met (Appendix I).

Bartlett's Test of Sphericity: Factor analysis requires some degree of relationship between variables. Bartlett's Test of Sphericity can be used to test the adequacy of the correlation matrix (Figure 6). In the Chi-Square, the significant correlation indicating (.000) that at least some of the variables are significantly correlated to each- other (Ho, 2014) and it is not an identity matrix (Field, 2005). Significance at p<0.001 confirmed that factor analysis was appropriate (Field, 2005) with the current data (Appendix I).

6.2.3. Final Analysis: The data analysis includes the descriptive statics for demographic variables and examining the construct validity by Exploratory Factor Analysis (EFA). Before running the EFA, the item performance test was executed by

checking the item-total correlation matrix, which allowed the researcher to make a decision of excluding items, which had item-total correlations of <.30, as low reliable items (Waltz et al., 2010).

The EFA was used to discover the number of common factors that emerged from the items as variables and to analyze which items or variables will go together (Yong & Pearce, 2013). In order to extract the number of factors from the subjects' responses to the items, the Principal Component Analysis (PCA) was performed. The factor rotation was performed using the orthogonal rotation methods of varimax technique. This technique allows to attaining an optimal simple factor structure which attempts to have each variable load on a few factors, but it maximizes the number of high loadings on each variable (DeVellis, 2017; Yong & Pearce, 2013).

Step 7: Evaluate the Items

The aim of this step was to analyze the collected data from the development study sample to examine the construct validity and reliability of the RN-CLS (draft 3). Three statistical analyses were performed in this step including (1) Initial examination of items' performance, (2) evaluation of the construct validity, and (3) determination of the scale reliability.

7.1 Initial Examination of Items' Performance

According to DeVellis (2017), after administering the item pool in a development representative large sample group, it is essential to evaluate the performance of the individual items. To evaluate the initial item performance, the item-scale and inter-item correlation matrix were examined before conducting the EFA. The item-total correlations of at least 0.30 were acceptable (Nunally & Bernstein, 1994). The

item-scale correlation was viewed by testing of scale reliability with all individual items of the scale, draft 3.

7.2 Evaluation of the Construct Validity

The purpose of construct validity was to examine the theoretical construct of the RN-CLS; BD, which was examined using the exploratory factor analysis (EFA) to identify the internal dimensions of the scale. According to Hair et al. (2006), there are two main purposes of exploratory factor analysis such as: 1) identify the underlying dimensions of a construct in scale development, and 2) reduce the number of items by summarizing a set of latent variables into a new set of a smaller number of variables. According to DeVellis (2017), EFA is a statistical technique to analyze the structure of interrelationships among a large number of variables to determine a set of common underlying dimension or factor. To evaluate the construct validity of the RN-CLS, two statistical methods were performed in the EFA: (1) the Principal Component Analysis (PCA) to establish primary factor solution, and (2) the factor rotation to find the best fit and factorial suitability of interpretation.

First, the PCA was used for theoretical explorations of the underlying factor structure of the RN-CLS. According to Williams, Onsman, & Brown (2010), the PCA is a useful method to determine the number of factors or components to be retained based on the empirical results that provide a preliminary solution in EFA. The criteria for evaluating the number of factors extraction include: (i) Kaiser's criteria (eigenvalue >1), (ii) the scree plot test, (iii) the cumulative percent of variance extracted (at least ≥ 50%), (iv) the factor loadings cutoff point (≥ .30), and (v) the parsimony and theoretical interpretability (Hair et al., 2006; Tabachnick & Fidell, 2007). In addition, the reliability by using Cronbach's alpha coefficient of each factor at least .70 (DeVellis, 2017) and the

item-total correlations at least .30 were considered as minimally acceptable (Nunally & Bernstein, 1994).

The second analysis was about the factor rotation that allows in scale development for a more parsimonious factorial solution and easier interpretation of the results. According to Williams et al. (2010), the factor rotation maximizes high item loadings and minimizes low item loadings. Therefore, it produces a more interpretable and simplified solution. In the present study, the Orthogonal Varimax rotation method was used as a most common rotational technique in factor analysis (Williams et al., 2010). Rotated factors were interpreted by examining the factor loadings of each item, which was minimum 0.40.

7.3 Determination of the Scale Reliability

To determine the reliability of the RN-CLS, the internal consistency reliability test was performed using the data of field test study. The internal consistency reliability of the RN-CLS was examined, after establishing the theoretical factor structure in the EFA. The Cronbach's alpha coefficient level of at least 0.70 was considered for minimally acceptable for internal consistency of new measure (Grove, Burns, & Gray, 2013). Although DeVellis (2017) recommended that internal consistency of a new scale; .70-.80 is acceptable, .80-.90 is very good, and above .90 is excellent. The internal consistency of the RN-CLS was assessed at two levels; the overall as well as for each factor that identified from EFA and factor rotation. The results of the test of internal consistency of the scale are provided in Chapter 4.

Additional Tests for Validity and Reliability of the RN-CLS, BD

According to Waltz et al. (2010), to evaluate the psychometric properties in new scale development, at least two types of validity and reliability tests are essential. Therefore, in this study, after affirming the construct validity of the RN-CLS by EFA and test of internal consistency (draft 4), another two tests for the validity and reliability were performed. These were: (1) the contrasted group approach for construct validity, and (2) stability reliability test for test-retest reliability.

Contrasted Group Approach

The contrasted group approach is a known group technique that is also used to evaluate the construct validity of a new measure. This test is used when the two groups of populations are known to be extremely high and extremely low in the characteristic being measured by the scale (Waltz et al., 2010). This technique premises that a valid tool is able to differentiate the individuals who are known to be different on the constructed tool that is intended to be measured (Polit & Hungler, 2013). If the scores do not differ between the groups, it is possible that either test is unreliable or it is reliable, but not a valid measure of characteristics (Waltz et al., 2010). The scores performance of the two test groups is compared by using the t-test or the analysis of variance test (Polit & Hungler, 2013).

In the present study, 60 clinical registered nurses were selected in two groups for performing the contrasted group analysis. The group 1 consisted of a high-performance group and group 2, a low performance group. The participants in the two groups were selected using two important additional criteria along with the criteria of field test study participants. The criteria for contrasted group subjects included: (1) a clinical registered nurse involved in direct patient care, (2) diploma in nursing as a

minimum professional qualification , (3) job experience in public hospital; for group 1 ≥ 10 years and for group 2 ≤ 5years, and (4) known differences in work performance (ensured by the direct supervisors). It was presumed that the level of clinical leadership skills for group 2 (less job experiences with low performance) will be lower than the group 1, who had more experience and exposure in clinical care settings. In this step, to compare the contrasted groups, the RN-CLS with 9 factors for 92 items scale was used to analyze the results that established from the EFA (draft 4). The independent t-test was performed to compare the results of two groups' score on the clinical leadership skills.

Stability Reliability Test

The stability reliability test of the RN-CLS was performed using the test-retest reliability method. According to Polit and Beck (2012), test-retest reliability refers to the test's consistency among different administrations of the same attributes using the same scale over time that examines the stability of a measure over different uses and times. In the present study, it was examined for the scale, draft 4, using the data from 30 clinical registered nurses, which were collected at two periods of 10 days interval (Grove et al., 2013). The inclusion criteria for study subjects for the stability test were similar as for the field test study subjects. The collected data of two occasions were used to run the test-retest reliability using the Pearson's product moment correlation coefficient to determine the extent to which these two sets of scores are correlated. According to Waltz et al. (2010), the closer the coefficient is to 1.00 indicates a more stable of the measure. According to DeVellis (2017), the minimally acceptable level of test-retest reliability is at least .70 or greater

Step 8: Optimize the Scale Lengths

The Aim Of This Step Is To Optimize The Length Of The Scale In Order To Facilitate Time For Respondents To Answer In An Effort To avoid burdening them and facilitating administration. At this step, RN-CLS have with an acceptable level of reliability and validity. In order to achieve the objective of this steps, several steps of factor analysis were executed and read-reread the scale's items. For example, in the primary steps, based on item-total correlations, 22 items were deleted with <.3 correlation. In the subsequent steps, factors loading (item rotation) against the extracted factors was begun with cutoff point >.30, then >.35 and finally ≥.40. These steps were followed to increase the scale's reliability and reduce the number of items. Finally, from the beginning to subsequent final steps of the RN-CLS's validity and reliability tests, a total of 31 items were excluded from the initial scale item (draft 1). Therefore, after EFA, the RN-CLS was established with 92 items for 9 (nine) components or subscales with an item loading cutoff point of ≥ .40.

Human Right Protection of Study Subjects

Before starting the data collection, the researcher asked for permission from the Institutional Review Board (IRB) of the Faculty of Nursing, Prince of Songkla University, Thailand. The permission also obtained from the director and nursing superintendent of the two selected hospitals. A written consent form was provided for the study subjects attached with the data collection questionnaire explaining the purpose of the study, ensuring voluntary participation, assuring anonymity and confidentiality, explaining the right to withdraw from the study, and explaining the possible benefits of

the study (Appendix F). Each subject received a closed envelope containing a data collection questionnaire and consent.

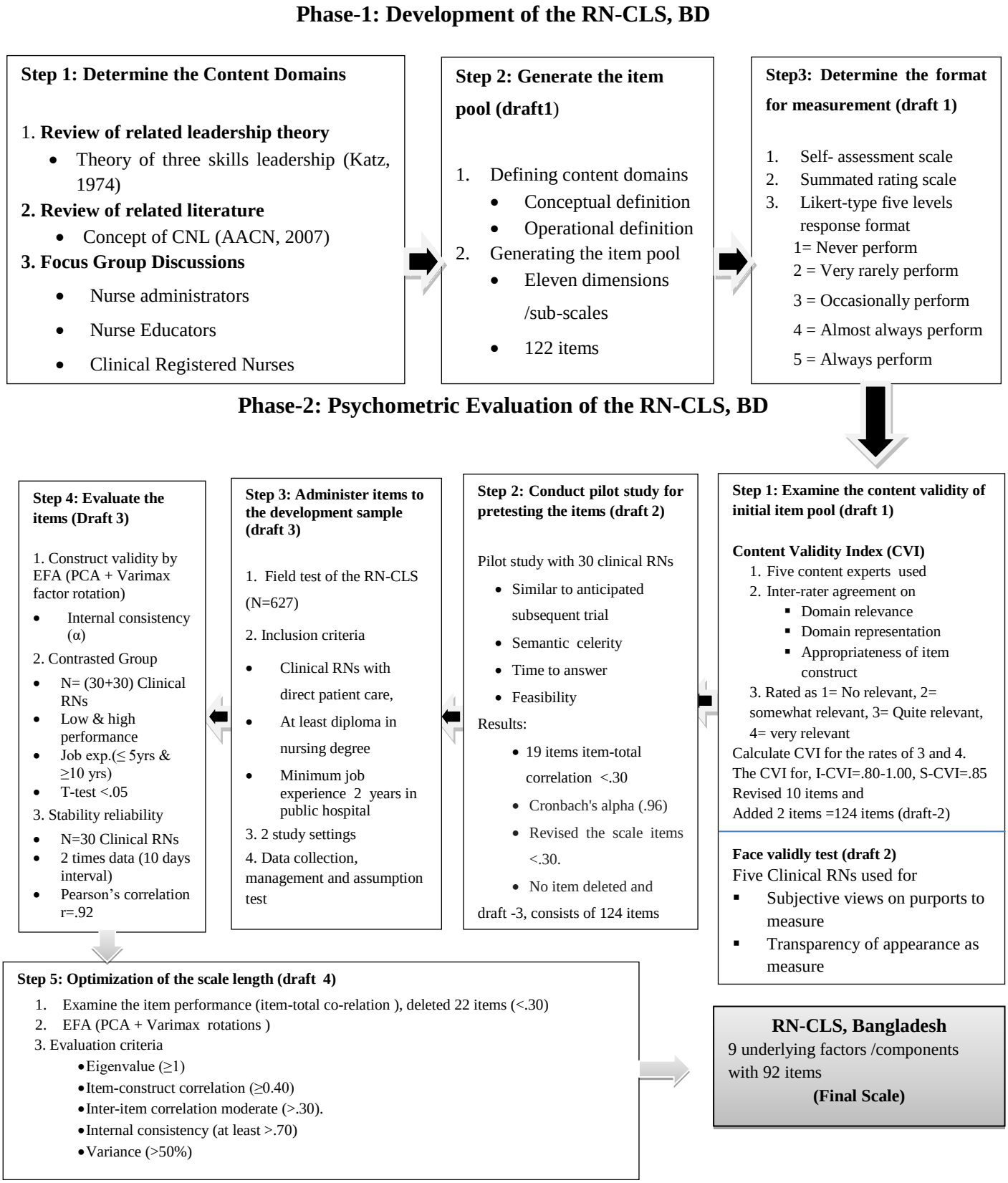

Figure 2. Summary of the Development and Psychometric Test Steps of the RN-CLS, BD (DeVellis, 2017)

CHAPTER 4

RESULTS AND DISCUSSION

This chapter presented the results on the development of the RN-CLS, Bangladesh and the results of the psychometric evaluation of the RN-CLS, Bangladesh including a reflective synopsis at the end of the Chapter. There were two main phases of this scale development: (1) a developmental phase (Phase 1) and (2) an evaluation phase (phase 2).

Results

Phase 1: The Development of the RN-CLS, BD.

Results for the phase of development of the RN-CLS-BD were presented in two parts including: (1) determination of content domains, and (2) generation of the item pool.

Step 1: Determination of Content Domains

The activities in this step consisted of three aspects including: review of leadership theories, review of the literature on clinical nurse leadership (CNLs), and focus group discussions.

1.1 The Review of Leadership Theories

Out of a number of leadership theories reviewed, the "Leadership Skills Approach" theory by Katz (1974) was chosen as appropriate for this study. Katz’s

theory, premises that three broad typologies of skills that are necessary for a leader to be effective in leadership. According to Katz, these are:

(1) Technical skills: The domain-specific knowledge based skills of the leader. In this study, these referred to the clinical leaders' professional nursing knowledge and their abilities in applying scientific methodological procedures in clinical nursing practices affecting the quality of patient care.

(2) Human skills: These deal with people related interactions skills of leaders. In this study, these skills referred to interpersonal proficiency and team working ability of the clinical nurse leader.

(3) Conceptual skills: These are about a leader's ability to work with ideas and concepts. In this study, these referred to cognitive understanding and logical thinking ability of the clinical nurse leader necessary for clinical problem-solving and decision-making.

Thus, considering the purpose of this scale development and the context in which the scale will be used i.e. clinical nursing care; the Katz's Leadership Skills Approach theory was found to be most useful in providing a theoretical foundation of the RN-CLS.

1.2 The Review of Literature on CNLs

A vast number of related literatures were reviewed to identify the nature of CNLs dimensions and related skills or attributes, including assumptions and related scales, as primary content domains of the proposed sale. The review revealed that existing instruments had different dimensions and definitions of the clinical nurse leadership and most of them were either not specifically designed for clinical nurses or were in their early stage of development (Gilmartin & Nokes, 2015; NHS, 2012; Patrick

et al., 2011; Smola, 1988). Further, it proved also difficult to find a tool that was context sensitive i.e. appropriate for nursing and healthcare settings in Bangladesh.

However, review findings convinced the researcher that the assumptions related to the concept of clinical nurse leadership of AACN (2007) could be most appropriate to explain and integrate key skills or attributes of CNLs in the present study. The AACN defined 10 basic role functions as the assumptions of CNLs at the microsystems healthcare level as an effective clinical nurse leader (see page 12), which were well-defined and comprehensive and found suitable to integrate with Katz theory (1974).

Integrating the underlying assumptions of the AACN's CNL in Katz's theory comprising ‘Three Leadership Skills' dimensions, therefore forming 3 skill categories as the basis of this study. These were: (1) Technical Skills of CNLs (TS-CNLs) in support of providing patient-centered quality care; evidence-based practice; and the use of advanced health technologies; (2) Human skills of CNLs (HS-CNLs) in support of competence in communication, interdisciplinary team collaboration, and moral behaviors; and (3) Conceptual skills of CNLs (CS-CNLs) that enable clinical creativity and innovation, and professional advocacy (Figure 1).

1.3 The Results of Focus Group Discussions

Focus groups with RNs of Bangladesh were used to confirm the integrated selected components of Katz’s with AACN’s and identify themes or skills categories in CNLs in Bangladesh. From the thematic content analysis, twelve themes were emerged in clinical leadership skills of the RNs in Bangladesh (Appendix C): (1) performing complete assessment on patient’s clinical health problems and needs

accurately; (2) providing care for the patients based on their needs, priorities and preferences; (3) ensuring that provided care is adequately safe and quality for responding to patient's problems, (4) updating care through proper monitoring as need to modify or change, (5) using patient's care related equipment or machineries to support the care to be comprehensive, (6) developing and maintaining harmonious relationship with the patients and families, (7) establishing professional relationship with the members of teams and coworkers, (8) expressing the skills in verbal and non-verbal communication, (9) valuing to the responsibility and accountability for profession and patients, (10) possessing the ability to respond for making decision on clinical and patient related problems, (11) fostering the improvement for clinical standards in patient care, and (12) mentoring for the professionals and profession.

Predetermined Constructs/Components of RN-CLS, BD:

The emerged themes from the FGDs were not completely reflects to the integrated components of Katz's with AACN's. However, a number of emerged themes were consistent with the prior selected components used for FGDs. Therefore, to determine the content domains of the RN-CLS in Bangladesh; a communality matrix was developed to integrate the emerged themes and selected components of Katz with AACN. Finally, based on commonalities between Katz's with AACN's and the themes from FGDs together with importance for the context of clinical nursing in Bangladesh; eleven skills were selected as predetermined components for the Clinical Leadership Scale of the RN's in Bangladesh (RN-CLS, BD) (Figure 1).

The integrated predetermined components were: (1) diagnose genuine problems and needs of patients, (2) develop patient-centered intervention, (3) imply quality and safety in patient care, (4) monitor and evaluate clinical effectiveness, (5)

optimize patient care with competence in medical technology; (6) establish a caring relationship with patients and families, (7) encourage interdisciplinary collaboration, (8) communicate in ways that are understandable for patient and family, (9) practice professional values of nursing, (10) practice problem-solving and decision-making, and (11) participate in enhancing professional advancement. These eleven skills categories were used as the predetermined content domains to generate the item pools for the RN-CLS, Bangladesh.

Step 2: Generation of the Item Pool

This step consisted of two specific activities: conceptually and operationally in defining constructs or skill categories; and generating the specific skill items for categories to measure. The conceptual definitions were provided for each category based on the literature and operational definitions provided were based on the literature in combination with focus group discussions' findings (Table 1). Next, based on the operational definitions of each skill category of components a total of 122 items for eleven predetermined components of the RN-CLS were generated. The item statements in the RN-CLS were designed as a self-assessment measure that reflected specific observable skill indicators on clinical leadership of the RNs in Bangladesh. The number of items, from the initial pool (draft 1), are listed for each skill category along with conceptual and operational definitions in the Table 1.

Table 1

The Conceptual and Operational Definitions of Pre-determined Components of RN-CLS, Bangladesh

Pre-determined categories and items	Conceptual definition	Operational definition
Diagnose the genuine problems and needs of the patients 10 items	…it was dealing about clinical RN's ability to perform in-depth clinical assessment of each patient about their health status, authentic problems, and needs including physical, psychological, social, spiritual and functional status pertinent to patient's health and illness.	….the RN's ability in the in-depth clinical assessment of patients, identify critical health problems; gather subjective and objective data, identify need of care modification and special needs, potential risk assessment, use modified techniques to special assessment for critical inquiry, verify the information and draw conclusions
Develop patient-centered intervention 9 items	…it was described as the clinical RN's ability in providing care to a patient with an individual understanding and attention on identified health needs, problems, preferences or values as part of involvement of patients and families in the care plan.	….the RN's leader's ability in priorities the needs of immediate intervention, integrate patients' preference/ values, involve patients /families in care, support for the patient-centered decision, determine patient ability, focus unique needs, up-date care as need, collaborate care with teams.
Imply quality and safety in patient care 12 items	…. referred to clinical RN's ability to the degree to which nursing care services to the individual patient care increased the desired outcomes and are consistent with current professional nursing knowledge as empirically credible and standard to ensure patient safety.	….the RN's ability to use the relevant and valid information to respond clinical condition, current knowledge-based practice, apply patient safety tool in caring, discusses patient safety, careful appraisal of clinical data, early risk reduction, articulate observation and clinical condition.
Monitor and evaluate clinical effectiveness 10 items	…these skills were treated about clinical RN's ability to ensure that a continuous monitoring and follow-up evaluation of each patient's condition to estimating patient's progress toward attainment of the expected outcome of provided care.	….the RN's ability to evaluate patient's clinical prognosis using continuous follow-up, identify and use specific clinical indicators, identify real distress, interpret and manage clinical changes, identify areas of modification, document and use data pertinent to patient needs, receive and analyze patients' feedback, and determine the gap in existing care.

Table 1 (Continued)

Pre-determined categories and items	Conceptual definition	Operational definition
Optimize patient care with competence in medical technology 9 items	…these were talking about the clinical RN's ability to use the various available advanced patient care equipment or machinery in performing the various aspect of patient care to maximize the comprehensiveness of care.	….the RN's ability in the optimal use of existing routine and advanced medical equipment in the process of direct and indirect patient care, patient mobility and information communication, clinical knowledge development and sharing; and risks assessment and risks prevention.
Establish the caring relationship with patients and families 10 items	… these skills were dealing with the clinical RN's ability to develop and maintain a respectful, helping and trust relationship with patients and families during dealing with patients and their needs of concern.	….the RN's ability to show the respect to each patient; being sensitive to patient needs; display empathic listening and feelings of deep concern, talking with optimism; tolerance to negative reaction, exhibit warmth; respecting privacy, keep a commitment, free expression, and display therapeutic connection.
Encourage intra-disciplinary collaboration 12 items	…these skills referred to the clinical RN's ability to work in partnership and group across the professions including other healthcare team members in a manner of participative and collaborative approach.	…. the RN's ability to demonstrate the acceptance of individual uniqueness, focus group interest, encourage collective opinions, display team responsibility, positive acceptance for criticism and mistake, encounter conflict with rationale, manage own feelings, sharing in a group, encourage professional relationship and safety of the team.
Demonstrate understandable communication skills 9 items	… These were referred to RN's ability of comprehensible mutual exchange of ideas and information with patients, families and with the members of the teams as necessary to understand the feelings of others and demonstrate a sense of positive self-translation.	…. the RN's ability to demonstrate in providing timely and truthful information, express skills of verbal and non-verbal communication, manage time to talk, display the of understanding the patient's views, help in communication, genuine speaking, bridge language, use feedback and negotiation skills.
Practice with professional values of nursing 12 items	…these skills referred to the ability to integrate the core values and principals into their clinical nursing practices in dealings with the patients, families, and members of the health teams.	…. the RN's ability to exhibit a sense of self-accountability, honest to own mistake, protects the patient right and privacy, teat by equality, obey to the professional standard, display empathy/morale, tolerance and advocate for patients.

Table 1 (Continued)

Pre-determined categories and items	Conceptual definition	Operational definition
Problem solving and decision makes skills 14 items	…these skills of the clinical nurse leader were referred to the RN's ability in making a reliable, valid and durable clinical solutions or decisions in relation to patient care; with an understanding of the cause, defining and clarifying patients' clinical problems and for clinical nursing issues related to the quality of care.	…. the RN's ability to define and clarify the problems, exclusively collect and analyze the issues/data, evaluate acuteness, offer discussions, evaluate the context, display creativity of unique solution, routine and critical decision making, accept risk and accountability, and integrate past experience as evidence-based.
Participate in enhancing professional advancement 15 items	…these skills of the clinical RNs were viewed as RN's ability to demonstrate a role for professional representativeness or guardianship for making a constructive change and advancement for professional growth and nurses' empowerment	…. the RN's ability to demonstrates the skills in identify professional issues, provide a recommendation or plan to solve, professional collaborator, role model, develop the self and team for the future challenge, develop clinical guidelines, seek for new knowledge, public speaker, and talk for the professional image.

Phase 2: The Psychometric Evaluation of the RN-CLS; BD.

In this part, the findings of the psychometric evaluations of the RN-CLS included the results of: (1) experts' reviewing for content validity, (2) pretesting, (3) field testing, and (4) evaluating the scale items. The detail findings of each step were described in the followings:

2.1 Results of Experts' Reviewing for Content Validity

The content validity of the RN-CLS (draft 1) was performed by five experts for 11components consisting of a total of 122 items. Expert ratings of 3 or 4 for relevance for each item was used to compute the I-CVI that resulted in 1.00 for 104 items and .80 for 18 items. Therefore, none of the items was deleted from the scale,

although based on experts' comments suggested modifications were applied. Two types of CVI were computed in this study: (1) item content validity index (I-CVI) and, (2) the scale content validity index (S-CVI). I-CVI scores for all items were ≥ 0.80 and ranged from 0.80 to 1.00. The average scale Content Validity Index (S-CVI) was 0.85 for 122 items. Thus, it was highly acceptable (Polit & Beck, 2012).

Among the five experts, 1 to 2 experts rated relevance for ten items as 1 or 2. However, these ratings were not common for the same item by other experts. Therefore, based expert's suggestion, these ten (10) items were revised and none of these items was deleted. In addition, one expert suggested for include 2 items in the component of 'establish caring relationship with patients and families'. The researcher considered this suggestion and added the suggested 2 items into the scale. Therefore, the revised version (draft 2) of the RN-CLS, at this step, was established with 124 items.

2.2 Results of the Pretesting

In this step, the content expert's reviewed and revised version (draft 2) Bangla form of the RN-CLS was used to conduct a pilot study for pretesting the scale involving 30 clinical RNs in the condition and subject as similar as possible of the planned subsequent trial. The purposes of pretest were to check for problems in wording of questions and lack of clarity or readability that could impede the item's ability to collect data. In addition, the data of the pretest study were also used to evaluate the preliminary realiability of the scale by examining the internal consistency by Cronbuch's alpha and the item analysis by item-total correaltions.

The result of pretest study showed that the Cronbach's alpha coefficient for overall internal consistency of the RN-CLS was .96 for 124 items, demonstrating an

excellent level of reliability. All participants of the pretest study were properly answered to each item without any difficulties and there was no suggestion to revise for the clarity. However, the item-total correlation statistics showed that for 19 items the item-total correlations were lowered than 0.30 (item-total correlation ranged from 0.20 to 0.78). These were items number 2, 21, 30, 31, 34, 37, 44, 58, 59, 66, 67, 82, 88,104, 105,106, 111, 117 and 124. Although, a high value of correlations is usually more than 0.30 was desirable (Polit & Beck, 2012), but at this stage in the present study, these items were not deleted. As; these items were considered as important to retain in the scale, especially for the health and nursing care context of Bangladesh. Therefore, they were carefully reviewed and revised with the help of research advisor and co-advisor. Moreover, item statistics confirmed that the deletion of any items did not significantly improve the overall Cronbach's alpha coefficient. Therefore after pretesting, although some revisions took place, the number of items in the scale remained same (i.e. 124 items). Finally, this revised version (draft 3) of the RN-CLS was finalized to administer in a larger sample for field evaluation to examine the construct validity and reliability of the scale based on empirical evidence.

2.3 Results of Field Testing

To collect field test data, the researcher involved 890 clinical registered nurses as study subjects from two selected study setting in Bangladesh. However, the numbers of returned questionnaires were 689 (77.41%); in which 51(7.43%) questionnaires were incomplete with more than 10% of missing values and 11 (1.75%) were outliers. Therefore, these 62 questionnaires were excluded in the final analysis and 627 complete questionnaires were used to run factor analysis to examine the

psychometric properties of the RN-CLS, BD. In this step, the RN-CLS draft 3 was used for data collection. Before performing the final data analysis, all the necessary assumptions were tested to ascertain the appropriateness of the data for factor analysis as described in Chapter 3. The results of the assumptions test showed that there was no any marked deviation in the data set that could violate the necessary assumptions of a factor analysis. Therefore, the 627 completed questionnaires were appropriate to run the factor analysis. The demographic characteristics of the study participants are presented below in Table 2.

Demographic Characteristics of Study Participants

The results revealed that nearly half (49.9%) of the participant's age was between 30-45 years, the average age of the subjects was 35.6 (SD =9.2) years. The majority of subjects in each age group were female (87.9%). Among the study subjects, almost two-thirds (74.8%) held the diploma in nursing as a professional nursing degree. The mean job experiences of study participants was 12.3 (SD=8.6) years. Among the participants, the majority of subject’s job experiences were over 30 years (45.1%) followed by those with 10-20 years of experience (38.0 %). In terms of current job positions, data revealed that most of the subjects (88.2%) were either senior staff nurse (SSN) or staff nurse (SN), who were working as general RN in different units or wards; whereas around 10% of them were working as ward nurse in-charge (Table 2).

Table 2

The Demographic Characteristics of Study Participants in Field Test Evaluation of RN-CLS, BD (N=627)

Demographic Characteristics	Frequency (n)	Presentence (%)
Age (Year): M =35.6, SD=9.18, Min-Max =22-59		
<30 years.	203	32.4
30-45 years.	313	49.9
45-60 years.	111	17.7
Gender		
Female	551	87.9
Male	76	12.1
Education		
Diploma in Nursing	469	74.8
BSc. Nursing/Public Health	132	21.1
Masters in Nursing/Public Health	26	4.1
Bedside nursing job experience (Year): M=12.3, SD=8.6		
<10 years.	22	3.5

Table 2 (Continued)

Demographic Characteristics	Frequency (n)	Presentence (%)
10-20 years.	238	38.0
21-30 years.	84	13.4
> 30 years.	283	45.1
Job Positions		
Nurse in-charge (SSN/SN)	74	11.8
General Nurse (SSN/SN)	553	88.2

2.4 Results of Evaluating the Scale Items

In this step, field test data were utilized for a final evaluation of the psychometric properties of the RN-CLS in order to ensure the validity and reliability of the measure. These steps included: (1) examination of initial items' performance, (2) evaluation of constructs' validity, and (3) determination of the scale reliability.

2.4.1 Examination of Initial Items' Performance

The aim of the statistical analysis was to examine the initial items' performance by item-scale and inter-item correlations as part of testing the scale reliability with all individual items. The items with high value for the correlations are more desirable and the acceptable item-total correlations should range from at least 0.3 to 0.7 (DeVellis, 2017; Nunnally & Bernstein, 1994). In this stage, two test statistics were performed before running the factor analysis: the internal consistency, and item-total correlation. The scale draft 3 with 124 items was applied for field testing.

Internal consistency: The internal consistency was examined by using the level of Cronbach's alpha coefficient for checking the reliability of each selected component and for the total scale. The alpha coefficient for the overall scale was at .95 and across the 11 pre-determined components Cronbach's alpha ranged from .71-.90, details are presented in Table 3.

Item-total correlation: Individual items with an item-total correlation below 0.30 were excluded in this step, which revealed that out of 124 items, 22 items had an item-total correlation below <.30 (minimum .06 and maximum .29). These items were: item numbers of 36, 37, 39, 43, 44, 46, 48, 49, 51, 54, 56, 59, 62, 68, 70, 71, 72, 76, 79, 93, 123 and 124. The overall item-total correlations were ranging from .06 to .64. Following analysis, the researcher carefully reviewed these items and decided to exclude them for subsequent analysis. As these 22 items might be less consistent and less reliable to reflect overall construct validity of the RN-CLS, thus, 102 items were used for an exploratory factor analysis. After exclusion of the items (22) with lower reliability, the overall internal consistency of the remaining 102 items was .96. The item-total correlations with 102 items ranged from .30 to .64. Finally, in next steps, the RN-CLS with 102 items was used to run the EFA for examining the construct validity of the scale.

Table 3

The Cronbach's Alpha Coefficient, on Overall and by Each Factor of the RN-CLS with 124 Items (N=627)

Pre-Determined Components	RN-CLS (Total=124 Items)			
	Inter item correlation	Item-total	Alpha (α)	No. of Items
Diagnose the problems and needs of the patients	.33 -.58	.58-.70	.90	10
Develop patient-centered intervention	.28 -.97	.45-.77	.89	09
Imply quality and safety in patient care	.14 -.63	.28-.69	.88	12
Monitor and evaluate clinical effectiveness	.12 -.76	.31-.74	.83	10
Integrate medical equipment for optimize patient care	.07 -.44	.06-.57	.71	09
Establish caring relationship with patient and family	.05 -.60	.33-.51	.77	12
Encourage intra-disciplinary collaboration	.18-.74	.40-.77	.87	12
Demonstrate understandable communication skills	.15 -.69	.36-.77	.86	09
Practice with professional values of nursing	.13 -.73	.42-.68	.86	12
Encourage discussion for participative problem solving	.26 -.64	.51-.65	.90	14
Take role and make suggestion on professional interest	.15 -.69	.22-.64	.87	15
Overall scale of the RN-CLS	.13 - .97	.06-.64	.95	124

2.4.2 Evaluation of Construct Validity

The evaluation of the construct validity of the RN-CLS was examined to determine theoretical constructs of the scale. Two important tests were performed to examine the construct validity of the RN-CLS including: exploratory factor analysis (EFA), and next, examined by contrasted group approach.

Exploratory Factor Analysis (EFA)

The EFA was performed to identify skill sets in the RN-CLS that could be reduced in number of items by merging items in large item sets to arrive at new smaller sets of items. This step used the 102 items of RN-CLS version established in the earlier step. Before performing the EFA, all of the necessary assumptions were tested. To define the factor structure of RN-CLS, the steps of EFA included: (i) descriptive factor analysis, and (ii) factor extractions and rotations.

Descriptive analysis: In the descriptive analysis, two statistical tests were performed: first, Bartlett's test of Sphericity that demonstrated an overall significance of high correlation within the correlation matrix, the $\chi 2 = 36973.095$, $p=.000$. The second test was the Kaiser-Meyer-Olkin measure test (KMO) for examining the sample adequacy. The results of KMO ensured an adequate sample to run the factor analysis, the value of KMO was at 0.92 for 102 items with 627 subjects (Appendix 11, 1). Thus, both of these indices were reasonable to satisfy the criteria of appropriateness for factor analysis.

Factor extractions and rotations: In this step, the number of factor extractions was performed by using Principal Component Analysis (PCA) methods. The PCA was used as the first step to reduce the data, and then follow-up with a true factor

analysis technique. An initial examination for the factor extraction was performed that resulted in 20 factors for 102 items (eigenvalue greater than 1) with the communality ranging from .49 to .80. The presence of variance was explained by 20 factors of 63.7%. However, an examination of the scree plot indicated that the number of factors extortions between 8 to10 should be investigated (Figure 3). Thus, using the option of a fixed number of factors, i.e. factors 8, 9 and 10, were sequentially investigated by orthogonal varimax rotation for factor loadings. The initial criteria of evaluating the number of factor extractions and retentions included: (1) an eigenvalue greater than 1, (2) scree plot evaluation, (3) factor loading cutoff point of at least .30, (4) percentage of variance ≥50%, and (5) parsimony of construct and theoretical interpretability. All of these 3 patterns of factor extractions (factors 8, 9 and 10) were performed with 102 items and compared to determine the best factors structure among these 3 extractions and loadings (Appendix L). Finally, comparing these three analyses, the extraction of 9 factors structure was considered as the best pattern of factor loadings (Appendix L).

Next, to attain the optimal parsimony and theoretically interpretability and a most simple structure of the RN-CLS, the criteria of factor loadings cutoff point were increased from 0.30 to 0.40. At this analytical stage (≥ 0.40), 10 more items were not loaded to any factor and therefore excluded (items number: 2, 30, 32, 42, 45, 47, 50, 61, 88 and 90). Thus, in the final EFA, the RN-CLS was established as a final draft (draft 4) with 92 items for 9 factors with an acceptable variance of 52.06%. The factor loadings ranged from 0.41-0.85 and the number of items to each factor varied from 5-20 items (Appendix L).

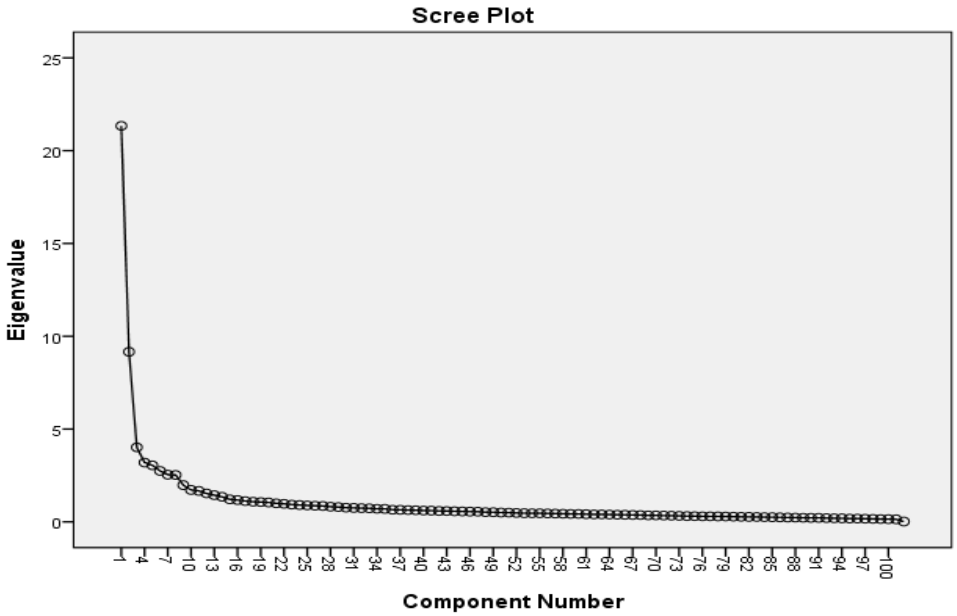

Figure 3. Cattle's Scree Plot of RN-CLS with 102 Item (Break in the Size of Eigenvalue Occurred Between The 8th To 10th Factors).

Factors of the RN-CLS, BD

The final structure of the RN-CLS, Bangladesh was established with 92 items for 9 factors as draft 4. The total percentage of variance by 9 factors was accounted for 52.06% with the minimum factor loadings of.40. In this step, based on the characteristics of loadings and item contents, the extracted 9 final factors were named as follows: (1) assessment and evaluation (AE); (2) patient-centered intervention (PCI); (3) Imply quality and safety (IQS); (4) caring relationship (CR); (5) interdisciplinary collaboration (IDC); (6) skills of communication (SC); (7) professional values in caring (PVC); (8) decision-making and problem-solving (DMPS), and (9) professional development (PD). The results of each factor (Table 4) and discussion were presented below:

Table 4

The Number of Items, Loadings, Percent of Variance and Eigenvalue of Each Factor in the EFA for RN-CLS, BD (N=627)

Name of the Factors		Number of Items	Loadings Ranged	Variance (%)	Eigenvalue
1	Assess and evaluation	14	.46-.73	7.45	8.76
2	Patient-centered intervention	12	.43-.70	6.53	3.16
3	Imply quality and safety	10	.60-.75	6.88	3.95
4	Caring relationship	9	.41-.68	4.20	2.60
5	Interdisciplinary collaboration	8	.42-.78	4.07	2.43
6	Skills of communication	7	.45-.77	4.54	3.01
7	Professional values in caring	5	.68-.85	4.01	1.94
8	Decision-making and problem- solving	20	.47-.71	10.25	20.04
9	Professional development	7	.56-.74	4.12	2.51
	Overall the RN-CLS, BD	92	.41-.85	52.06	20.04

Factor 1: Assessment and Evaluation (AE)

This factor consisted of 14 items and factor loadings ranged from .46-.73. The presentence of variance accounted for 7.45% with an eigenvalue of 8.76 (Table 4). The commonalities of all items were acceptable, which varied from .40-.62. The factor loadings were supported in the assessment and evaluation of clinical leadership skills of the RNs as fundamental aspects with regards to identifying patients' actual problems and needs through performing a comprehensive assessment. The inside key aspects were: assessment health problems (3 items); diagnosis (2 items); recognize clinical change (2

items); risk assessment (2 items); and evaluate prognosis (5 items). All of these items were consistent to the proposed underlying components of the 124 items of the RN-CLS (Table 5).

Table 5

The Factor Loadings and Commonalities for Factor 1, Assessment and Evaluation (N=627)

No.	Items Statements	Loadings	h^2
1	Evaluate the existing care procedures/guidelines to find out gaps for improving current practices.	.730	.625
2	Receive patient's feedback/ recommendation of satisfaction and effectiveness of care.	.715	.616
3	Perform routine and subsequent follow-up of each patient to evaluate the clinical prognosis or progress	.689	.520
4	Use certain data analysis technique relevant to specific clinical outcomes.	.636	.442
5	Identify the patient's needs for any changes or updates to patient care require to further improvement.	.633	.480
6	Use creative assessment technique to diagnose critical health problem of patients.	.632	.523
7	Use specific tools such as clinical index, checklist or report to evaluate the clinical progress of patients.	.618	.469

Table 5 (Continued)

No	Items Statements	Loadings	h^2
8	Collect subjective and objective data for each patient to formulate a differential nursing diagnosis.	.589	.459
9	Evaluate patient's prognosis based on physical assessment and illness perception.	.557	.407
10	Foresee potential risk of a patient with appropriate remedies.	.560	.562
11	Response sensitively to any clinical change of the patients as needed to modify the intervention.	.527	.450
12	Draw conclusion of a patient's problem with etiological amenable to nursing intervention.	.504	.510
13	Verify patient's health/disease related essential information that is pertinent to nursing intervention.	.484	.582
14	Conduct an in-depth assessment of each patient (physical, mental, social, and functional status) using different techniques.	.468	.446

Factor 2: Patient-Centered Intervention (PCI)

The PCI consisted with 12 items with the factor loadings ranging from .43-.70 with an accounted variance of 6.53% and an eigenvalue of 3.16 (Table 4). The commonalities of items ranged from .43-.70. The item loadings for this factor were mostly similar to the proposed predetermined components in literature adopted in the initial draft items of the RN-CLS. However, some items loaded and rotated from one factor or component to other factor/components in EFA. All the loaded items of this factor were consistent to the RN skills on patient-centered intervention and are essential for client-centered care based on identified problems and needs of the patients. The key

aspects of this factor were: focus on special needs (3 items); recognize patients' feelings (2 items); value patients and families (2 items); involve patients and families in care (3 items), and acknowledge patients ability and urgency (2 items). Thus, all of these contents were consistently supported to the naming of these skills as "patient-centered intervention" (Table 6).

Table 6

The Factor Loadings and Commonalities for Factor 2, Patient-Centered Intervention (N=627)

No.	Items Statements	Loadings	h^2
1	Support patients/families decisions on patients' care.	.700	.606
2	Share complete information to the patients/families in time to facilitate their choice of decisions.	.639	.651
3	Assess patients' knowledge, skill or ability in managing their specific health problems.	.588	.534
4	Respond promptly and appropriately to patients' needs.	.579	.468
5	Update patient care with altered condition or additional intervention as needed.	.564	.610
6	Utilize a critical inquiry/follow-up of each patient to evaluate the effectiveness of patient care.	.561	.608
7	Collaborate with health care team and patients' families for the benefit of patients.	.552	.603
8	Prioritize nursing intervention as appropriate to patient's feeling of needs	.548	.514
9	Facilitate patients/families involvement in planning and implementing patient care.	.475	.477
10	Identify special needs of a patient, requiring a specific nursing intervention.	.469	.512

Table 6 (Continued)

No.	Items Statements	Loadings	h^2
11	Deal for the patients/families with respect to their values and beliefs.	.458	.305
12	Follow commitment to patients for making you trustworthy and dependable to the patients.	.437	.351

Factor 3: Imply Quality and Safety (IQS)

The third factor contained skills to imply quality and safety measures which consisted of 10 items, the factor loadings ranged from .60-.75 with an accounted variance of 6.88% and an eigenvalue of 3.95 (Table 4). The communalities of the items ranged from .60-.75. The underlying loaded items to this factor were very similar to the proposed items in the initial draft of the RN-CLS. Therefore, all of the items for factor 3 were very constant to measure the clinical RNs skills on quality and safety. The key elements with the 10 items of this factor were: evidence-based practice (4 items); current practice (1 item); use clinical protocol (1 item); and risk analysis and safety (4 items). Based on the key measuring element, the naming of this factor "Imply quality and safety" was justified and consistent (Table 7).

Table 7

The Factor Loadings and Commonalities for Factor 3, Imply Quality and Safety (N=627)

No.	Items Statements	Loadings	h^2
1	Discuss with other nurses to be aware of patient safety.	.750	.689

Table 7 (Continued)

No.	Items Statements	Loadings	h^2
2	Make clinical judgment based on evidence.	.748	.653
3	Strictly use patient safety rights/devices that promote safety or prevent potential risk.	.738	.577
4	Provide nursing care with patient safety awareness.	.731	.590
5	Design specific nursing care plan based on patient's sign-symptoms and clinical evidence.	.728	.603
6	Use the specific measures/safety procedures to ensure patient safety- such as clinical guidelines, checklist or diagnosis devices.	.692	.553
7	Maintain early risk detection screening to prevent the anticipated risk of patients/staff.	.661	.558
8	Apply updated knowledge and skills to ensure quality patient care.	.658	.558
9	Apply valid and relevant information to make a clinical decision on a patient condition.	.653	.500
10	Appraise carefully all patient-related data to make an authentic decision.	.607	.447

Factor 4: Caring Relationship (CR)

This factor consisted of 9 items with the item loadings ranged from .41-.68 and accounted variance of 4.20%, and the eigenvalue was 2.60 (Table 4). The commonalities of the items ranged from .41-.68. The key notions of the item statements belonging to this factor were: showing empathy (1 item); value the patient's perspectives (2 items); report building (1 item); positive acceptance (3 items); showing responsibility and maintaining confidentiality (2 items). The number of items, the communalities of each item and factor loading values were presented in Table 8.

Table 8

The Factor Loadings and Commonalities for Factor 4, Caring Relationship (N=627)

No.	Item Statements	Loadings	h^2
1	Demonstrate empathetic listening to patients' problems.	.682	.594
2	Develop a good rapport with the patient's to understand their mind.	.644	.521
3	Respect human values of each patient.	.627	.515
4	Accept patients' negative reaction to illness perception and treatment concern.	.622	.550
5	Honestly, accept own mistake towards patients/ family members for any error.	.558	.431
6	Protect patients from being violations of their rights.	.507	.444
7	Positively respond to patient/family's negative reactions in using verbal and non-verbal approaches.	.444	.341
8	Accept accountability of own responsibility within the legal scope of nursing practice.	.439	.419
9	Maintain patient's privacy/confidentiality.	.411	.406

Factor 5: Interdisciplinary Collaboration (IDC)

The IDC was developed with 8 items having a factor loading that ranged from .42-.78, with an accounted variance of 4.07%, and the eigenvalue of this factor was 2.43 (Table 4). The commonalities across the eight items were ranged from .39-.71 (Table 9). The explicit skills within the 8 items of IDC comprised of: group working skills (3 items); respect individual's uniqueness (2 items); and group sharing (3 items). Hence, the key concepts of all items were clearly supportive to labeling this factor as "interdisciplinary collaboration" to be an important component of the RN-CLS, Bangladesh.

Table 9

The Factor Loadings and Commonalities for Factor5, Interdisciplinary Collaboration (N=627)

No.	Item Statements	Loadings	h^2
1	Share clinical issue, knowledge or experience to build team efficacy.	.785	.716
2	Accept criticism of team members to modify or reject your ideas.	.645	.541
3	Ask apology for own mistakes without showing any irrelevant argument.	.638	.490
4	Encourage individual and collective opinions of other group members.	.620	.567
5	Contribute actively to the team activities with a feeling of own responsibility.	.561	.392
6	Accept the differences of working styles of others in the team.	.548	.396
7	Work together with a commitment to achieve the common goals/interests of the team.	.512	.543
8	Accept uniqueness of other group members in terms of values, responsibilities, and expertise.	.429	.445

Factor 6: Skills of Communication (SC)

Factor 6 consisted of 7 items with the factor loadings ranging from .45-.77, eigenvalue of 3.01 and the accounted percentage of variance was 4.54% (Table 4). In this factor, all the loaded items were comparable to the items of predetermined component named as ‘demonstrate understandable communication skills’. The key measuring contents of the items to this factor were: timely communication (2 items); speak with genuine understanding (3 items); bridge language (1 item); negotiation (1item); and feedback skills (1 item) (Table 10).

Table 10

The Factor Loadings and Commonalities for Factor 6, Skills of Communication (N=627)

No.	Item Statements	Loadings	h^2
1	Bridge professional and lay language as appropriate to deal with the audience.	.775	.712
2	Use feedback from the patients or group members to avoid any misunderstanding.	.766	.661
3	Speak with genuine understanding to perform confident/clear conversations.	.744	.615
4	Provide timely and truthful information to patients.	.723	.581
5	Negotiate own values/beliefs with the patients/colleagues to find a mutual conclusion.	.707	.582
6	Provide sufficient time to talk the patient for better understanding.	.598	.432
7	Understand patients from their own points of view.	.459	.389

Factor 7: Professional Values in Caring (PVC)

The Factor 7, the PVC had only 5 items with the factor loadings ranging from .68-.85, an accounted variance of 4.01% and the eigenvalue of 1.94 (Table 4). The key content of each item of this factor demonstrated the skills of the CNL (RN) in respect to providing care to the patients by the clinical nurses with the respect of core professional values (Table 11). Thus, the label of this factor as 'professional values in caring' was reasonably justified. The communalities of the items belonging to this factor ranged from .62-.78. The key measuring attributes of the factor 7 were: having a sense of self- accountability, honest to one's own mistakes, protects patients' rights and privacy, treat people equal, obey to professional standards, display empathy/morale, tolerance and advocate for patients (Table 11).

Table 11

The Factor Loadings and Commonalities for Factor 7, Professional Values in Caring (N=627)

No.	Item Statements	Loadings	h^2
1	Provide care with empathy and alignment of heart, head, and hand.	.859	.786
2	Advocate for the patients who cannot speak for themselves.	.813	.729
3	Exhibit highest tolerance in critical situations for the benefit of patients.	.797	.729
4	Conform to the standard of nursing practice even in difficult situation.	.730	.630
5	Provide care to all patients, regardless of background identity (race, religion or social status).	.685	.626

Factor 8: Decision-Making and Problem-Solving (DMPS)

This factor consisted of the largest number of items, namely 20 items with the maximum variance at 10.25%, an eigenvalue of 20.04 and factor loadings ranged from .47-.71 (Table 4). In regards to DMPS, the loaded items were partially comparable with the proposed components of the initial scale, but all the rotated items were supportive of the concept of problem-solving and decision-making skills of the clinical nurse leader. Therefore, the label of this factor was reasonable as ‘decision-making and problem-solving’. The key measuring components of this factor were: observation and analytical (3 items); judgmental (5 items); participative (4 items); forecast and creativity (5 items), and risk-taking (3 items) (Table 12).

Table 12

The Factor Loadings and Commonalities for Factor 8, Decision Making and Problem-Solving (N=627)

No.	Item Statements	Loadings	h^2
1	Encourage professional relationship within and between the professional teams.	.712	.568
2	Honestly accept accountability for the results of own decision making.	.703	.527
3	Making clinical decision to solve complicate patients' problems.	.674	.535
4	Acknowledge urgency in making decision/problem solving to avoid unexpected consequences.	.674	.526
5	Give priority to solve the problems by its acuity, severity or condition.	.674	.510
6	Identify issues or problems contribute to professional advancement.	.670	.560
7	Evaluate patient's severity based on patient's symptoms including observation.	.657	.482

Table 12 (Continued)

No.	Item Statements	Loadings	h^2
8	Display creativity through offering new ideas or unique solution of a problem.	.653	.479
9	Use lesson learned from previous decisions to improve decision-making skills.	.651	.478
10	Encourage patient/family to participate in decision-making.	.644	.487
11	Use evidence for decision-making.	.608	.451
12	Take the risk to make a decision in critical condition.	.601	.459
13	Act as collaborator for working with others team members that support to professional interest.	.603	.482
14	Provide plans/recommendations on particular areas of nursing practices.	.601	.429
15	Act as role model of other nurses/nursing students.	.598	.482
16	Evaluate context/condition that may influence your decision-making.	.591	.414
17	Listen to opinions of the person involved before making/ validating a decision.	.574	.404
18	Don’t make any stereotype decision about patient’s problems without a clear justification.	.570	.356
19	Search the opportunity for personal development to meet future challenges.	.520	.327
20	Exclusively collect and analyze the subjective and objective data related to the problems needed to be solved.	.478	.419

Factor 9: Professional Development (PD)

In the initial draft (draft 1), this factor was named as ‘participate in enhancing professional advancement’ that contained 15 items. However, EFA and factor rotation method established only seven items for this factor with the factor loadings

ranged from .56-.74. The proportion of variance accounted for factor 9 was 4.12% with seven items and the eigenvalue was 2.51 (Table 4). The communalities of the items in this facto were ranging from .47 to .66. All of the loaded items were very consistent to the characteristics of the given label of the factor 9 as 'professional development or PD' skills of the clinical RNs in Bangladesh (Table 13).

Table 13

The Factor Loadings and Commonalities for Factor 9, Professional Development (N=627)

No.	Item Statements	Loadings	h^2
1	Seek opportunity to present new knowledge to the public audience.	.748	.668
2	Develop new knowledge through research/innovation in nursing.	.746	.598
3	Demonstrate nursing competence when working with the multidisciplinary team.	.691	.618
4	Help the teams/colleagues to develop clinical guidelines, consistent with standard nursing practice.	.668	.551
5	Inspire other nurses to be moral agents.	.635	.497
6	Cooperate with other team members to ensure safety workplace of patients and staffs.	.605	.516
7	Support others nurses for professional and individual development.	.560	.475

2.4.3 Determination of the Scale Reliability

After determining structural constructs of the RN-CLS by EFA, the internal consistency reliability test was performed for overall and on each of the 9 factors of the scale using the Cronbach's alpha coefficient. The 4th draft of the RN-CLS includes 92 items for 9 factors in the construct. As a new measure, a Cronbach's alpha coefficient of at least .70 was considered as an acceptable level of reliability.

The results showed that the overall internal consistency of the newly developed RN-CLS was excellent (DeVellis, 2017) at 0.96 with 92 items. The Cronbach's alpha coefficient, when assessed by each component/factor, showed internal consistency ranging from 0.84 to 0.92. The average item-total correlation coefficient for 92 items ranged from 0.30 to 0.64 and for the nine factors ranged from 0.43 to 0.79. When items with a low value were deleted, the reliability did not improve, therefore, the 92-items scale was accepted (Table 14).

Table 14

The Cronbach's Alpha Coefficient for the Overall and for 9 Factors of RN-CLS with 92 Items (N= 627)

Factors of the RN-CLS	Items	Cronbach's alpha
1. Assessment and evaluation	14	0.89
2. Patient-centered intervention	12	0.90
3. Imply quality and safety	10	0.91
4. Caring relationship	9	0.84
5. Interdisciplinary collaboration	8	0.85

Table 14 (Continued)

Factors of the RN-CLS	Items	Cronbach's alpha
6. Skills of communication	7	0.86
7. Professional values in caring	5	0.90
8. Decision-making and problem-solving	20	0.92
9. Professional development	7	0.86
Overall α- coefficient of the RN-CLS	92	0.96

Additional Validity and Reliability Tests of the RN-CLS, BD

In order to ascertain the validity and reliability of a new measure, at least two types of validity and reliability tests were essential (Wattz et al., 2010). Therefore, after determining the construct validity by EFA and the internal consistency by Cronbach's alpha, other validity and reliability tests were performed for the RN-CLS; BD. These tests included: (1) contrasted group approach as construct validity testing, and (2) stability reliability as a form of test-retest reliability. The results of each validity and readability test are given below:

Results of Contrasted Group Approach

The contrasted group participants consisted of 60 clinical registered nurses in two groups, namely the low-performance group (n=30) and the high-performance group (n=30). To examine the construct validity of the RN-CLS after EFA established construct (draft 4), the score on CNL of two groups were compared using independent t-test. Before performing the t-test, all assumptions were tested using the histogram for the normality of the dependent variables and homogeneity for the equality

of variance by Levene's test. The data met the criteria of t-test assumptions (Appendix K).

The results showed that the high-performance group (group one) demonstrated significantly higher scores on the RN-CLS than the low-performance group (group two) $p<0.05$. The mean score of group 1 was 418.23 (SD = 41.71) and group 2 was 363.33 (SD=58. 32). The results showed that the mean job experience of the high-performance group was 17.50 (SD=4.85) years and the low-performance group was 3.33 (SD=0.84) years (Table 15).

Table 15

The Differences between the Mean and SD of Two Contrasted Groups on the Score of RN-CLS, BD (N=30+30)

Groups	Total Scores of the RN-CLS			
	Mean	SD	t	p value
High-Performance	418.23	41.71	3.872	.00
Low-Performance	363.33	58.32		

Results of Stability Testing

The test of stability reliability of the RN-CLS was executed by applying the EFA established draft-4 among 30 clinical registered nurses to evaluate test-retest reliability. The data were collected on two occasions with 10 days intervals as described details in Chapter 3. The data from two periods were analyzed using the Pearson's product moment correlation to examine the relationship between two test's scores. The results were evaluated for the overall RN-CLS and its 9 factors or components. All

necessary assumptions of Pearson's correlation were tested and met the criteria to perform the correlation statistics. The assumptions include test of normality, linearity and homoscedasticity (Appendix K).

The results of this study showed that there was a significantly high correlation between the overall scores on the scale of two tests measured (r = 0.92; p<.001). For each factor, the Pearson's correlations between the first and second measures were also significantly correlated (p<.001). The results revealed that most of the factors between Test 1 (time 1) and Test 2 (time 2) had the Pearson's correlations (r) over 0.80 (1, 2, 7, 8 and 9), factor-3 had a very high correlation (r = 0.91), factors 5 and 6 were similar correlations between time 1 and time 2(r = 0.78), for factor 4 findings showed r = 0.73. High correlations overall and factor wise between the time 1 and time 2 of the RN-CLS reflected that the scale was reliable in terms of stability over times. Detailed results for all factors in two times are shown in Table 16.

Table 16

The Test-Retest Reliability of the Overall and Factors of RN-CLS, BD by Pearson's Correlations (N=30)

RN-CLS and Factors	Test (Test 1)		Retest (Test 2)		r
	Mean	SD	Mean	SD	
RN-CLS, Overall result	381.8	31.5	403.6	39.5	.92**
F1. Assessment and evaluation	56.0	6.0	58.9	8.3	.88**
F2. Patient-centered intervention	49.9	6.1	52.4	6.5	.83**
F3. Imply Quality and safety	42.1	3.5	38.4	4.6	.91**

Table 16 (Continued)

RN-CLS and Factors	Test (Test 1)		Retest (Test 2)		r
	Mean	SD	Mean	SD	
F4. Caring relationship	35.9	5.3	40.5	5.3	.73**
F5. Interdisciplinary collaboration	34.9	3.6	37.0	3.7	.78**
F6. Skills of communication	28.93	3.78	30.60	3.95	.78**
F7. Professional values in caring	22.46	2.30	26.86	2.93	.86**
F8. Decision-making and problem solving	83.13	8.70	89.26	9.74	.85**
F9. Professional development	28.40	4.57	29.60	3.17	.85**

**p<.001

Note: [According to Munro (2005), the correlation (r) is little, if any (.00–.25), low (.26–.49), moderate (.50–0.69), high (.70–0.89) and very high (.90–1.00)]

Summary of the Study Results

The aim of this study was to develop a scale on Clinical Registered Nurses' Leadership Skills for Bangladesh. This scale development followed the eight steps process of DeVellis's (2017), which consisted of 2 phases: the first phase, the development phase, included 3 steps and the second phase, psychometric properties testing, consisted of 5 steps. The development structure of the RN-CLS was guided integrating the theory of leadership (Katz, 1974), the concept of CNLs (AACN, 2007), and focus group discussions with RNs in Bangladesh.

The development of RN-CLS evolved into four drafts. The first draft (draft-1) of the RN-CLS comprised 122 items, which were developed for eleven predetermined components as primary scale constructs. Draft-1 was then, reviewed by 5 content experts. One expert added 2 more items to the scale and others provided suggestions for some modifications. The calculated I-CVI for 122 items ranged from 0.80-1.00 and S-CVI was 0.85. The modified second draft (draft 2) of the RN-CLS reached with 124 items, which was translated into Bengali and submitted to 5 clinical nurses to assess face validity. The face validators affirmed that the scale format as appropriate. In the next step, this face validated second draft of the RN-CLS was used for a pilot study involving 30 clinical RNs. The internal consistency for Cronbach's alpha of the scale in the pilot study was at 0.96. However, 19 items were revised as they demonstrated low item-total correlations (<.30). No items were excluded.

This third revision (draft 3) of the RN-CLS continued to comprise 124 items, which were used for the field test study in support of the final psychometric evaluation of the scale. After obtaining IRB approval, this 3rd draft of the RN-CLS was employed to 890 clinical RNs in 2 study sites in Bangladesh. Out of 890 questionnaires distributed 689 (77.45%) were returned with 62 incomplete questionnaires showing >10% item non-response which were excluded. In the final analysis, 627 complete questionnaires were used to examine the construct validity and reliability of the scale. The analysis performed using EFA consisted of PCA and orthogonal varimax rotation methods. A series of statistical tests were performed until an appropriate structure for the proposed scale was found.

Finally, the fourth draft of the RN-CLS consisted of nine (9) factors and 92 items, which presented a multidimensional constructed scale to measure clinical nurse

leadership skills in Bangladesh. Field test data facilitated to test reliability of the scale for overall internal consistency and for each component. The overall reliability of RN-CLS was .96 and across components reliability ranged from .84 to .92.

Additional tests, the contrasted group approach and stability reliability were also examined for the RN-CLS and both of these tests results demonstrated supportive findings in terms of ensuring the validity and reliability of the new scale. The results of contrasted group analysis revealed that the RN-CLS was able to distinguish the test results between low and high-performance groups ($p<.01$) which reflected good construct validity. The test-retest results of two times (10 days interval) with 30 nurses showed highly significant correlations ($r =0.92$, $p<.001$) ensuring the stability of the measure overtime. Thus, based on these various psychometric tests, it can be claimed that the 9-components and 92 items RN-CLS; BD is a psychometrically valid and reliable measure to assess the CNLs skills in Bangladesh.

Discussion

This section discusses the study findings in the two phases of the development and psychometric evaluations of the RN-CLS. The Chapter is organized in following sections: (1) the development of the RN-CLS, (2) the structure and components of the RN-CLS, (3) the psychometric properties of the RN-CLS, BD.

1. The Development of the RN-CLS, BD

The RN-CLS was developed as a theory grounded, concept and context-specific self-assessment measure to assess the clinical leadership skills of the RNs in

Bangladesh. The contents of the RN-CLS development focused on the leadership roles, clinical nurses' tasks related skills and ability to deal with patients, families, coworkers, and interdisciplinary teams. The result of the CVI was highly acceptable in both levels including the I-CVI for individual item (.80-1.00) as well as the S-CVI for scale level average (0.85) on 122 items. Based on the expert feedback and suggestion, 02 new items were added and few items modified that resulted in a scale of 124 items.

After CVI, the RN-CLS was also examined for face validity by five clinical RNs. As suggested by DeVellis (2017) a pilot study was conducted with 30 clinical RNs. This resulted in modification of 19 items to improve clarity. This modified and finalized draft (draft 3) with 124 items was then used to conduct a field test examining the psychometric properties of the scale.

2. The Structure and Components of the RN-CLS, BD

Field test data served examination of construct validity of the RN-CLS. The construct validity of the scale was determined by the EFA and Principal Component Analysis (PCA) using the orthogonal varimax rotations. All the necessary assumptions related to factor analysis were tested for appropriateness of the data of factor analysis and the criteria to examine the construct validity were ascertained by preset standards. These include sampling adequacy; evaluation of item performance; criteria to evaluate the number of factors to be retained; criteria for factor rotations and interpretations.

The PCA with varimax rotations and the factor loadings cutoff point of 0.40, demonstrated the 9-factor structure of the RN-CLS with 92 items as an acceptable psychometric evaluation result.

The total percentage of variance accounted by 9 factors for 52.06% and across 9 factors variance ranged from 4.01% to 10.25%. According to Suhr (1984) a proportion of variance for each factor of at least 5% is considered good. Given that item loadings to each factor ranged from 7 to 20 items, except one factor (5 items), the content validity of each factor logically (experts judgement) and empirically (statistical test) were acceptable in terms of covering the areas of contents of the constructs.

The overall communalities of the items of the RN-CLS ranged from 0.30-0.78 which reflected a satisfactory correlation of an item with all other items (Yong & Pearce, 2013). For item loadings of the scale, even though > 0.30 was acceptable, in this study increased to at least 0.40 (ranging from 0.41 to 0.85) thus improving the reliability of individual items and of the scale as a whole. The internal consistency measured by Cronbach's alpha was 0.96 for the overall scale and across factors ranging from 0.84 to 0.91. The level of reliability of the RN-CLS in terms of internal consistency was adequate indicating that the scale is reliable. A discussion of each extracted factor and related findings are described below:

Factor 1: Assessment and Evaluation (AE)

Factor 1 consisted of 14 items and was labeled as 'assessment and evaluation skills. This factor was formed by combining two predetermined components of the initial conceptual framework of the study. These were: the 'diagnose problems and needs of patients' and the 'monitor and evaluate clinical effectiveness'. Although the 14 items of factor 1 originated from two separate components as stated above; the rotated or loaded items were highly consistent to support the new given label of this factor (Table 7).

The factor loadings of the items in factor 1 ranged from 0.46-0.73 indicating a satisfactory level of correlation of each item to the factor. For example, based on Munro (2005), results revealed that out of 14 items, 12 items had moderate to high level of correlation and 2 items had relatively low levels of correlation with the factor. The percentage of accounted variance was 7.45% as the second highest of 9 factors with the eigenvalues of 8.76. The internal consistency reliability of Cronbach's alpha was also acceptable with a value of 0.89. Satisfactory communalities of the items, which ranged from 0.40-0.62, demonstrated a good contribution of the variance by each item of the factor.

The factor of assessment and evaluation (AE) in the RN-CLS reflected the clinical RN's ability to perform an in-depth assessment and follow-up evaluation of each patient to identify critical health problems and promote progress in patient's condition. The key skills contents of this factor were RN's ability regarding: in-depth assessment of the health status of patients, collecting subjective and objective data related to health problems, identify clinical changes, evaluate risk, identify critical health problems and their etiology, estimate a patient's progress and needs for subsequent follow-up, and their ability to identify gaps in existing practices. Thus, all of these key indicators were highly consistent to support the factor's label.

The CNL's skills in assessment and evaluation are very basic; but these skills are vital for a clinical nurse for making clinical decision about the patients management based on patients' real health problems and need for care. Moreover, the assessment and evaluation of patients' condition through ongoing assessment is crucial to design specific nursing care plans and to determine accurate nursing interventions (Adib-Hajbaghery & Safa, 2013). Indeed, as argued by Weber and Kelly (2003), a CNL's

assessment and evaluation skills reflect his/her capability to monitor the changes in patients' health conditions which contributes to making better judgments in clinical decision-making.

In Bangladesh, skills in "assessment and evaluation" of a clinical RN are vital in demonstrating a nurse's leadership ability in identifying patients' potential health problems and health risks which in turn contribute to the quality care and effective patient management. A comprehensive assessment and ongoing evaluation of a patient's prognosis are highly linked to patient-centered intervention. Joseph and Huber (2015) stated that a CNL's assessment and evaluation clinical skills are the core competency and basic elements in effective patient care management. Although, in Bangladesh, nurses mainly depend on the physician's directives and often try to avoid patient assessment. Except in special areas, such as critical care units or ICU, nurses are not used to make decisions or actively participate in patient care planning. However, most focus group participants emphasized the importance of these skills as a vital part of effective clinical care and accepted the importance of such skills for nurses to ensure quality care for patients, and being accountable to patients' relatives and healthcare teams. Although the skills related to assessment and diagnose were not included in the integration of theory and concept at the beginning, but these skills were emerged from the focus group participants and they were integrated in the framework as predetermine components of RN-CLS.

The skill indicators as latent variables of this factor were very consistent with the definition of "clinical assessment skills" provided by Schub & Heering (2016). According to Schub and Heering, **c**linical assessment skills are a **"**nurse's ability to perform a task based on clinical knowledge, education, and experience". It is one of the

important components to maintain nursing standards, which include a collection of comprehensive data based on patients' subjective and objective evaluation pertinent to their needs and particular situations (Schub & Heering, 2016). As argued by Ballantyne (2016), performing comprehensive assessments of a patient, including physical, mental, social, spiritual, and psychomotor ability, are considered basic components in first stage planning of nursing care for a patient. Assessment is a starting point in the process of gathering information about patients' needs that guide decision-making in nursing.

According to Rankin (2015), the role of CNL is not limited to clinical nursing care, rather the purposes of CNLs is to deal with psychological issues, promote service recovery, anticipate risks, and identify commonly missed patient signs known to increase the hospital length of stay or foster readmissions that increase health care costs. Thus, a CNL must have the ability to use advanced clinical assessment to evaluate each patient, including evaluating the quality of care and patient safety and comparing current care practices to the best practice is available (Stachowiak & Bugel, 2013). According to AACN (2007), CNL's role as micro level direct patient care provider, skills in comprehensive assessment and evaluation of patient's problems, progress, change, and needs are most vital for creating excellence in providing care. These concepts and related skills are also vital for a CNL in determining the patient's prognosis and any critical condition through ongoing evaluation for effectively respond to the changing needs of the patients.

Factor 2: Patient-Centered Intervention (PCI)

The PCI was considered as one of the important skills component for the CNL and it was a top discussion point for the purpose of CNL. The PCI was integrated in the scale based on two sources of information: finding from the literature related to

CNL as well as emerged theme from the focus group data. In the EFA, the skills related to PCI was forming this factor as “patient-centered intervention (PCI)" for which, the factor loadings ranged from 0.43 to 0.70 and comprised of 12 items component of RN-CLS, BD. The percentage of variance contributed by this factor on the total scale of 6.53%, the eigenvalue of 3.16, while Cronbach’s alpha was 0.90. The high Cronbach’s alpha coefficient of this factor reflected a higher internal consistency among the items in terms of reliability. The individual factor loadings revealed that most of the item loadings (8 items) were above 0.50 to 0.70 indicating high levels of correlation to the factor (Munro, 2005). However, 4 item loadings had comparatively low item-factor correlation. As for factor loadings, the communalities of items were satisfactory as the observed variance accounted for by a common factor ranged from 0.30 to 0.65.

Rotated items were very consistent with for all 12 items. Measuring RN’s clinical leadership skills on PCI, assessment items of this factor were: the ability to recognize special needs requiring special intervention; conduct a critical inquiry to evaluate care effectiveness; prioritize patients’ feelings and needs; respect patient and family preferences, support patients’ involvement, response to changes in patients, share patients’ concerns with teams, and being committed to patients’ wellbeing (Table 9). Thus, all of these skill aspects were highly relevant to the PCI factor construct.

The CNL's patient-centered care skills was acknowledged as a core professional competency characterized by clinical nurses’ ability to tailor the care and interventions to specific patient needs and the ability of individualized care (Marilyn, Jane, & Mary, 2006). The skills of PCI are vital in demonstrating a clinical nurse leader's ability to develop a deeper connection with patients, promote patient-centered for interactions and respect patients’ values to ensure patients’ satisfaction. These skills are

most valuable for nursing in Bangladesh to develop a better nurse-patient relationship and change peoples' negative perceptions of nurses' attitudes and responsibilities towards patient care and increase patient satisfaction.

According to AACN (2010), PCI is a highly desirable attribute of a clinical nurse leader for respectful provision of care and facilitate discussion of patients' problems, needs, or concerns and consent on a course of action. Moreover, the literature highlights the importance of PCI for a clinical nurse leader to provide comprehensive and holistic nursing care to a patient with an understanding of patients' actual health or others problems or needs along with the consideration of patients' and families' preferences and values (Davis et al., 2005; Scholl, Zill, Härter, & Dirmaier, 2014). The IOM (2010) acknowledged that patient-centered intervention is a hallmark for improving access to care and access to information. , and underscores that nurses are key-players as team members and leaders for reformed and better-integrated patient-centered health care.

Within the context of Bangladesh, this factor was important and valuable in fostering empathy and a client-focused attitude among nurses. In addition, this is also very important for the nursing profession in Bangladesh to increase nurses' reputation and public image and gain acceptance as important members within healthcare teams. Local context recognition on the importance of this factor is illustrated by focus group participants' statements such as:

> "*It is the reality that we almost ignore the patient or their family members, actually what they want to say. But it should not be and that's why, although nurses are working hard, but due to their behaviors with the patient they are not respected*" (P-6).

Another participant stated:

> *"The main problem is our behavior with the patients; we don't bother about a patient's limitations. Many patients are very poor, but we never ask them about their concerns. Actually, we should more empathetic to patients"* (P-3)

These statements illustrate the reality and underscore the importance of PCI skills for CNLs in the context of Bangladesh.

The PCI is a widely used concept in the literature although terminology may differ such as: client-centered care, client-centeredness, patient or client oriented care etc.; for example Greene et al. (2012) defined patient-centered care as "respect for patients' preferences, needs, and values; integrating these in care; and establish a partnership relation between patient and care provider". According to Stanley et al. (2011), an effective clinical nurse leader focuses on facilitating access to patient care; educates and shares knowledge with patient and family, and involves them in caring process. Hence, all of these views are consistent with the nature of item statements in this RN-CLS to measure PCI leadership skills among clinical RNs in Bangladesh.

Factor 3: Imply Quality and Safety (IQS)

This factor incorporated 10 items with factor loadings ranging from 0.60 to 0.75, illustrating very good strengths in items to factor correlation reflecting a high level of reliability (Munro, 2005). The total accounted variance for this factor was 6.88%, which was among the highest contributions to accounted total variance in the scale. The eigenvalue of this factor extraction was 3.95 with an internal consistency reliability measured by Cronbach's alpha coefficient at 0.91. The items-subscale correlations in this factor were also high, ranging from 0.59 to 0.77.

In this study, "IQS" leadership skills of the RN-CLS were viewed as a clinical nurse's ability provide care to an individual patient that increases the desired outcomes and are consistent with the current clinical nursing knowledge and practices. The generation of items for this factor was mostly informed by focus group findings. Therefore, the skills reflected in the items were very consistent with the nursing care context of Bangladesh. The key measuring attributes for this factor were: evidence-based practice and decision-making, current and quality practice, ensure patient safety measures, and measures to prevent anticipated risks (Table 10). The exploratory factor analysis confirmed the consistency of the items for this subscale, in which all items were loaded to this factor with a high loading range; reflecting good content validity. Therefore, it can be inferred that the factor construct was appropriate.

In addition, the selection of this factor in the predetermined component was some of the findings of FGDs and combined two emerged themes against the terms of evidence-based practice (EBP) that selected from literature review. The participants of the FGD used the term as quality and safety related components; because until the day in Bangladesh the EBP was a new terms among most of the nurses. According to participants, this factor was about the clinical nurses' role in ensuring the adequate safety and quality in providing patient care. This factor also integrated with another theme from FGD; such as CNL's role of fostering the improvement for clinical standard in patient care.

Promoting quality and safety skills among clinical nurses in Bangladesh healthcare is considered highly desirable. As aforementioned, the issue of quality and safety in healthcare in Bangladesh is a serious concern, especially in public hospitals. An in-depth country assessment on nursing and midwifery in Bangladesh (CANM, 2011)

reported that due to an inadequate organizational support and poor working environments, nurses were performing their roles in the clinical settings in complex situations, including significant limitations in resources, to provide quality of nursing care to the patients (CANM, 2011). Alongside, there were other factors that compounded to poor quality in nursing care in Bangladesh. One study reported that nurses in Bangladesh had very limited opportunities to upgrade their knowledge and skills throughout their service life (Latif et al, 2010). This issue was also reported by focus group participants in this study. For example:

> *"Due to poor nursing services, the reputation of nursing in the hospital is gradually going down; but the problem is more than 85 % nurses don't get any scope for in-service education or training" (P6 and P8).*

They also acknowledged that:

> *"Despite several limitations, nurses' should try how they can provide more quality patient care; otherwise in future, there will be a big issue for nursing" (P5).*

These statements clearly acknowledged the importance of this factor to assess current quality of nursing and promote desired improvements in both nursing quality and the nursing profession image in Bangladesh.

Comparison of this factor with other CNLs scales proved to be challenging as very few studies were found in the literature. However, a Nursing Competency Scale (NCS) developed by Meretoja, Isoaho, & Leino-Kilpi (2004), included a component on 'ensuring quality' which was similar to the RN-CLS factor "quality and safety" in the present study.. The scarcity of literature on scales that include a similar factor might be explained by the fact that most CNLs scales have been

developed in ‘western developed’ countries. However, it is important to note that the concept of CNLs was first introduced by the IOM in 2003 in the US in response to the quality and safety issue in healthcare (Reid & Dennison, 2011). Thus, it can assume that quality and safety of healthcare irrespective of national context is a priority. In Bangladesh, ensuring quality and safety is still a challenging issue, especially in public hospitals. This because of a plethora of reasons including: the huge demand for health services, high workloads, lack of shared hospital vision, lack of or ineffective hospital policy, low commitment of care providers, absence of or an ineffective quality assurance system etc.

According to Reid and Dennison (2011), effective CNLs are always being supportive, open-minded, and display honesty in his/her dealings and activities that contribute to creating a healthy work environment. The authors highlighted that as frontline care leader, the value of CNLs is intense to build and sustain a safer and higher quality care delivery environments. The patient safety is the most important concern for the quality of healthcare and interrelated to creating a safe caring environment, as well as nurses' self-efficacy in providing care (Rhodes et al. 2011). Focus group findings in this study also highlighted this issue which then again surfaced in responses during field testing of the RN-CNLS. The mean score of the factor “quality and safety” was higher in field test data when compared to other important factors; reflected that it was vital for clinical nursing in Bangladesh.

Factor 4: Caring Relationship (CR)

The construct of peoples’ skills in the RN-CLS was labeled “caring relationship” skills of clinical RN’s leadership in Bangladesh. This factor consisted of 9 items with factor loadings ranging from 0.41-0.68 and an accounted variance of 4.20%.

The eigenvalue of this factor was 2.60 and the internal consistency reliability for Cronbach's alpha was .84. The main focus of this factor was the interpersonal skills of the RN clinical leader with patients and families.

The factor "caring relationship" skills in the RN-CLS, was similar to the SALI's "interpersonal relationship" component (Smola, 1998). Although in SALI, there was no specific direction towards the application of these skills. Another clinical leadership survey (CLS) scale, developed by Patrick's et al. (2011) for assessing clinical leadership of Canadian staff nurses, consisted of five dimensions. Two concepts/items in this scale; "develop a cooperative relationship" and "establish a therapeutic relationship"), had a similar meaning as the "CR" factor in present study. . However, a limitation in Patrick's et al. CLS was the practicality in assessing the particular skill. The authors developed the CLS scale using Kouzes and Posner's (1995) five dimensions theory of transformational leadership.

In the present study, the factor "caring relationship" skills in RN's clinical leadership were viewed as a respectful therapeutic relationship with patients and families. It was defined as a RN's ability to develop and maintain a respectful, assisting, and trusting relationship with patients and families in dealing with patients' problem, needs, or concerns. Across the 9 items comprising the factor CR, key measuring attributes included: empathic listening, respectfulness, building rapport, tolerance and patience, and self-accountability, protecting patient rights and confidentiality (Table 11). Thus, all of these attributes were very clear in measuring a RN's "caring relationship" skills. The statistical analysis for internal consistency was also satisfactory.

Focus groups' findings in this study in Bangladesh showed that development of a caring nurse-patient relationship was not only important from a

therapeutic perspective. It was also seen as important to foster public appreciation and contributing to building a positive image of the nursing profession in Bangladesh. A participant in focus group discussions stated that:

> *"There are many claims about poor nurse-patient relationships in Bangladesh especially from a behavioral perspective… nurses' responsibility is to follow the doctor's orders only or just to distribute medicine…"(P12).*

These above statements indicate the importance of CR skills for clinical nurses in Bangladesh as a leader.

According to Bass (1999), a relational leader is not only to understand the need of each individual but also provides an environment for open communication and trust. Belcher and Jones (2009) stated that developing and maintaining a good cooperative harmonious relationship with patients is a most important quality for effective nursing care. According to Loghmani, Borhani, and Abbaszadeh (2014), a good nurse-patient relationship positively contributes to developing the trust and confidence. As an effective clinical leader, skills in establishing such trust relationship with patients are vital to enhance patient care outcomes, minimize misunderstandings, and empower self-efficacy in a patient (Boykins & Carter, 2012; Matveev & Nelson, 2004).

Factor 5: Interdisciplinary Collaboration (IDC)

Interdisciplinary collaboration (IDC) is one of the most important skills of an effective leader (Katz, 1974). In this study, the clinical nurse leader's IDC skills were viewed as the RN's ability to work in partnership with coworkers and other members of the healthcare team. This factor was important for a clinical RN in Bangladesh to empower them for creating an environment in the workplace that is conducive to sharing knowledge, skills, and experiences within teams and impact the quality of patient care.

The IDC factor contributed 4.07% of variance to the total variance of the scale with an eigenvalue of 2.43, and communalities ranged from 0.39 to 0.71. The Cronbach's alpha coefficient of the items for this factor in terms of internal consistency reliability was 0.85.

The factor 'IDC' skills of the RN-CLS in this study was comparable to the component "working with others" in the CLCT, which was develop to assess the leadership skills of all health care professionals including nurses by the NHS (2012) in the UK. Moreover, the factor "IDC" of the RN-CLS in the present study was also analogous with SALI's scale component "group relationship skills", developed by Smola (1998) to assess clinical leadership skills of nursing students in the USA. This shows that the "IDC" factor in the present study was an appropriate construct to measure interdisciplinary collaboration skills among RNs in Bangladesh.

According to the AACN (2007), a CNL working in interdisciplinary teams requires the ability adopt horizontal leadership for collaboration, negotiation, delegation, coordination, and evaluation of interdisciplinary team work including the design and implementation of care plans as an outcome-based practice model. The IOM (2003) stated that effective team cooperation among all healthcare providers is more important 'in quality patient care than professional prerogatives and roles'. According to the AACN (2007), the CNL's role in interdisciplinary collaboration includes skills as: cooperation and consultation, advocating for the patient's interests in the team, and maintain effective working relationship with team members.

In the present study, key measurements included: accept individual uniqueness; focus on group interest; encourage collective opinions; articulate team responsibility; accepting criticism and mistakes, and team sharing. Hence, these

attributes were influential to label this factor as "interdisciplinary collaboration" leadership skills in the RN-CLS, BD. These specific measures were consistent with Bender et al. (2012), whom defined interdisciplinary collaboration skills as “inter-personal skills of healthcare professionals with multidisciplinary colleagues characterized by shared objectives, shared decision-making responsibilities and power, and working together to solve patient care problems”.

Factor 6: Skills of Communication (SC)

The third factor in the RN-CLS was labeled as "skills of communication” (SC), which comprised of 7-items with factor loadings ranging from 0.45 to 0.77. For the factor ‘SC' the accounted variance was 4.54%, with an eigenvalue of 3.01 for 7 items and a Cronbach's alpha coefficient of 0.86. The factor "skills of communication" in the RN-CLS in the present study was consistent with various leadership scales including the general leadership scale as well as earlier scales of CN (Gilmartin & Nokes, 2015; NSH, 2012; Patrick et al, 2011; Smola, 1988). According to AACN (2007), effective communication skills of CNL involve critical listening; critical reading; quantitative literacy; and verbal, non-verbal and written skills. While, in the present study, the leadership skills of communication for clinical nurse leaders were described as RN's ability to perform a comprehensible mutual exchange of ideas and information and capture the feelings of patients, relatives, coworkers, and teams. Key measuring attributes included: provide timely truthful information, spent time to talk to patients, use clear verbal and non-verbal communication skills, understand and consider patient's views, audience-focused skills, use of feedback, and skills in effective negotiation (Table 13).

The role of effective communication in healthcare is always linked to expected patient's outcomes, quality of nursing, and effectiveness of care evaluation (Ennis et al., 2013). Therefore, communication skills have been identified as most important attributes in nursing (Cummings et al, 2010). Effective verbal and non-verbal communication skills of a clinical nurse are essential to understand the patient's concern and realize experiences that may need immediate response. Thus, it acts as a vehicle for nurses to understand patient's unexpressed feelings and concern that are essential for providing quality care.

In Bangladesh, the implications of communication skills among clinical nurses are utmost important to enhance nurses' ability in effective clinical management within a very complex and stressful situation. Focus group findings in present study revealed that nurses in Bangladesh work in settings with severe shortages of all kinds including: human resources, financial resources, and equipment and materials. Most of the time, it is very difficult for nurses to satisfy patients or their relatives to meet even their most basic requirements. Focus group participants agreed that in such complex situations of clinical care, communication skills could play an important role to avoid undesirable situations. These scenarios in Bangladesh's public hospitals are not rare; contrary it is often a daily reality. Thus, clinical nurse leaders mastering effective communication skills are most important to empower nurses enabling them to manage problems and avoid unwanted and conflicting conditions.

According to Matveev and Nelson (2004), a leader with inspiring communication skills always expresses the positive, is optimistic and provides encouraging messages that build motivation and creates confidence in the leader among followers. In clinical care, the role of communication skills among nurses is not only

important for providing information, it is also vital to develop a therapeutic relationship with patients and build a harmonious collaborative relationship with teams and coworkers.

Factor 7: Professional Values in Caring (PVC)

The outcome of the EFA resulted in a factor with 5 items only labeled as “professional values in caring (PVC)”. Although, factor items were relatively fewer compared to other factors, factor loadings across 5 items were very high, with a cutoff point at ≥ .40, and ranged from 0.68 to 0.85. This demonstrated a very good level of reliability for each item. The total accounted variance for this factor was the lowest (4.01%) among the 9 components of the RN-CLS, with an eigenvalue of 1.94, communalities ranging from 0.62 to 0.78 and an overall internal consistency for this factor of .86 reflecting good reliability.

In the present study, the PVC was described as the RN's ability to integrate core professional values of nursing into their clinical practice in dealing with the patients, families, and members of the health team. The measures for this factor include: the principle of equity or human dignity, empathy or morale, tolerance, advocacy, and professional standards (Table 14). A review of related literature did not reveal existing instruments containing this construct. However, the holistic nursing competency scale (HNCS) developed by Takase and Teraoka (2011), included a “ethical/legal practice" competency was comparable to the factor "PVC" in the present study. In the HNCS, the ethical/legal practice competency dealt with a nurse's attitude and behavior with regards to conforming to professional codes of conduct and laws.

In addition, the AACN (2007) described the role of CNL at micro-system healthcare level from the perspective of professional values of nursing, which included

four basic elements such as: altruism, accountability, human dignity, and integrity. According to AACN, professional values provide the foundation for nursing practice and guides nursing actions and interactions with patients, co-workers, and other professionals. Similarly, according to Davis (2014), professional values guide a nurse to promote the standard of clinical practices and clinical proficiency and safety in care provision.

Considering the clinical care context of Bangladesh, PVC received the highest attention among focus group participants. This element was considered key to change the current nursing standard and to improve the quality of clinical care practices in the healthcare of Bangladesh. Participants viewed this component as a vehicle to improve the image of nursing in the country through nurses' standard of practice and responsibility to the profession. Therefore, although in the present study this factor showed the lowest percentage of variance compared to other factors, the importance of this factor is not less. Because of a low number of items low factor loadings or low percentage of variance, it does not mean that the PVC had less priority. Rather, causes of lowered values in terms of variance or item loadings may link to the several contextual factors that could affect nurses' attitudes towards professional values translating into actual practices. Such factors may include: poor working environment, limitations in resources, organizational policies, organizational culture, etc.

According to Sellman (2011), the values of nursing as caring are mainly raised from a concern with humanity that can be visualized only through an empathetic caring attitude. The practice of values is a professional representation of nursing that is characterized by nurses' knowledge, awareness, values, and behaviors which are in alignment and expected for nurses' professional identity (Kim-Godwin et al., 2010). The

PVC items in present study (RN-CLS) confirmed measuring attributes from several angles including: literature, experts, and statistical analysis. Hence, the researcher can claim that the measuring attributes of this construct were empirically valid and reliable.

Factor 8: Decision-making and problem-solving (DMPS)

This factor constituted the largest number of item loadings (20) and the highest percentages of variance (10.25%) with an eigenvalue of 20.04. In EFA, factor loadings of items ranged from 0.47 to 0.71 with 19 items showing moderate to high level of factor loadings (0.52-0.71) and only one item with 0.47 loading. The Cronbach's alpha coefficient level of this factor was also very high (0.92) and represented an excellent level of internal consistency reliability. The communalities of item ranged from 0.32 to 0.56 and reflected a satisfactory observed variance accounted by the common factors. The EFA statistical findings regarding of this factor was a bit different and interesting.

Decision-making and problem-solving skills of the CNLs in this study were described as, the RNs ability to identify and clarify patients' clinical problems that involve a process of choosing the best option through a comparative evaluation with others in order to make reliable, valid and durable clinical solutions. Key attributes in measurement included: the ability of defining and clarifying an issue; gathering facts and understand cause(s); considering and comparing creative solution options; make logical decisions; take responsibility and attend to challenging decision-making (Table 15). Thus, these attributes reflected that the labeling of this factor was appropriate.

The importance of this factor for clinical nurses in Bangladesh was enormous. As mentioned earlier, Bangladeshi nurses needed to work with several vulnerabilities in providing essential care for patients. They faced several clinical

problems and decision-making dilemmas due to a numbers of limitations such as: high number of patients, a daunting workload, shortage of nurses, shortage in hospital supplies, lack of effective care management systems, absence of clinical guidelines, poor hospital policy and management structures, etc. (CANM,2011; Latif et al.2010; Omer, Cockcroft, & Andersson, 2011). All of these issues create a complex working environment for nurses and undermines their ability to decision-making and problem-solving in a system that places them independently in 24 hours routine duty shifts. Thus, the skills of DMPS for the clinical nurses as clinical leader were considered utmost important to boost their confidence in making decisions and solving problems effectively. According to Dorgham and Mahmoud, (2013), the DMPS are special abilities of the clinical nurse leader which makes a leader more confident about providing creative and satisfactory solutions to clinical problems.

In placing these findings into the context of the literature the researcher discovered that the factor DMPS leadership skills of present study were not entirely relevant to any of the earlier CNLs scales. Some similarity was found with a subscale of the CLCT “making decision” (NIH, 2012) and the subscale SALI “critical thinking and decision-making” (Smola, 1998). In addition, the AACN (2007) proposed several competency areas with specific skills for nurses and nursing students relevant to DMPS. Although, the AACN does not specifically signify a DMPS competency area, it had a component “critical thinking skills”. The AACN acknowledged that critical thinking skills are important for nurses to foster independent and interdependent clinical decision-making.

Factor 9: Professional Development (PD)

The last factor in the RN-CLS was factor 9 labeled "professional development" (PD) skills. This factor consisted with 7 items. Across items, factor loadings ranged from 0.56 to 0.74 with an accounted variance of 4.12% and an eigenvalue of 2.51, while the factor's reliability for internal consistency was 0.86. The key feature reflecting factor 'PD' can be described as a clinical nurse's ability to demonstrate professional guardianship in making constructive changes that are pertinent to the professional advancements or growths. The key measuring attributes of this factor that included: support individual development, ensure workplace safety, guide professional standards, multi-disciplinarily, ability to attract public interest, promote professional innovation, and act as a role model (Table 16). Both observable and statistical evaluation confirmed factor construction as appropriate.

This RN's role in professional development was met with high expectations for nursing in Bangladesh because the nursing profession in the country is suffering from lack of professionally dedicated leadership at all levels (CANM, 2011). As argued by AACN (2007), the CNL is a member of the nursing profession and has the role and responsibility to identify with the values of the profession and incorporate professionalism into practice (AACN, 2007). Moreover, the CNL is also responsible to represent the profession and to mentor the next generation of nurses.

The factor "PD" skills in the RN-CLS was analogous to the component of 'professional leader and mentor' in the 'Self-Efficacy for Clinical Nurses Leadership (SE-CNL)' scale of Gilmartin and Nokes (2015). However, content-wise the Gilmartin and Nokes' SE-CNL did not entirely mirror the RN-CLS in the present study. In the current study, the skills related to PD was very desirable for the CNL in Bangladesh as

found from finding of FGD, in which, it was emerged as theme named as clinical nurses leader's ability of "mentoring for the professionals and profession". In the existing literature, consistent skills with PD were explained as underlying skills content of CNL ability in professional advocacy. Thus, both FGD and EFA confirmed the importance of PD as underlying factor of the RN-CLS, Bangladesh.

3. The Psychometric Properties of the RN-CLS, BD

The discussion in this section comprised of three main aspects to support the validity and reliability of the RN-CLS as part of evidence for psychometric evaluations including: (1) evidence for content validity, (2) evidence for construct validity, and (3) evidence for reliability of the RN-CLS, BD.

3.1 Evidence for Content Validity

The content validity is one of the most important concerns in scale development and examines the degree to which the content of a tool explicitly represents the content domain (Zangaro & Soeken, 2005). The researcher asked a panel of 5 experts to evaluate the items of RN-CLS in terms of relevance and clarity of the items in representing the concepts against the selected domains of the measure. The experts rated on each item independently using 4-point agreement options in terms of how close item reflects the ideas represented in the definition of the components. The reviewers were also asked to evaluate the items' clarity and conciseness to ensure unambiguity of item.

According to DeVellis (2017), checking item's clarity is essential as the content might be relevant to the construct, but it may be problematic for the reader to understand due to the complexity of wording. DeVellis (2017) suggested that content

experts reviewing the item pool must from a relevant field of study and knowledgeable in the content area; because if the content experts do not understand the principles of the scale construction it may lead to inappropriate suggestions. Therefore, in this study, all reviewers had knowledge and experience in the field of nursing leadership.

In this study, out of five content experts, two were from Thailand and three were from Bangladesh. The Thai reviewers had expertise in the field of nursing administration and leadership holding the position of associate professor. The three Bangladeshi reviewers had expertise in the field of nursing administration, leadership and in clinical nursing. Therefore, it can be said that content validity of the RN-CLS was confirmed by experts in a relevant field.

The researcher provided operational and conceptual definitions for each factor and generated the item pool based on related literature. All content experts also reviewed the items for each factor based on conceptual and operational factor definitions. Each expert rated on items independently and made some suggestions for rewording or rephrasing statements. Two content validity tests were performed: the I-CVI and the S-CVI. The result of the I-CVI for 104 items was 1.00 while 18 items rated 1-2 resulting in I-CVI at 0.80. Therefore, the calculated S-CVI for the RN-CLS was (104x100)/122 = 0.85, which was good. According to Polit and Beck (2012), an acceptable value of the CVI must be at least 0.80 for individual predictors. Therefore, both the I-CVI and S-CVI of the RN-CLS were at acceptable levels in terms of the content validity of the scale.

3.2 Evidence for Construct Validity

The construct validity is one of the most important concerns for any measurement in terms of structural validity of a scale (DeVellis, 2017). According to

Waltz et al (2010), the primary concern of the construct validity of a scale is the extent to which relationships among items included in the measure are consistent with the theory and concepts as operationally defined. To empirically ascertain the construct validity of the RN-CLS, two most useful approaches were used: the exploratory factor analysis (EFA) and the contrasted group approach.

The EFA for Construct Validity

Factor analysis is a most useful approach to examine construct validity of a measure that empirically tests the internal structure of a scale on the basis of a conceptual framework (Waltz et al., 2010). For the RN-CLS, the construct validity for internal structures was examined by EFA using the PCA and orthogonal varimax rotations with the data of 627 clinical RNs. The PCA was used as a method of variables reduction which were not highly correlated and a method to extract the number of factors to be retained in the scale as underlying components (Suhr, 1984). According to Tabachnick and Fidell (2007), PCA is a very useful method to extract the maximum variance from the data set by reducing a large number of variables into a smaller number of components. The number of factors to be retained in the scale was confirmed based on observation of scree plot point of inflexion, priori factor structure criteria and sequential trial of PCA based on scree plot results (Yong & Pearce, 2013). The orthogonal varimax rotation was used for factor loadings that minimize the number of items for low loadings on each factor and make small loadings with highly correlated factors.

The factor loadings cutoff point in the present study selected was at least 0.40 to minimize the low loadings and maximize the high loadings items in the scale; while the values of at least 0.30 were acceptable (Nunnally & Bernstein, 1994). The high

cutoff point was used to reduce the side loading and number of items, scale parsimony and interpretability, and increase reliability of the individual items in the scale. Finally, by using the standard criteria of factor analysis, the EFA established the RN-CLS with a 9-factor structure for a 92-item scale with a satisfactorily accounted variance of 52.06%. In addition, the identified 9 factors and items loading were virtually consistent with the components of the proposed conceptual formwork of the study.

In order to ascertain the best fit structure of the scale, this study examined all necessary assumptions for the appropriateness of the factor analysis with the data set used for analysis. For example, the adequacy of the sample: the items to sample size ratio was above 5 subjects that met the criteria of sample adequacy (Munro, 2005). The KMO was 0.916, while >.60 was set as acceptable. The Bartlett's test of sphericity test for correlation matrix was significant (0.000) as the appropriateness of EFA. The eigenvalue of factor extraction ranged from 1.94 to 20.04, while >1 was considered acceptable. The percentage of variance in overall and by each factor was also satisfactory, which ranged from 4.01 to 10.25 across all 9 extracted factors. Therefore, it can be concluded that the developed RN-CLS had an acceptable level of construct validity.

Contrasted Group Approach for Construct Validity

The contrasted group approach is a technique, in which two individual known groups were analyzed; such as which group is known to show extremely high and which group is known to show extremely low performance or characteristics being measured by the scale (Waltz et al., 2010). In the present study, after determining the factor structure of the RN-CLS by EFA, the second test for construct validity was employed, namely the contrasted group approach (high-performance and low-

performance groups of clinical RN's). To ensure the construct validity of a scale, the contrasted group technique is premised on the scale being able to distinct individuals known to be different on the constructed scale intended to measure (Polit & Hungler, 2013). The result of the known group analysis in this study was found statistically significant different between the low and high-performance groups of clinical nurses mean scores on the RN-CLS ($p < 0.05$) (Table 17). Thus, the findings of the contrasted group analysis have satisfactorily met the criteria of the construct validity of the RN-CLS, BD.

3.3 Evidence for Reliability

As validity of a scale, test of reliability is equally important and refers to the degree to which an assessment tool produces a stable and consistent result (Polit & Beck, 2012). To ascertain the reliability of the RN-CLS as a norm-referenced measurement scale, two reliability tests were performed: the internal consistency reliability and the stability reliability.

Internal Consistency for Reliability

After identifying the factor's structures in the RN-CLS by EFA; including factor extraction, rotation, and loading; the internal consistency was tested for overall scale with 92 items and for each factor using the loaded items to each factor. The Cronbach's alpha coefficient value was used to determine the levels of internal consistency using field test data used for EFA. The results demonstrated an overall Cronbach's Alpha of 0.96 with 92 items for the RN-CLS, which reflected an excellent level of internal consistency. The overall internal consistency of RN-CLS with 124 items

(items used for data collection) and 102 items (after deletion of 22 items with item <.30 - total correlation) also showed a satisfactory Cronbach's Alpha (0.97 and 0.95 respectively).

For each factor level, Cronbach's Alpha coefficients were also good ranging from 0.84 to 0.92 (DeVellis, 2017). Results indicated that internal consistencies of overall scale and for each factor with loaded items were highly acceptable, which is generally acceptable being at least 0.70 for a new scale (Nunnally & Bernstein, 1994).

The overall internal consistency of the RN-CLS was parallel to the SALI (Smola, 1998). However, the Cronbach's Alpha coefficient of RN-CLS was clearly better than the coefficient for the Clinical Leadership Scale (CLS) (Patrick et al., 2011). According to DeVellis (2017), a strong alpha coefficient of a scale provides useful information regarding the strengths of the internal structure of the scale. Moreover, it is very important to evaluate the quality of a scale examining whether items on a scale produce a consistent scores.

Test-Retest Method for Stability Reliability

Test-retest reliability was examined by employing the questionnaire twice with 10 days apart, to the 30 clinical RNs. The test-retest results inferred a highly acceptable level of overall correlations between the two tests times results of the RN-CLS ($r = 0.92$, $p<.000$). For 9 factors, the test-retest results also showed agreement between two time measures at an acceptable level, which ranged from 0.73 to 0.91. These findings indicated that among different administrations of the RN-CLS, test results will be consistent for different uses for the same group of subjects over time (Polit &Beck, 2012).Therefore, in the present study*;* test-retest reliability results were

favorable to confirm the consistency of a measure from one time to another permitting stability in reliability for the RN-CLS.

Summary of the Discussion

Study findings were discussed and placed in context of the literature. In regards to the study's first objective, RN-CLS development consisted of several methodological processes including identification of scale components, generation of items, validation of contents, and finally examination of construct validity and scale reliability using empirical data. The construct validity of the RN-CLS was tested by field test data of 627 clinical RNs using EFA exhibiting 9 factors and 92 items. The extracted factors were: (1) assessment and evaluation (14 items), (2) patient-centered intervention (12 items), (3) imply quality and safety (10 items), (4) caring relationship (9 items), (5) interdisciplinary collaboration (8 items), (6) skills of communication (7 items), (7) professional values in caring (5 items), (8) decision making and problem solving (20 items), and (9) professional development (7 items).

The second research objective was to examine the validity and reliability of the scale. Several methods were used to examine the validity and reliability of the RN-CLS. For validity: content validity (I-CVI 0.80-1.00 and S-CVI 0.85); construct validity by EFA (revealing 9 factors with 92 items and 52.06% variance); and contrasted group approach (significant difference of scores between low and high-performance groups $p<0.05$).

For reliability: Cronbach's alpha for internal consistency overall 0.96 and by factors ranging from 0.84 to 0.92. The test-retest for stability reliability showing significant high correlation ($r= 0.92$) between the test and retest results among clinical

RNs scores overall and for factors ranging from 0.73-0.91 with loadings cutoff at 0.40 and above. Thus, it can be concluded that development process and psychometric evaluations of RN-CLD demonstrated an adequate acceptable standard in terms of both validity as well as reliability.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusions, implications of study findings for nursing practice, education, administration, and research, and recommendations for future research. This study used an inductive methodological research design using the scale development guidelines of DeVellis, (2017) with the purposes to develop and evaluate the psychometric properties of a new instrument to assess Clinical Leadership Skills of Registered Nurses in Bangladesh (RN-CLS, BD). Based on these purposes, this study addressed two research questions namely: (1) what are the appropriate components of a RN-CLS for Bangladesh? (2) How valid and reliable is the newly developed RN-CLS in measuring leadership skills of clinical RNs in Bangladesh? Therefore, conclusions presented in this chapter provide the answers these research questions.

Conclusion

Research Question 1: Components of RN-CLS, Bangladesh

The exploratory factor analysis identified 9 (nine) factors in the RN-CLS appropriate for Bangladesh comprising of 92 items with an acceptable level of psychometric properties. The identified components of RN-CLS were: (1) assessment and evaluation, (2) patient-centered intervention, (3) imply quality and safety, (4) caring relationship, (5) interdisciplinary collaboration, (6) skills of communication, (7) professional values in caring, (8) decision-making and problem-solving, and (9) professional development.

Research Question 2: The Validity and Reliability of Newly Developed RN-CLS, Bangladesh.

The 9 components with 92 items in the RN-CLS's final psychometric evaluations demonstrated acceptable levels of validity and reliability. Construct validity showed accounted overall variance of 9 components for 52.06% and across components variance ranged from 4.01% to 10.25%. The factor loadings cutoff point ranged from 0.41 to 0.85 with a number of items to each factor varied from 5 to 20 items. Contrasted group analysis demonstrated a significantly different score ($p < .05$) between low and high-performance groups of clinical RNs, which indicated favorable findings for construct validity.

Reliability of the RN-CLS was also acceptable for internal consistency using Cronbach's alpha (overall 0.96 and across components ranging from 0.84 to 0.92) followed by test-retest reliability for stability reliability over two-time points showing a significant correlation between two tests as well as by each factor ($r = 0.92$; $p = .000$). In summary, it can be concluded that the results of psychometric evaluations for the RN-CLS showed the scale as a valid and reliable measure to assess the clinical leadership skills of the RNs in Bangladesh.

Implications of Study Findings

The RN-CLS is a theory grounded context specific self-assessment measure, developed to assess the CLS of RNs in Bangladesh. The scale's measures focused on both clinical nursing skills and non-clinical or general leadership skills. The

integration of these two foci was not only valuable but also important in the assessment of nurses as professional leaders. Finally, it was assumed that this instrument will have a positive contribution in preparing RNs' capacity in clinical care leadership and professional leaders.

Therefore, the implications of study findings can be explained in following terms: (1) nursing practices, (2) nursing education, (3) administration and leadership, and in (4) nursing research.

Nursing Practices

Leadership qualities cannot be separated from clinical competencies in the nursing profession. The instrument developed in this study underscores this viewpoint by integrating both clinical and non-clinical leadership skills; which are important for nurses in each sphere of nursing practice. Doing so, the instrument captures essential social skills important in dealing with diverse patients' needs and families, co-workers, and interdisciplinary teams. Within appraisal systems or as a self-assessment tool the measure can also be instrumental in empowering nurses in strengthening their skills in providing quality care, their problem solving ability, and their management and leadership competencies.

Nursing Education and Training

The RN-CLS is the first research base, theory-grounded and contextual leadership scale for clinical nurses in Bangladesh. It can be useful as an educational outcome measure on leadership qualities to inform curriculum development in undergraduate and graduate nursing programs as well as for continuing education initiatives.

Administration and Leadership

The nurse administrators or hospital authorities can use this tool in appraising leadership qualities among clinical nurse practitioners as well as a baseline measure in the development of leadership capacity building efforts and/or as an outcome measure of such initiatives.

Nursing Research

The RN-CLS is a contextual, valid and reliable measurement to assess the clinical leadership skills of nurses in Bangladesh. Thus, it can be used as a reliable instrument in nursing research in clinical care settings in Bangladesh. Furthermore, this scale can contribute to identifying a locally relevant nursing research agenda by assessing needs in clinical leadership.

Strengths of the Study

This study had several strengths supporting the claim that overall development and evaluation of the RN-CLS was valid and reliable. These strengths include: Study design; theory grounded framework; contextual validation; an experts reviewed item pool; a Likert's scale response format; subject's item adequacy; factorability and item evaluation; and contrasted group analysis.

Study design: Development of the RN-CLS consisted of a multi-step methodological procedure integrating qualitative and quantitative approaches, based on DeVellis's (2017) scale development method consisting of 2 phases' eight steps.

Theory grounded framework: Katz's (1974) leadership theory and AACN's (2007) clinical nurse leadership concept provided a foundation for the framework guiding the RN-CLS development.

Contextual validation: was assured by conducting focus group discussions with different groups of nurses including: clinical nurses, nurse administrators, and nursing educators in Bangladesh.

Experts reviewed item pool: Based on DeVellis's (2017) guidelines, items generated from an extensive literature review and focus groups were reviewed by 5 experts for content validity.

Likert's scale response format: The RN-CLS used a 5-point Likert scale response format. Likert-type scales are frequently used in nursing research, especially to assess the performance or practice in clinical settings (Sullivan & Artino, 2013).

Subject's item adequacy: According DeVellis (2017) and Thompson (2004) the rule of thumb is that at least 300 subjects required for an adequate for factor analysis; whereas Munro (2005) suggested that the sample size can vary from 5 to 10 per item. The KMO for subject adequacy in this study with 627 was .916, which was clearly meeting the standard of >.60. With 627 responders the item to subject ratio was 1:5.06.

Factorability and item evaluation: All criteria for the factor analysis were tested before performing EFA resulting in sample adequacy; KMO 0.916; Bartlett's test of sphericity 0.000; a variance with 92 items at 52.06%; and the percentage of variance by factors ranging from 4.01 to 10.25. Item rotations to 9 factors also confirmed the structure of the RN-CLS. The internal consistency overall and across the factors was more than 0.80, indicating high reliability.

Contrasted group analysis: As additional test for construct validity, the contrasted group analysis confirmed that the RN-CLS with 92 items is a valid instrument to measure the clinical leadership skills of the RNs in Bangladesh.

Limitations of the Study

The author acknowledges that the study has its limitations in terms of the sampling strategy applied, scale length, and the variance accounted by each factor.

Sampling: The purposive sampling applied in this study was limited to clinical nurses from two medical college hospitals. This does not allow for generalization of findings to all medical college hospitals in Bangladesh. Further, the focus on medical college hospitals excluded nurses in other clinical settings such as Upazilla and District hospitals and specialized hospitals.

The variance accounted by each factor: The EFA found 5 out of 9 factors with a percentage of variance between 4.01% and 4.54%, whereas a variance >5% is desirable. Furthermore, the overall percentage of variance for 9 factors was 52.06% in the present study.

Scale length: The RN-CLS consisted of 124 items which could pose a burden in future practice applications as indicated by a 77.45% response rate and 6% item-non-response in this study.

Study Recommendations

As this study was not designed to generalize its findings to the entire clinical nurse population in medical colleges' hospitals of Bangladesh, nor did the design cater for testing the scale in various levels of hospitals in Bangladesh. Therefore, it is recommended that future studies would use the RN-CLS in order to: (1) test scale performance among clinical nurses at various healthcare delivery levels in Bangladesh; and (2) employ the RN-CLS as a tool to assess gaps in clinical nurses' leadership skills in medical college hospitals in Bangladesh to inform curriculum development and practice.

In addition, it is recommended for future research to perform statistical evaluations of: (1) the quality of factor structure and determine the relationship among scale items by confirmatory factor analysis (CFA). (2) developing a short form version of RN-CLS using recommended guidelines of Widaman, Little, Preacher, and Sawalani (2011); such as, selecting the subset of items that have the highest mean inter-item correlations; highest factor loadings on common factor structure; the highest correlation with the total scale score; the items with most obvious indicators of the construct as face validity; and the items randomly selected from the original scale.

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Appendices

Appendix A

Guidelines of the Focus Group Discussion (FGD)

A. Introductions:
   1. Welcome speech,
   2. Study Overview
   3. Purposes of focus groups
   4. Process of the focus group discussions and interviews

A. Ground Rules
   1. Everyone's to participate in the discussions.
   2. No any right or wrong answers
   3. Everyone's experiences and opinions are important to enrich the discussions and information.
   4. Speak-up whether you agree or disagree with others opinions with reasons
   5. Want to hear a wide range of opinions with comfortable and free sharing, if any sensitive issues come up.
   6. We will use tape recording to capture everything you have to say.
   7. All anonymity and confidentiality will be ascertained in terms of identity.

B. Data Collection Guidelines
   1. What are your existing ideas or experiences about the terms of Clinical Nurse Leader and Leadership Skills?
   2. How can you define these two terms in the context of nursing and healthcare of Bangladesh?
   3. Based on your knowledge and experience, explain how the three following skills are essential for clinical nurse leadership in Bangladesh?
   4. The Technical Skills ii. The Human Skills and iii. The Conceptual Skills.
   5. Beyond these above three, what are other essential skills for CNL of the RNs in Bangladesh?
   6. Please, explain the actions or activities of clinical nurse leaders should perform or demonstrate for each of these skills.
   7. Please, give some specific examples about the technical Skills, human Skills, and conceptual Skills of the clinical Registered Nurse as clinical leaders.
   8. Based on yours discussions, what are the characteristics which should have for a good clinical nurse leader in Bangladesh?

C. Additional Questions:
   1. Beyond above, what are others essential skill that a nurse should have as effective clinical leader in to his/her clinical nursing practices and in the context of nursing in Bangladesh?
   2. Complementary questions throughout the discussions and closing with thanks.

…….0……..

Appendix B

Institutional Review Board's Permission for FGD

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/ 0589

March 2, 2016

To The Director of Mymensingh Medical College Hospital
Mymensingh, Bangladesh

This letter is to inform you that Md. Abdul Latif, ID. 5610430019, a doctoral candidate of the Faculty of Nursing, Prince of Songkla University, Thailand, is taking a thesis in his last semester. As part of the requirement of the course, he has to conduct a research study in Bangladesh. His thesis is entitled: "Development and Psychometric Evaluation of Registered Nurses' Clinical Leadership Scale in Bangladesh". The thesis proposal has been approved on 26 January 2016. As part of the scale development process of his thesis, he needed to conduct a small scale qualitative study by focus group interviews. Therefore, he will conduct a focus group study at Mymensingh Medical College Hospital with 8-10 participations of clinical registered nurses in this hospital in March, 2016.

I will be greatly appreciated if Md. Abdul Latif permitted to conduct the study at Mymensingh Medical College Hospital, as it will provide valuable information about the nurses on their expected leadership skills at clinical care services in the healthcare of Bangladesh. I expect that the study will contribute in the development of future healthcare and quality of nursing care services the country.

If you need any further information regarding his study, please do not hesitate to contact us at the above address or e-mail us at: nongnut.b@psu.ac.th

Sincerely Yours,

Waraporn.

Assistant Professor Waraporn Kongsuwan, PhD., RN
Assistant Dean Research and Graduate Studies
Faculty of Nursing,
Prince of Songkla University
Thailand

Appendix C

Themes from the Focus Group Discussion

*1. Performing complete assessment on patient's clinical health problems and needs accurately***:** These skills were referred to the RN's abilities to perform an in-depth clinical assessment of each patient's health status to identify the authentic health problems and needs including physical, mental, psychological, spiritual and cultural or religious perspectives of the patients. These also required the skills to use certain scientific technics or methods as relevant to identify the problems or needs.

According to study participants*; ...*"clinical nurse must have an ability for doing an in-depth assessment of each patient to identify patient's actual health problems and psychological problems. So, he/she needs to collect both subjective and objective data for drawing a problem-based solution" [P-2]. Another participant said that …"when a patient cannot express or communicate; a nurse must understand him/her by observation skills [P- 4]."

2. Providing care for the patients based on their needs, priorities and preferences: These skills referred to the ability in providing care to a patient with an understanding of patients' identified health needs and importance of problems, patents/families preference or value to ensure a client-centered care. The participants believed that nurses as a direct patient care provider, they must have the ability to provide high-quality patient care which must be patient-centered and satisfy the patient needs and values the patient preferences.

According to study participants; …"a clinical nurse who provides patient-centered care; always demonstrate empathy to the patient's problems and concentrate on patient satisfaction [P4]." Again, another told that …"timely share of complete information to the patients or relatives about the patient condition or the support that needed for a patient is essential for better management, and it is important to help them make decisions, what they think to do" [P6, 4]."

*3. Ensuring that provided care is adequately safe and quality for responding to patient's problems***:** These skills were viewed as the RN ability of the degree of which the provided care to the individual patient are consistent to increase the desired outcomes and current professional knowledge that is clinically credible and standard. Based on provided comments and explanations of the focus groups, the content analysis identified several pieces of evidence to the name of this sub-domain as skills to "imply quality and safety in patient care", such as; traditional techniques sometimes maybe not appropriate; need to balance cost, quality and patients ability.

According to study participants; …"as a practice-based discipline, nurses need advanced and updated knowledge that are theatrically sound and empirically tested to bring an expected outcome of care provisions" [p6, 8]. Other said…"a nurse as a clinical leader should have the ability to utilize their theoretical nursing knowledge to guide their actions or practices and that is the reason for nursing education [p12]. Another told …"combination of theatrical knowledge and past successful experience are essential for quality care and same time [p3]; he must consider the context of making decisions about a patient care" [p5]

4. Updating the care through proper monitoring as need to modify or change: It was referred to RN ability to ensure that a continuous monitoring and follow-up evaluation of a patients' condition is maintained in order to determine patient's prognosis toward the attainment of the expected outcome of care provision. Overall analysis revealed that ensuring continuous patient's assessment; monitoring and follow-up evaluation of delegated activities must be put into account as part of evaluating patients' progress and expected outcome of care.

According to study participant…"a clinical leader or RN should perform routine and subsequent follow-up of patients to evaluate patients' condition and progress"[(p3]. Similarly other said…"it is vital to document all key

information about patient and response to changing needs to modify care as patient's condition" [p5]. Thus, this component was named as, the CNL skills of "monitor and evaluate clinical effectiveness".

5. Using patient's care related equipment or machineries to support the care to be comprehensive: The next predetermined component was about the optimizing the patients care using medical technology. These skills were referred to the RNs ability to demonstrate an optimal and effective use of various advanced patient care equipment/tools/machinery in providing direct or indirect patient care. Most participants agreed that nurses in Bangladesh have less opportunity and skills to use advanced technology in clinical care and in person using needs.

According to participants opinion, …"nurse needs quality to use existing routine and advanced medical machinery in direct and indirect patient care, such as- computerized information, search new knowledge etc…."[p3]. Added more …"basic skills in computer technology and internet use are also important for any nurse, especially skilled nurse for any level including clinical care or administration……" [p7]. A nurse leader participant said that…"though, we have less facility, but nurses, especially in the ICU, CCU and critical care; they must need special skills in advance technology for comprehensive care" [p9].

6. Developing and maintaining the harmonious relationship with the patients and families: The establishment of a caring relationship with patients and families, the clinical nurse leaders these skills were viewed as the degree to which a nurse has an ability to develop and maintain a respectful, helping and trust relationship with patients and families during dealing with patients' problem, needs or concerns. Many participants of focus groups highlighted that nurses' ability to develop and maintain a good cooperative harmonious interpersonal relationship is not only important patients, also important to work with coworkers.

According to a participant said …"a good cooperative and harmonious relationship with coworkers, patients, and patients relatives are the most important weapon as an effective leader, in which skills of behavior communication is vital" [p6, 8]. Another said…"nurses are always worked with the sick people and when they feel very crisis or mentally depressed. So, she/he must show the empathy to the patient and it is important for nurses that he/she is caring and concern to patients' problems" p4]. More examples given by other: "a nurse must be an active listener and caring to understand the patients" (p3); "he/she must talk with soft voice and loving face to motivate and attract the patients" (p11).

7. *Establishing professional relationship with the members of teams and coworkers:* The skill of encouraging interdisciplinary collaboration of the CNL was referred to an RN's ability to effectively work in partnership with nursing and other inter-professional teams as mutual respect shared decision and collaboration to achieve quality patient care. The discussions of focus group revealed that an effective clinical patient care requires strong collaboration among all health team members; such as a nurse, doctors, and others support staffs.

According to participant … "a nurse should always cooperative, supportive and sharing to the group members and must understand the feelings of the individual group member; because it is important for effective group communication and delegating the responsibility to the other members in the team for the continuity of care" [p4, 6]. Again, other said …for example, the patient may have several problems; some can manage alone and others may not or some problems may be unclear. So a nurse needs to work in coordination with other nurses and doctors to share and manage problems effectively" [p1].

8. Expressing the skills in verbal and non-verbal communication: This skill in communication was identified as most vital skills of the clinical nursing in order to understand the patients' feelings, problems and needs; especially who are unable to express or communicate. These skills were defined as the nurses' ability to perform a comprehensible mutual exchange of ideas and information with patients and with the team.

According to study participants; …a clinical nurse must have a high level of communication skills, both for verbal and non-verbal" [p2]. Another added that…"effective use of verbal and non-verbal communication is not only important for transforming information of a nurse to a patient but important to understand patient's unexpressed views and for effective negotiation with patients or team" [p6].

*9. Valuing the responsibility and accountability for profession and patients***:** An integration of core values of nursing into practice is fundamental for a clinical nurse to demonstrate the ability of professional practice. At the same time, clinical nurse is also accountable and responsible to the concern of patient's rights and wellbeing, which is the core of nursing. This theme was viewed the participants clinical nurses skills as practices with professional values of nursing that referred to the RN's ability to integrate the core values of professional nursing into the clinical practice to deal with the patients, families, and members of the health team. These included a sense of accountability; integrity; human dignity; and practice with legal aspects of nursing.

According to focus group participant,…"a nurse with professional behaviors in the activities demonstrate that he/she is humor and honest; for example…. good dealing, smiling face, ethical and try to provide the best care for a patient" [p14]. Another participant added that …" a nurse leader should cordial, responsible and helping that reflects his/her caring heart, hand and mind; and must respectful to patients' rights"[p7].

10. Possessing the ability to respond for making decision on clinical and patient related problems: This theme was defined as clinical nurses ability in defining and clarifying patients'/clinical problems and needs to make reliable, valid and durable clinical solution; which included recognize the problems and clarify the issue, gather data and understand the cause, make logical decision, consider and compare available options, and try to add the creativity. When this issue was raised in the focus groups;

The most participants actively took part in the discussions and they said that, …" in the context of Bangladesh, problem-solving and decision-making skills of a bedside nurse are very important to solve verities of problems in our health care, especially to make a decision of work with many limitations"[p3, 4]. They explained several skills to support their importance to these skills, such as analytical ability, logical thinking, leader's creativity, contextual analysis, encourage and involve others in decision-making and problem solving etc.

11. Fostering the improvement of clinical standards in patient care: The standard of patient care is the parameter for a high-quality care and link with the expected clinical outcome of provided care and improve quality of services. In the FGDs, the role of CNL was expected as change agent for improving the quality of patient care and believed that throughout performing this skill, nurses can demonstrate their role in patients care advocacy.

According to a participants ".. nurses need to be more active in taking role for controlling the standard of care and it is important for improve quality care and uphold the image of nursing (P6).', Another said, "although it is difficult for current environment, but to gain patient satisfaction, nurses need to do something that is visible to the patients that nurse are working trying to do for them…. For example: advocacy for patients, help to make decisions etc. (p12).

12. Mentoring for the professionals and profession: the clinical nurse's role in leadership was considered as the clinical mentor for the new nurses and nursing students to develop their clinical competence. It was described by the focus group as the RN's enactment and ability to demonstrate the role of professional representativeness and guardianship in making constructive changes and advancement for nurses and nursing. The members of the focus group realized that 'Bangladesh nursing is suffering for the long-term crisis of leadership at all levels', as said by one participant [p3]. Therefore, the future nurses at all levels must hold the responsibility of professional guardianship to move nursing forward.

Some of the examples for this component were: …"clinical nurse is the key person and front liner to highlight the profession by demonstrating their role in caring the patients, advocacy for the profession and raising voice for ensure high quality patient care [P4, 7]." Similarly, : …"It is essential to take responsibility for each nurses, how we can improve our profession. However, this is required a professional commitment and deliberation" [p2, 4]. Another supportive statement was…"each nurse can do many things to high light the profession and professional image, example- activities for social-welfare and publicity; seminar, symposium, social activity etc." [p6, 7, 5].

Table:

The Communality Matrix among Components of Theory with Concept of CNL, Themes from the Focus FGDs, and Predestined Content Domains or Components of the RN-CLS (N=14).

Theory and Concept of CNL (Katz, 1974; AACN, 2007)	Themes Emerged from FGD Data of the RNs in BD	Predetermined Components of the RN-CLS, BD
	1. Performing complete assessment on patient's clinical health problems and needs accurately.	1. Diagnose the genuine problems and needs of the patients.
A1. Providing Patient-Centered Quality Care	2. Providing care for the patients based on their needs, priorities and preferences;	2. Develop patient-centered intervention
A2. Evidence-Based Practice	3. Ensuring that provided care is adequately safe and quality for responding to patient's problems.	3. Imply quality and safety in patient care
	4. Fostering the improvement for clinical standards in patient care.	
	5. Updating care through proper monitoring as need to modify or change.	4. Monitor and evaluate clinical effectiveness
A3. Advanced Skills in Health Technology	6. Using patient's care related equipment or machineries to support the care to be comprehensive.	5. Optimize patient care with the competence in medical technology
	7. Developing and maintaining harmonious relationship with the patients and families.	6. Establish caring relationship with patients and families
B2. Interdisciplinary Team Collaboration	8. Establishing professional relationship with the members of teams and coworkers.	7. Encourage interdisciplinary collaboration
B1. Communication	9. Expressing the skills in verbal and non-verbal communication.	8. Demonstrate understandable communication skills
B3. Moral behaviors	10. Valuing to the responsibility and accountability for profession and patients.	9. Practice with professional values of nursing
C1. Clinical creativity and innovation	11. Possessing the ability to respond for making decision on clinical and patient related problems.	10. Problem-solving and decision-making skills
C2. Professional Advocacy	12. Mentoring for the professionals and profession.	11. Participate in enhancing professional advancement

Appendix D

Data Collection Questionnaire (English)

Hospital: **Date:**

Introduction: This is Registered Nurses' Clinical Leadership Scale that will be used to evaluate your leadership skills in clinical care conditions. The questionnaire is consisted with two parts including Part I: Demographic Data Form (DDF) and Part II: Registered Nurses' Clinical Leadership Scale (RN-CLS).

Instruction:

Please read carefully the following instructions to answer the questionnaire:

1. Please "Do Not" write your name on any part of the questionnaire
2. Answer all the items of the questionnaire honestly and don't leave out any items to answer, otherwise your data may not be useful for this study.
3. Answer the items as you prefer and there is no right or wrong answer.

Part I: Demographic Data Form (DDF)

Instruction: Please answer the questionnaire about yourself by selecting only one answer for each item by placing a tick (✓) on appropriate response.

1. Age: …… years old.
2. Gender:
   (1) Male (2) Female
3. Level of education in nursing:
   (1) Diploma (2) Bachelor (3) Master (4) PhD
4. Year of working experience in Govt. service:
   (1) < 5 Years (2) 5-10 Years (3) 11-15 Years (4) 16-20 Years (5) > 20 Years
5. Current position hold:
   (1) Nurse in Charge (2) Senior Staff Nurse/ Staff Nurse (General)
6. Working Units:
   (1) Surgical/Ortho (2) Medical (3) Gynae (4) Pediatrics
   (5) Psychiatric (6) Psychiatric (7) ICU/CCU (8) Others

Part-II: Registered Nurses' Clinical Leadership Scale (RN-CLS).

Introduction: The RN-CLS is consisted with 120 items on clinical leadership skills which represent how often you perform the specific activity/skill during your clinical practice in the hospital settings.

Instruction: Please read each statement carefully and then check a tick (√) mark in the column right side of the statements that you agree. There is no any right or wrong of your response that you are

going to answer. The level of agreement of your answer towards each statement will be used to measure your clinical nursing leadership skills as follows:

1 = Never practice	= You completely never perform this skill or activity.
2 = Very rarely practice	= You seldom perform this skill or activity.
3 = Occasionally practice	= You sometimes perform this skill or activity.
4 = Almost always practice	= You often perform these kinds of skill or activity.
5 = Always practice	= You always perform this skill or activity.

Direction: Please, give (✓) tick mark against each of the following items:

No	Item statements	Response Rate				
		1	2	3	4	5
1.	Conduct in-depth assessment of each patient (physical, mental, social, and functional status) using different methods/techniques.	1	2	3	4	5
2.	Identify critical health problems of the patients in initial assessment.	1	2	3	4	5
3.	Collect subjective and objective data for each patient to formulate differential nursing diagnosis.	1	2	3	4	5
4.	Response sensitively to any clinical change of the patients as needed to modify the intervention.	1	2	3	4	5
5.	Identify special needs of a patient, requiring a specific nursing intervention.	1	2	3	4	5
6.	Foresee potential risk of a patient with appropriate remedies.	1	2	3	4	5
7.	Use creative assessment technique to diagnose critical health problems of the patients.	1	2	3	4	5
8.	Verify patient's health/disease related essential information that is pertinent to nursing intervention.	1	2	3	4	5
9.	Draw conclusion of a patient's problem with etiological amenable to nursing intervention.	1	2	3	4	5
10.	Utilize a critical inquiry/follow-up of each patient to evaluate the effectiveness of patients care.	1	2	3	4	5
11.	Prioritize nursing intervention as appropriate to patient's feeling of needs	1	2	3	4	5
12.	Deal for the patients/families with respect to their values and beliefs.	1	2	3	4	5
13.	Facilitate patients/families involvement in planning and implementing patient care.	1	2	3	4	5
14.	Support patients/families decisions on patients' care.	1	2	3	4	5
15.	Share complete information to the patients/families in time to facilitate their choice of decisions.	1	2	3	4	5
16.	Consider patient's knowledge, skills or abilities in managing specific health problems.	1	2	3	4	5

No	Item statements	Response Rate				
		1	2	3	4	5
17.	Respond promptly and appropriately to patients' needs.	1	2	3	4	5
18.	Update patient care with altered condition or additional intervention as needed.	1	2	3	4	5
19.	Collaborate with health care team and patients' families for the benefit of patients..	1	2	3	4	5
20.	Design specific nursing care plan based on patient's sign-symptoms and clinical evidence.	1	2	3	4	5
21.	Apply valid and relevant information to make clinical decision on a patient condition.	1	2	3	4	5
22.	Apply up dated knowledge and skills to ensure quality patient care.	1	2	3	4	5
23.	Utilize specific patient safety tools (clinical guidelines, clinical checklist, diagnosis devises etc.) to assess patient safety effectively.	1	2	3	4	5
24.	Strictly use patient safety rights/devises that promote safety or prevent potential risk.	1	2	3	4	5
25.	Make clinical judgment based on evidences.	1	2	3	4	5
26.	Discuss with other nurses to be aware of patient safety.	1	2	3	4	5
27.	Appraise carefully all patient related data to make an authentic decision.	1	2	3	4	5
28.	Provide nursing care with patient safety awareness.	1	2	3	4	5
29.	Maintain early risk detection screening to prevent anticipated risk of patients/staffs.	1	2	3	4	5
30.	Follow clinical safety protocols to avoid unwanted clinical hazards or risks.	1	2	3	4	5
31.	Evaluate patient's prognosis based on physical assessment and illness perception.	1	2	3	4	5
32.	Determine key clinical indicators for monitoring and evaluating patient's outcome.	1	2	3	4	5
33.	Perform routine and sub-sequent follow-up of each patient to evaluate the clinical prognosis or progress.	1	2	3	4	5
34.	Utilize data analysis techniques specific or relevant to clinical indicators.	1	2	3	4	5
35.	Apply scientific tools such as clinical check list or devices to evaluate clinical indicators/progress reports.	1	2	3	4	5
36.	Respond to real distress of a patient by cognitive understanding (evidence) rather emotion.	1	2	3	4	5
37.	Anticipate for successful and unsuccessful clinical indicators.	1	2	3	4	5

No	Item statements	Response Rate				
		1	2	3	4	5
38.	Identify areas in patient's care that requiring modifying, updating or to further improvement.	1	2	3	4	5
39.	Document necessary information which can be used to improve nursing care and patient's outcome.	1	2	3	4	5
40.	Receive patient's feedback/ recommendation of satisfaction and effectiveness of care.	1	2	3	4	5
41.	Evaluate the existing care procedures/guidelines to find out gaps for improving existing practice.	1	2	3	4	5
42.	Effectively apply patients care equipment or devises to support complementary and comprehensive care.	1	2	3	4	5
43.	Search for improving skills of using modern medical technology to optimize quality of patient care.	1	2	3	4	5
44.	Analyze for optimal use of current and emerged patient care technology to improve quality patient care.	1	2	3	4	5
45.	Correctly and promptly prepare medical equipment to safe patients' lives.	1	2	3	4	5
46.	Maintain quality of medical equipment using techniques specific to each type of equipment.	1	2	3	4	5
47.	Effectively utilize the patient care equipment to prevent anticipated risks or errors in providing patient care.	1	2	3	4	5
48.	Identify problems due to errors of medical equipment.	1	2	3	4	5
49.	Early detect adverse effects of using medical equipment	1	2	3	4	5
50.	Demonstrate safety procedures in using advance medical equipment.	1	2	3	4	5
51.	Being available to help with the patients' demands.	1	2	3	4	5
52.	Demonstrate empathetic listening to patients' problems.	1	2	3	4	5
53.	Treat the patients respectfully as valuable human being.	1	2	3	4	5
54.	Demonstrate assertiveness with therapeutic relationship for better understanding of a patient.	1	2	3	4	5
55.	Develop good rapport for openness of patient's mind.	1	2	3	4	5
56.	Demonstrate deep concerns of the patients' problems.	1	2	3	4	5
57.	Farley considers patient's negative reaction about their illness or treatment concern.	1	2	3	4	5
58.	Positively respond to patient/family's negative reactions using verbal and non-verbal approaches.	1	2	3	4	5
59.	Discuss with the teams about sensitive information of a patient in private places.	1	2	3	4	5

No	Item statements	Response Rate				
		1	2	3	4	5
60.	Follow commitment to a patient, making you trustworthy and dependable.	1	2	3	4	5
61.	Demonstrate approaches that inspire patient/family's free expression of their concern.	1	2	3	4	5
62.	Apply therapeutic touch to the patients, when they experience in vulnerable condition.	1	2	3	4	5
63.	Respect uniqueness of other group members in terms of values, responsibilities, and expertise.	1	2	3	4	5
64.	Work together with a commitment of achieving the common goals of the team.	1	2	3	4	5
65.	Respect individual and collective opinions of others group members.	1	2	3	4	5
66.	Accept the differences of working styles of others in the team.	1	2	3	4	5
67.	Contribute actively to the team activities with a feeling of own responsibility.	1	2	3	4	5
68.	Positively accept solutions of the team, even disagree.	1	2	3	4	5
69.	Accept criticism of team members to modify or reject your ideas.	1	2	3	4	5
70.	Face conflicts with team members through calm or rationale.	1	2	3	4	5
71.	Praise and respect team members' activities.	1	2	3	4	5
72. \	Understand and manage own feelings or emotions of others.	1	2	3	4	5
73.	Apologize own mistakes without unpredicted argument.	1	2	3	4	5
74.	Share clinical issue, knowledge or experience to build team efficacy.	1	2	3	4	5
75.	Provide timely and truthful information to patients.	1	2	3	4	5
76.	Express understanding of patients during verbal and nonverbal communications.	1	2	3	4	5
77.	Provide sufficient time to talk the patient for better understanding.	1	2	3	4	5
78.	Understand patients from their own points of view.	1	2	3	4	5
79.	Find appropriate methods to communicate with patients who have communication difficulties.	1	2	3	4	5
80.	Speak with genuine understanding to perform confident/clear conversations.	1	2	3	4	5
81.	Bridge professional and lay language as appropriate to deal with the audience.	1	2	3	4	5
82.	Use feedback from the patients or group members to avoid any misunderstanding.	1	2	3	4	5
83.	Negotiate own values/beliefs with the patients/colleagues to find mutual conclusion.	1	2	3	4	5

No	Item statements	Response Rate				
		1	2	3	4	5
84.	Accept accountability of own responsibility within the legal scope of nursing practice.	1	2	3	4	5
85.	Honestly accept own mistake towards patients/ team members for any error.	1	2	3	4	5
86.	Protect patients from being violations of their rights.	1	2	3	4	5
87.	Maintain patient's privacy/confidentiality.	1	2	3	4	5
88.	Treat all patients equally but with flexibility to individual needs/conditions.	1	2	3	4	5
89.	Provide care to all patients, regardless of background identity (race, religion or social status).	1	2	3	4	5
90.	Conform to high standards of nursing care in daily practice.	1	2	3	4	5
91.	Provide care with empathy and alignment of heart, head and hand.	1	2	3	4	5
92.	Exhibit highest tolerance in critical situations for the benefit of patients.	1	2	3	4	5
93.	Follow high standard of protocols of the nursing profession.	1	2	3	4	5
94.	Advocate for the patients who cannot speak for themselves.	1	2	3	4	5
95.	Conform to standard of nursing practice even in difficult situation.	1	2	3	4	5
96.	Exclusively collect and analyze the subjective and objective data related to the problems needed to be solved.	1	2	3	4	5
97.	Use evidences for decision making.	1	2	3	4	5
98.	Evaluate patient's severity based on patient's symptoms including observation.	1	2	3	4	5
99.	Don't make any stereotype decision about patient's problems without a clear justification.	1	2	3	4	5
100.	Listen to opinions of person involved before making/validating a decision.	1	2	3	4	5
101.	Making clinical decision to solve complicate patients' problems.	1	2	3	4	5
102.	Acknowledge urgency in making decision / problem solving to avoid unexpected consequences.	1	2	3	4	5
103.	Give priority to solve the problems by its acuity, severity or condition.	1	2	3	4	5
104.	Display creativity through offering new ideas or unique solution of a problem.	1	2	3	4	5
105.	Take risk to make decision in critical condition.	1	2	3	4	5
106.	Evaluate context/condition that may influence your decision making.	1	2	3	4	5
107.	Encourage patient/family to participate in decision making.	1	2	3	4	5
108.	Honestly accept accountability for the results of own decision making.	1	2	3	4	5

No	Item statements	Response Rate				
		1	2	3	4	5
109.	Use lesson learned from previous decisions to improve decision making skills.	1	2	3	4	5
110.	Identify issues or problems contribute to professional advancement.	1	2	3	4	5
111.	Provide plans/recommendations on particular areas of nursing practices.	1	2	3	4	5
112.	Act as collaborator for working with others team members that support to professional interest.	1	2	3	4	5
113.	Encourage professional relationship within and between the professional teams.	1	2	3	4	5
114.	Act as role model of other nurses/nursing students.	1	2	3	4	5
115.	Search the opportunity for personal development to meet future challenges.	1	2	3	4	5
116.	Support others nurses for professional and individual development.	1	2	3	4	5
117.	Cooperate with other team members to ensure safety workplace of patients and staffs.	1	2	3	4	5
118.	Help the teams/colleagues to develop clinical guidelines, consistent with standard nursing practice.	1	2	3	4	5
119.	Demonstrate nursing competence when working with multidisciplinary team.	1	2	3	4	5
120.	Seek opportunity to present new knowledge to the public audience.	1	2	3	4	5
121.	Develop new knowledge through research/innovation in nursing.	1	2	3	4	5
122.	Inspire other nurses to be moral agents.	1	2	3	4	5
123.	To be active member of the nursing organization.	1	2	3	4	5
124.	Speak on behalf of the nursing professional interest.	1	2	3	4	5

Thank you for your kind cooperation

Appendix E

The 92-Item RN-CLS for Each Factor after EFA (Bangla and English)

Items	Component and Items (Bangla)	Components and Items in English
C-1	**নরিূপণ ও মূল্যায়ন**	**Assessment and Evaluation**
1	বভিন্নি পর্যবক্ষেণ কৌশল ব্যবহাররে মাধ্যমে প্রতটিি রোগীর শারীরকি ,মানসকি ,সামাজকি ,এবং ক্রয়িামূলক অবস্থা গভীরভাবে পর্যবক্ষেণ এবং মূল্যায়ন করে থাকি	Conduct in-depth assessment of each patient (physical, mental, social, and functional status) using different methods/ techniques.
3	প্রতটিি রোগীর পরোক্ষ-প্রত্যক্ষ তথ্য সংগ্রহ ও পর্যবক্ষেণরে মাধ্যমে তার সবো প্রদানরে বভিন্নি দকি গুলো নর্িধারণ করে থাকি	Collect subjective and objective data for each patient to formulate nursing diagnosis.
4	রোগীর য কোন ক্লনিকিাল পরবির্তনকে সংবদেনশীলতার সাথে গুরুত্ব দয়িে প্রয়োজন অনুযায়ী চলমান সবো সংশোধন বা পরবির্তন করে থাকি	Response sensitively to any clinical change of the patients as needed to modify the intervention.
6	রোগীর সম্ভাব্য ঝুঁকি সমূহ নরিূপনে ও প্রতকিারে উপযুক্ত ব্যবস্থা নইে	Foresee potential risk of a patient with appropriate remedies.
7	রোগীদরে গুরুতর স্বাস্থ্য সমস্যা শনাক্ত করতে সৃজনশীল মূল্যায়ন কৌশল সমূহ ব্যবহার করি	Use creative assessment technique to diagnose critical health problems of the patients.
8	রোগীর স্বাস্থ্য /রোগ সম্পর্কতি অপরহিার্য তথ্য সমূহ যথাযথ ভাবে যাচাই করে নার্সংি কয়োর প্রদান করে থাকি	Verify patient's health/disease related essential information that is pertinent to nursing intervention.
9	রোগীর রোগ বষিয়ক ক্লনিকিাল সদিান্ত/ব্যবস্থা গ্রহনে , রোগরে মূল কারণ গুলো নর্িণয় করতে চষ্টো করি	Draw conclusion of a patient's problem with etiological amenable to nursing intervention.
31	রোগীর শারীরকি মূল্যায়ন এবং অসুস্থতার উপলব্ধি উপর ভত্তিি করে, আরোগ্য অগ্রগতি মূল্যায়ন করে থাকি	Evaluate patient's prognosis based on physical assessment and illness perception.
33	প্রতটিি রোগীর ক্লনিকিাল অগ্রগতি মূল্যায়নে রুটনি এবং নয়িমতি ফলো-আপ করে থাকি	Perform routine and sub-sequent follow-up of each patient to evaluate the clinical prognosis or progress.
34	ক্লনিকিাল তথ্য বশি্লষেণে প্রাসঙ্গকি কৌশল ও নর্িদষ্টি ইন্ডকিটেরে ব্যবহার করি	Use certain data analysis techniques relevant to specific clinical outcomes.
35	ক্লনিকিাল সূচক কংিবা অগ্রগতরি মূল্যায়নে নর্িদষ্টি বজ্ঞৈানকি সরঞ্জাম বা ডভিাইস; যমেন ক্লনিকিাল চকে লস্টি বা প্রতবিদেন ব্যবহার করি	Use specific tools such as clinical index, check list or report to evaluate clinical progress of patients.
38	রোগীর যত্ন বষিয়ে য কোন পরবির্তন বা আপডটেরে প্রয়োজনীয়তা চহ্নিতি করণ সহ প্রয়োজনীয় ব্যবস্থা গ্রহন করি	Identify the patient's needs for any changes or updates of patient care require to further improvement.
40	সবো সংক্রান্ত বষিয়ে রোগীর সন্তুষ্টি এবং কার্যকারতিার বষিয়ক প্রতক্রিয়িা ও সুপারশি গ্রহণ করি	Receive patient's feedback/ recommendation of satisfaction and effectiveness of care.
41	চলমান সবো পদ্ধতরি মান উন্নয়নে, ইহার গ্যাপ সমূহ খুঁজে বরে করতে চস্টো করি	Evaluate the existing care procedures/guidelines to find out gaps for improving current practices.
C-2	**রোগী কন্দ্রকি সবো দান**	**Patient-Centered Intervention**
5	রোগীর বশিষে চাহদিা গুলো চহ্নিতি করে, প্রয়োজনীয় সু-নর্িদষ্টি সবো প্রদানরে ব্যবস্থা করি	Identify special needs of a patient, requiring a specific nursing intervention.
10	প্রতটিি রোগীর সবোর গুনগত মান তীক্ষ্ণ ভাবে পর্যবক্ষেণ ও ফলোআপ করে থাকি	Utilize a critical inquiry/follow-up of each patient to evaluate the effectiveness of patients care.
11	রোগীর অনুভূত সমস্যা বা প্রয়োজন গুলোকে গুরুত্ব দয়িে	Prioritize nursing intervention as appropriate to patient's feeling of needs

Items	Component and Items (Bangla)	Components and Items in English
	প্রয়োজনীয় ব্যবস্থা নেই	
12	রোগের ক্ষেত্রে রোগীর নিজের অথবা তার পরিবারের লোকদের মূল্যবোধ ও বিশ্বাসকে সম্মান করি	Deal for the patients/families with respect to their values and beliefs.
13	রোগীর যত্নে তার নিজের অথবা পরিবারের লোকদের সম্পৃক্ত করতে সহায়তা প্রদান করি	Facilitate patients/families involvement in planning and implementing patient care.
14	রোগীর সেবা গ্রহণের ব্যপারে তার নিজের ও পরিবারের সিদ্ধান্তকে সমর্থন করি	Support patients/families decisions on patients' care.
15	প্রতিটি রোগীকে তার অসুস্থতা বা সেবা সংক্রান্ত সিদ্ধান্ত গ্রহণে সময়মত পূর্ণ তথ্য প্রদান করে থাকি	Share complete information to the patients/families in time to facilitate their choice of decisions.
16	রোগীর স্বাস্থ্য সমস্যা বিষয়ে তার জ্ঞান , দক্ষতা বা ক্ষমতাকে বিশেষ ভাবে বিবেচনা করে থাকি	Assess patient's knowledge, skills or abilities in managing specific health problems.
17	রোগীর সমস্যা বা প্রয়োজনের প্রতি সাড়া দিতে দ্রুত যথাযথ পদক্ষেপ গ্রহন করি	Respond promptly and appropriately to patients' needs.
18	রোগীর অবস্থার পরিবর্তন অথবা চাহিদা অনুযায়ী সেবা প্রদান করে থাকি	Update patient care with altered condition or additional intervention as needed.
19	রোগীর মঙ্গলার্থে স্বাস্থ্য সহযোগী দল কিংবা রোগীর লোকের কে পূর্ণ সহযোগীতা করে থাকি	Collaborate with health care team and patients' families for the benefit of patients.
60	আমার প্রতি রোগীর বিশ্বস্ততা বা নির্ভরযোগ্যতা বাড়াতে, রোগীর সাথে প্রতিশ্রুতি রক্ষায় চেষ্টা করি	Follow commitment to patients for making you trustworthy and dependable to the patients.
C-3	**গুণগত মান ও নিরাপত্তা**	**Imply Quality and Safety**
20	রোগীর রোগ উপসর্গ ও অবস্থার ভিত্তিতে নার্সিং কেয়ার পরিকল্পনা প্রনয়ন করি	Design specific nursing care plan based on patient's sign-symptoms and clinical evidence.
21	প্রাসঙ্গিক ও সঠিক তথ্যের ভিত্তিতে রোগীর ব্যপারে ক্লিনিকাল সিদ্ধান্ত গ্রহন করে থাকি	Apply valid and relevant information to make clinical decision on a patient condition.
22	রোগীর মানসম্মত সেবা প্রদানে, সমসাময়িক জ্ঞান ও দক্ষতাকে কাজে লাগাই	Apply up dated knowledge and skills to ensure quality patient care.
22	রোগীর স্বাস্থ্য নিরাপত্তা নিশ্চিত করতে সু-নির্দিষ্ট নিরাপত্তা ব্যাবস্থা গ্রহন করে থাকি	Use specific measure/safety procedure to ensure patient safety such as- clinical guidelines, checklist, diagnosis
24	রোগীর নিরাপত্তা বিধান বা সম্ভাব্য ঝুকি প্রতিরোধে বিভিন্ন নিরাপত্তা টুল বা ডিভাইস ব্যাবহার করে থাকি	Strictly use patient safety rights/devises that promote safety or prevent potential risk.
25	রোগী ও বাস্তব অবস্থার ভিত্তিতে ক্লিনিকাল সিদ্ধান্ত সমূহ বিবেচনা করি	Make clinical judgment based on evidences.
26	রোগীর নিরাপত্তা বিষয়ে অন্যান্য নার্সদের কেও সচেতন করে থাকি	Discuss with other nurses to be aware of patient safety.
27	রোগী সম্পর্কে সঠিক সিদ্ধান্ত গ্রহণের পদক্ষেপ হিসেবে, সতর্কতার সাথে সব তথ্য নিরূপণ ও বিশ্লেষণ করে থাকি	Appraise carefully all patient related data to make an authentic decision.
28	নার্সিং কেয়ার প্রদানে রোগীর নিরাপত্তা বিষয়ে বিশেষ সচেতনতা অবলম্বন করি	Provide nursing care with patient safety awareness.
29	রোগী কিংবা সহকর্মীদের অপ্রত্যাশিত ঝুঁকি মুক্ত রাখতে, আগ থেকেই ঝুঁকি পূর্ণ বিষয় গুলো সনাক্তকরণ সহ ব্যবস্থা নিয়ে থাকি	Maintain early risk detection screening to prevent anticipated risk of patients/staffs.
C-4	**যত্নশীল সম্পর্ক/থেরাপিউটিক সম্পর্ক**	**Caring Relationship**
52	প্রতিটি রোগীর সমস্যা সমূহ অত্যন্ত সহানুভূতিশীল ভাবে শোনে থাকি	Demonstrate empathetic listening to patients' problems.
53	মানবিক মূল্যবোধ বিবেচনায়, প্রতিটি রোগীর প্রতি যথাযথ	Respect human valuues of each patient.

Items	Component and Items (Bangla)	Components and Items in English
	সম্মান প্রদর্শন করে থাকি	
55	রোগীর মনকে হৃদয়ঙ্গম করতে, তাঁদের সাথে একটি ভাল সম্পর্ক গড়ে তুলতে চেষ্টা করি	Develop good rapport with the patient's to understand their mind.
57	রোগীর অসুস্থতা ও চিকিত্সা সম্পর্কে যে কোন নেতিবাচক প্রতিক্রিয়া সততার সাথে বিবেচনা করি	Accept/understand patients' negative reaction to their illness or treatment concern.
58	রোগীর কিংবা পরিবারের যে কোন নেতিবাচক প্রতিক্রিয়ায়, আমি ইতিবাচক মৌখিক বা শারিরীক ভাষা প্রদর্শন করি	Positively respond to patient/family's negative reactions using verbal and nonverbal approaches.
85	নিজের ভুল-ত্রুটি গুলোকে - সততার সাথে রোগী অথবা দলের সদস্যদের কাছে স্বীকার করি	Honestly accept own mistake towards patients/ team members for any error.
86	রোগীর অধিকার যাতে হরণ না হয়, সে ব্যপারে প্রতিশ্রুতিশীল থাকি	Protect patients from being violations of their rights.
87	রোগীর যে কোন ধরণের গোপনীয়তা বা বিশ্বস্থতা সংরক্ষণ ও বজায় রাখি	Maintain patient's privacy/confidentiality.
C-5	**আন্তঃ ডিসিপ্লিনারি সহযোগিতা**	**Interdisciplinary Collaboration**
63	দলের অন্যান্য সদস্যদের ব্যক্তিস্বতন্ত্রতা, নিজ নিজ দায়িত্ব ও দক্ষতাকে সম্মান প্রদর্শন করি	Accept uniqueness of other group members in terms of values, responsibilities, and expertise.
64	দলের সাধারণ লক্ষ্য অর্জনে, আমি সকলের সাথে একত্রে কাজ করতে প্রতিশ্রুতিশীল	Work together with a commitment to achieve the common goals/interests of the team.
65	দলের অন্য সদস্যদের পৃথক কিংবা সমষ্টিগত মতামতকে সম্মান করি	Encourage individual and collective opinions of others group members.
66	দলের অন্য সদস্যদের কাজের কৌশলগত পার্থক্য কে সম্মানের সাথে গ্রহণ করি	Accept the differences of working styles of others in the team.
67	দলের কার্যক্রমে নিজের সক্রিয় অংশগ্রহণকে দায়িত্ব হিসেবে অনুভব করি	Contribute actively to the team activities with a feeling of own responsibility.
69	নিজ মতামত প্রত্যাখ্যান কিংবা সংশোধনে, দলের সদস্যদের যে কোন সমালোচন সাদরে গ্রহণ করি	Accept criticism of team members to modify or reject your ideas.
73	নিজের যে কোন ভুলের জন্য, অপ্রাসঙ্গিক যুক্তি না দেখিয়ে ক্ষমা প্রার্থনা করি	Ask apology for own mistakes without showing any irrelevant argument.
74	দলের কার্যক্ষমতা বা পারফরমেন্স বাড়াতে, ক্লিনিকাল বিষয়ে নিজের জ্ঞান বা অভিজ্ঞতা অন্যদের শেয়ার করি	Share clinical issue, knowledge or experience to build team efficacy.
C-6	**যোগাযোগ দক্ষতা**	**Skills of Communication**
75	রোগী/পরিবারের সদস্যদের নিকট রোগী সম্পর্কে সঠিক তথ্য যথা সময়ে প্রদান করি	Provide timely and truthful information to patients.
77	রোগীর কথা বা অনুভূতি ভালভাবে বুঝতে, যথেষ্ট সময় নিয়ে তাদের সঙ্গে কথা বলি	Provide sufficient time to talk the patient for better understanding.
78	প্রতিটি রোগীকে তার নিজস্ব অবস্থান থেকে বুঝতে চেষ্টা করি	Understand patients from their own points of view.
80	আত্মবিশ্বাস ও সাবলিল কথোপকথন জন্য- নিজস্ব ও প্রকৃত ভাবে বোঝে-শুনে কথা বলি	Speak with genuine understanding to perform confident/clear conversations.
81	কথা বলার সময়, শ্রোতার ধরন অনুযায়ী- পেশাগত ও আঞ্চলিক ভাষার সমন্বয় করে কথা বলি	Bridge professional and lay language as appropriate to deal with the audience.
82	কোন ধরনের ভুল বোঝাবুঝি এড়াতে, রোগী/দলের সদস্যদের নিকট হতে ফিডব্যাক বা প্রতিক্রিয়া গ্রহন করি	Use feedback from the patients or group members to avoid any misunderstanding.
83	কোন বিষয়ে ঐক্যমত হতে- নিজের, রোগীর অথবা সহকর্মীদের মূল্যবোধ ও বিশ্বাসকে সমন্বয় করে থাকি	Negotiate own values/beliefs with the patients/colleagues to find mutual conclusion.
C-7	**সেবা দানে পেশাদারী মূল্যবোধ**	**Professional Values in Caring**

Items	Component and Items (Bangla)	Components and Items in English
89	রোগীর সবো প্রদানে- তার নপেথ্যরে অবস্থান; যমেন- ধর্ম, জাতি বা সামাজকি অবস্থানকে বেবিচেনা করি না	Provide care to all patients, regardless of background identity (race, religion or social status).
91	রোগীর সবোয়- মমত্ববোধ, মস্তস্কি এবং হস্তকে প্রান্তকিকরনরে মাধ্যমে আন্তরকি ভাবে চষ্টো করি	Provide care with empathy and alignment of heart, head and hand.
92	রোগীর মঙ্গলার্থে, যে কোন জটলি পরস্থিতিতেও সর্বোচ্চ সহনশীলতা প্রদর্শন করি	Exhibit highest tolerance in critical situations for the benefit of patients.
94	যে সব রোগী নজিদেরে কথা নজিরো বলতে পারে না, তাদরে জন্য অ্যাডভোকসেি করে থাকি	Advocate for the patients who cannot speak for themselves.
95	প্রতকিূল অবস্থাতেও স্ট্যান্ডার্ড নার্সং কয়োর প্রদানরে চষ্টো করি	Conform to standard of nursing practice even in difficult situation.
C-8	**সদিান্ত গ্রহণ ও সমস্যা সমাধান**	**Decision-Making and Problem-Solving**
96	সমস্যা সমাধানে- সমস্যার সাথে সম্পর্কতি সকল পরোক্ষ ও প্রত্যক্ষ তথ্য সংগ্রহ ও বশি্লষেণ করে থাকি	Exclusively collect and analyze the subjective and objective data related to the problems needed to be solved.
97	কোন সধিান্ত প্রমানতি তথ্যরে ভত্তিতি গ্রহন করে থাকি	Use evidences for decision making.
98	রোগীর অবস্থার তীব্রতা মূল্যায়নে- রোগ উপসর্গ ও নজিস্ব পর্যবক্ষেণ কে ভত্তিি হসিবে ব্যবহার করি	Evaluate patient's severity based on patient's symptoms including observation.
99	কোন সুস্পষ্ট যুক্তি ছাড়া- রোগীর সমস্যা সম্পর্কে বাঁধাধরা সদ্ধিান্ত গ্রহন করি না	Don't make any stereotype decision about patient's problems without a clear justification.
100	কোন সদ্ধিান্ত গ্রহন কংিবা যাচাইয়রে পূর্বে- এ বষিয়ে অপররে মতামত শুনে থাকি	Listen to opinions of person involved before making/validating a decision.
101	রোগীর যে কোন ক্লনিকিাল জটলি সমস্যা সমাধানে, দ্রুত সদ্ধিান্ত গ্রহন করি	Making clinical decision to solve complicate patients' problems.
102	অপ্রত্যাশতি বড়িম্বনা এড়াতে- অগ্রাধকিার ভত্তিতিে জরূরী বষিয়টি আগে সমাধান করতে উদ্যত হই	Acknowledge urgency in making decision / problem solving to avoid unexpected consequences.
103	সমস্যার তীক্ষ্ণতা, তীব্রতা ও অবস্থা ভদেে অগ্রাধকিার ভত্তিতিে সমাধান করে থাকি	Give priority to solve the problems by its acuity, severity or condition.
104	সৃজনশীল কংিবা নতুন ধারনা প্রদানরে মাধ্যমে, সমস্যা সমাধানে নজিরে অনন্যতা প্রদর্শন করে থাকি	Display creativity through offering new ideas or unique solution of a problem.
105	করমক্ষত্রেে জটলি অবস্থাতেও- সদ্ধিান্ত গ্রহনরে ঝুঁকি নইে	Take risk to make decision in critical condition.
106	সদ্ধিান্ত গ্রহণকে প্রভাবতি করতে পারে, এমন পারপিার্শ্বকিতা ও অবস্থাকে বেবিচেনায় রাখি	Evaluate context/condition that may influence your decision making.
107	সদ্ধিান্ত গ্রহণে রোগী/পরবিাররে লোকদরে অংশ গ্রহণকে উ□সাহ প্রদান করি	Encourage patient/family to participate in decision making.
108	নজি সদ্ধিান্তরে যে কোন ধরণরে ফলাফলরে জন্য- জবাবদহিতি গ্রহণ করি	Honestly accept accountability for the results of own decision making.
109	সদ্ধিান্ত গ্রহণে দক্ষতা বাড়াতে, পূর্ববর্তী সদ্ধিান্ত থকেে শখিছেি এমন অভজি্ঞতা কে কাজে লাগাই	Use lesson learned from previous decisions to improve decision making skills.
110	নার্সং পশোর অগ্রগতিতে অবদান রাখে - এমন বষিয় বা সমস্যা গুলো চহ্নিতি করতে আগ্রহ প্রকাশ করি	Identify issues or problems contribute to professional advancement.
111	ক্লনিকি্যাল নার্সং কয়োররে মান উন্নয়নে- বভিন্নি বষিয়রে উপর উন্নয়ন পরকিল্পনা গ্রহণ বা পরামর্শ প্রদান করি	Provide plans/ recommendations on particular areas of nursing practices.
112	পশোর উন্নয়নরে স্বার্থে, অন্য দলরে সদস্যদরে সমর্থনপুষ্ট বা সহযোগী হসিবে কাজ করি	Act as collaborator for working with others team members that support to professional interest.
113	নজি পশো এবং পশোদারী দলগুলোর মধ্যে সম্পর্ক উন্নয়নকে বশিষে ভাবে উ□সাহতি করি	Encourage professional relationship within and between the professional teams.

Items	Component and Items (Bangla)	Components and Items in English
114	অন্যান্য নার্স অথবা নার্সিং শিক্ষার্থীদের জন্য- রোল মডেল হিসেবে নিজে কাজ করি	Act as role model of other nurses/nursing students.
115	নার্সিং পেশার ভবিষ্যৎ চ্যালেঞ্জ মোকাবেলা ও উন্নয়নে- ব্যক্তিগত ডেভেলপমেন্টের সুযোগ সন্ধান করি	Search the opportunity for personal development to meet future challenges.
C-9	**পেশাগত উন্নয়ন**	**Professional Development**
116	পেশাগত উন্নয়নে-অন্যান্য নার্সদের সমর্থন এবং সহযোগিতা করি	Support others nurses for professional and individual development.
117	রোগী এবং স্টাফদের জন্য নিরাপদ কর্মক্ষেত্র নিশ্চিত করতে- দলের সদস্যদের সঙ্গে পূর্ণ সহযোগিতা করি	Cooperate with other team members to ensure safety workplace of patients and staffs.
118	নার্সিং কেয়ার গাইডলাইন ডেভেলপ অথবা এর মান উন্নয়নে - দল ও সহকর্মীদের সাহায্য করি	Help the teams/colleagues to develop clinical guidelines, consistent with standard nursing practice.
119	বিভিন্ন মাল্টিডিসিপ্লিনারি দলের সঙ্গে কাজ করতে- নার্সিং পেশার নিজস্ব কর্মদক্ষতাকে প্রদর্শনের চেষ্টা করি	Demonstrate nursing competence when working with multidisciplinary team.
120	পাবলিক অডিয়েন্স, পেশাগত নতুন জ্ঞান উপস্থাপনের সুযোগ গ্রহণ করতে চেষ্টা করি	Seek opportunity to present new knowledge to the public audience.
121	নার্সিং গবেষণা /উদ্ভাবনের মাধ্যমে নতুন জ্ঞান বিকাশ ও আহরনের চেষ্টা করি	Develop new knowledge through research/innovation in nursing.
122	নৈতিকগুণ সমৃদ্ধ হতে অন্যান্য নার্সদের কে অনুপ্রাণিত করি	Inspire other nurses to be moral agents.

Appendix F

Participant Consent Form

Research Title: Development and Psychometric Evaluation of Registered Nurses' Clinical Leadership Scale (RN-CLS) in Bangladesh.

Researcher: Md. Abdul Latif
The Doctoral Student, Faculty of Nursing, Prince of Songkla University
Hat-Yai, Thailand. Mobile: 88 01798592626, email; ablatif15@gmail.com

Dear Participants

This study will conducted by Md. Abdul Latif, PhD in Nursing Student (International Program), Faculty of Nursing, Prince of Songkla University, Thailand, under the supervision of Assoc. Prof. Dr. Nongnut Boonyoung. The title of the study is "Development and Psychometric Evaluation of Registered Nurses' Clinical Leadership Scale (RN-CLS) in Bangladesh". You are cordially invited to take part in the study as most important and valuable participants. The aims of the study are to develop a measurement scale and test the validity and reliability will be used to assess the Clinical Leadership Skills of Registered Nurses in Bangladesh.

In this study, you participation is completely voluntary and signing to this consent form will reflect that you are consciously willing to take part in the study. However, your decision about whether or not to participate will not affect your career or your organization and you are free to withdraw your consent or discontinue your participation at any time. There will be no additional cost to you for participating in this study and no compensation or reimbursement will be available from the researcher. If you have any inquiry, you are allowed to ask any questions at any time with feel free. All of the information you provide will be kept confidential. This research result required in scientific presentations and publications, but precautions will be taken to make sure that you are not identified by name.

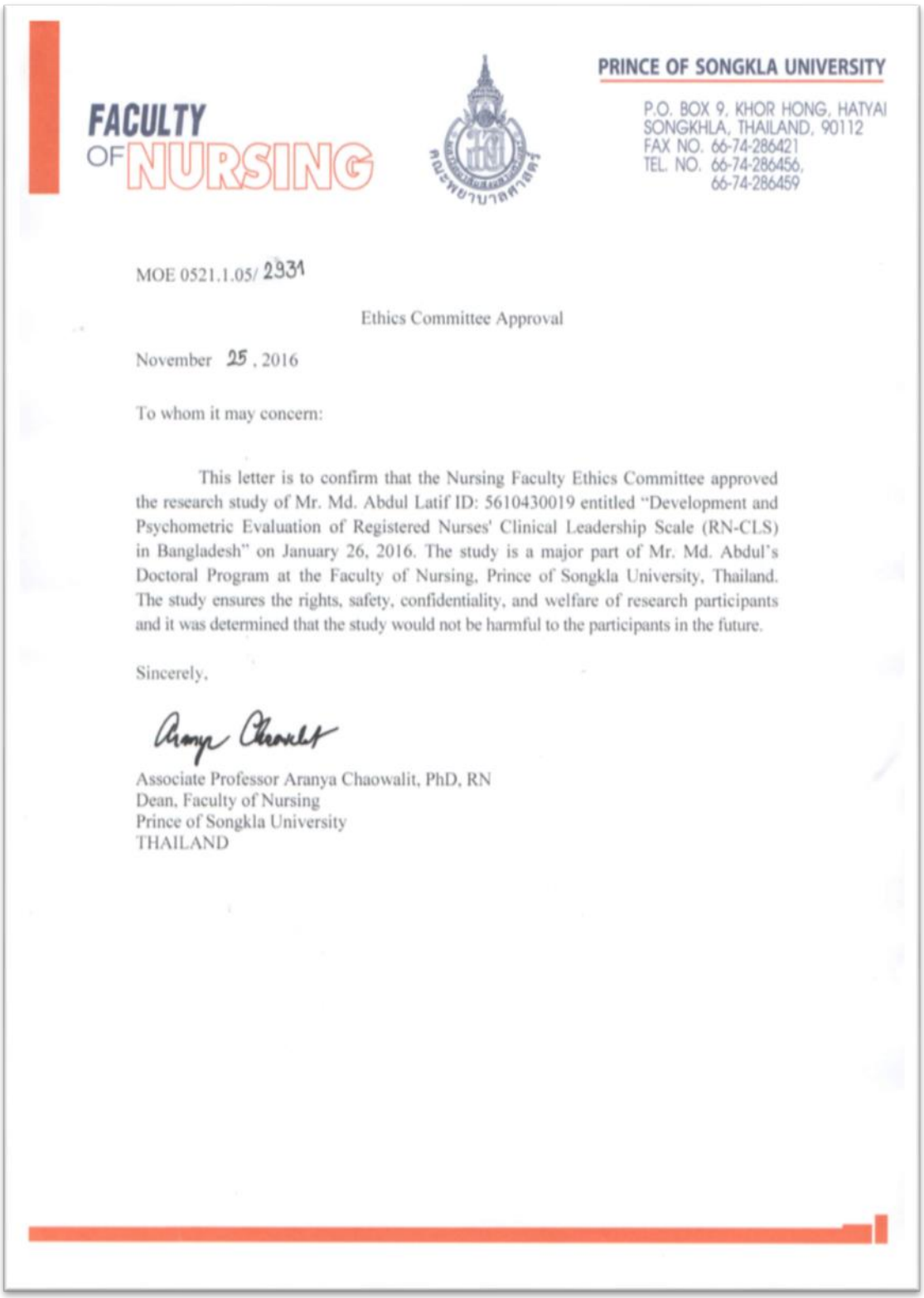
Your signature below indicates that you have decided to volunteer as a research participant of this study, and you have read and understood the information provided above. You will be given a signed and dated copy of this form to keep, along with any other printed materials deemed necessary by the researcher.

Thank you for your willingness and cooperation to participate in this study.

Name & Signature of Participant	Name and Signature of Researcher
…….	Md. Abdul Latif
Phone	Phone : +88-01798-592626
Email.	Email. ablatif15@gmail.com

Appendix G

IRB Permission Letter for Field Test Data Collection



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/ 2931

Ethics Committee Approval

November 25, 2016

To whom it may concern:

This letter is to confirm that the Nursing Faculty Ethics Committee approved the research study of Mr. Md. Abdul Latif ID: 5610430019 entitled "Development and Psychometric Evaluation of Registered Nurses' Clinical Leadership Scale (RN-CLS) in Bangladesh" on January 26, 2016. The study is a major part of Mr. Md. Abdul's Doctoral Program at the Faculty of Nursing, Prince of Songkla University, Thailand. The study ensures the rights, safety, confidentiality, and welfare of research participants and it was determined that the study would not be harmful to the participants in the future.

Sincerely,

Aranya Chaowalit

Associate Professor Aranya Chaowalit, PhD, RN
Dean, Faculty of Nursing
Prince of Songkla University
THAILAND

Appendix H

Reliability Test of RN-CLS from Pre-Test Study

Scale: ALL VARIABLES			
Case Processing Summary			
		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.967	124

Reliability Statistics		
Pre-determined components	Cronbach's Alpha	N of Items
1	.812	10
2	.828	9
3	.753	12
4	.723	10
5	.862	9
6	.685	12
7	.775	12
8	.733	9
9	.846	12
10	.863	14
11	.853	15

Item-Total Statistics <.30 for 19 Items				
Items No	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
item2	476.8333	2247.109	.271	.967
item21	477.0667	2250.202	.212	.968
item30	476.8000	2258.924	.166	.968
item31	477.6333	2256.102	.174	.968
item34	477.5333	2258.809	.148	.968
item37	476.5667	2285.220	-.131	.968
item44	476.8667	2256.051	.159	.968
item58	477.1333	2257.223	.206	.968
item59	477.3000	2296.907	-.200	.969
item66	476.6000	2276.248	-.043	.968
item67	476.4000	2271.559	.012	.968
item82	476.8333	2259.730	.172	.968
item88	476.5000	2259.845	.202	.967
item104	477.2000	2257.476	.182	.968
item105	477.1333	2259.568	.103	.968
item106	477.1667	2242.489	.244	.968
item111	476.8000	2246.234	.246	.968
item117	476.4000	2265.076	.109	.968
item124	475.7667	2261.013	.207	.967

Appendix I

A Summary Table of Statistical Assumpti**ons**

Table

The Assumptions of Statistical Analysis for Exploratory Factor Analysis (N=627)

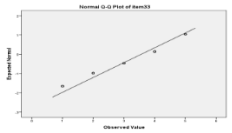
Assumptions		Number of Items Used			Interpretation
		124 items	102 items	92 items	
1.	Outliers	Outlier cases: 20, 45, 57, 108, 153, 155, 190, 277, 290, 506, and 623.	No Outliers	No Outliers	11 cases were excluded with p-value .001 using Mahalanobis Distance Test (Tabachnick & Fidell, 2007).
2.	Normality	Normal	Normal	Normal	Q-Q Plots, Normal Distributions (Ho, 2014)
3.	Linearity	Linear Relationship	Linear Relationship	Linear Relationship	P-P Plots found Leaner Relationship (Ho, 2014)
4.	Multicollinearity		r =.28-.72		No multicollinearity was detected (Field, 2005)
5.	Sample Adequacy	(n:item) 5.56:1	(n:item) 6.16:1	(n:item) 6.82:1	KMO = 0.916, sample size was adequate (Munro, 2005)
6.	Bartlett's Test of Sphericity	Approx. Chi-Square		42961.418	
		df		7626	(Munro, 2005)
		p		.000	

Appendix J

Assumptions of Factor Analysis

1. Outliers Test by Mahalanobis Distance with P=.001(Appendix I)

2. Normality (Normal Q-Q Plots)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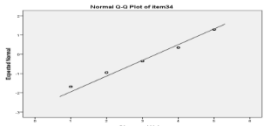
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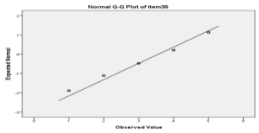
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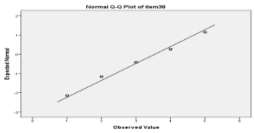
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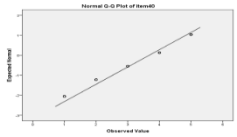
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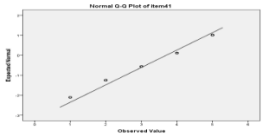
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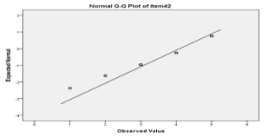
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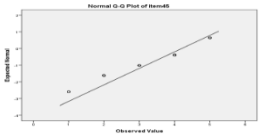
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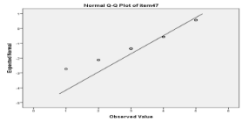
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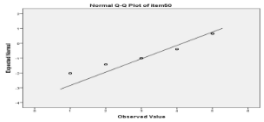
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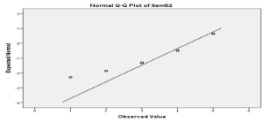
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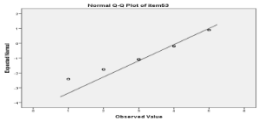
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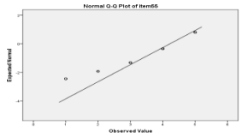
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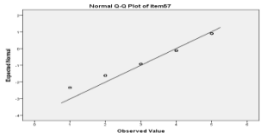
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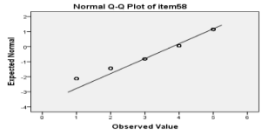
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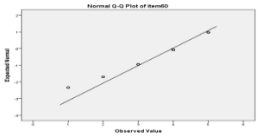
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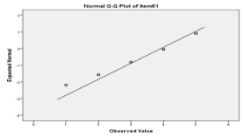
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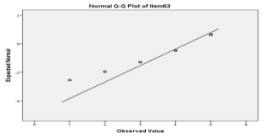
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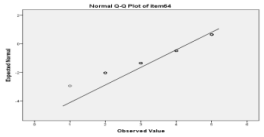
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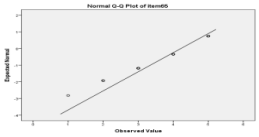
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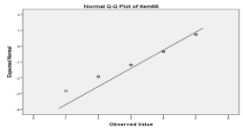
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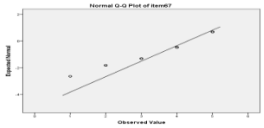
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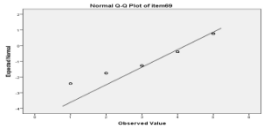
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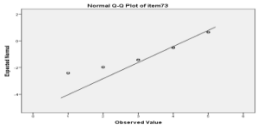
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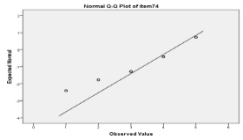
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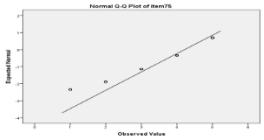
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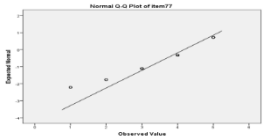
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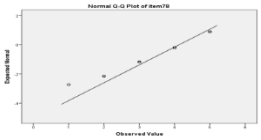
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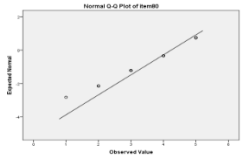
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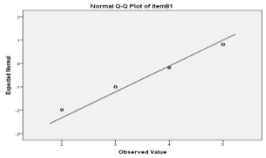
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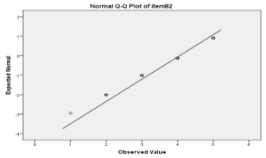
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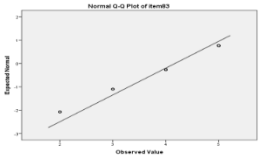
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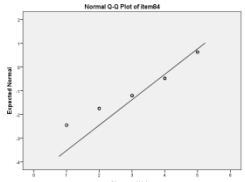
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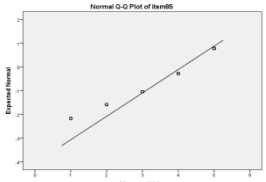
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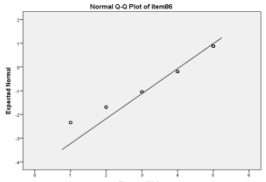
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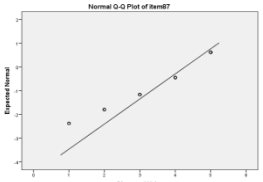
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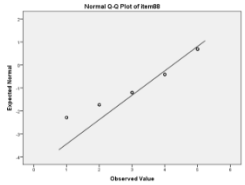
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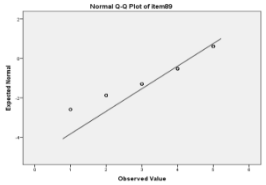
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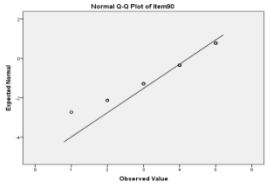
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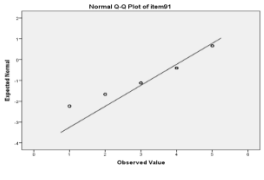
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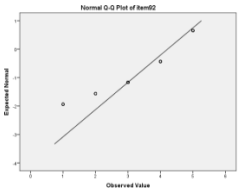

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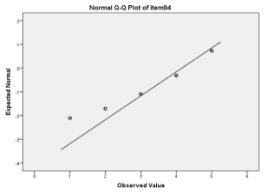

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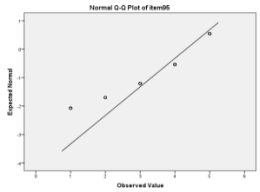

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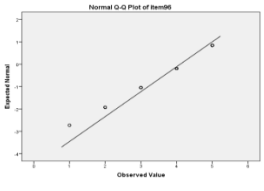

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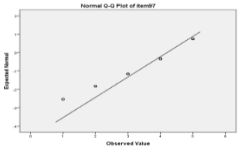

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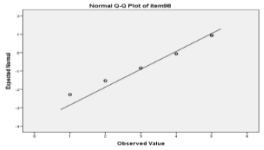

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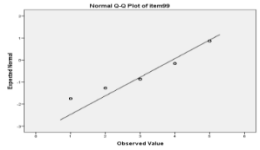

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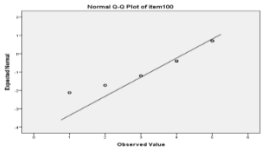

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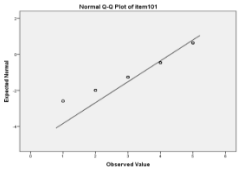

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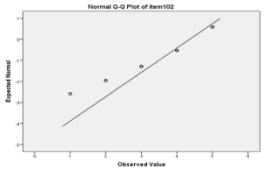

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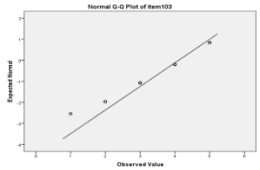

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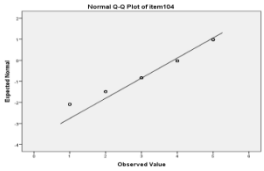

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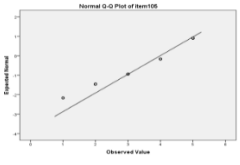

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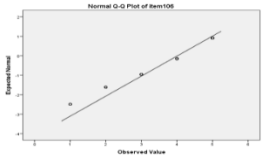

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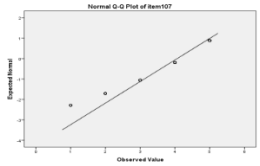

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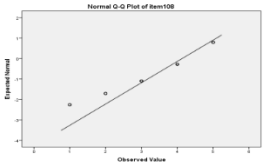

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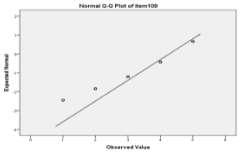

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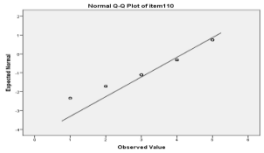

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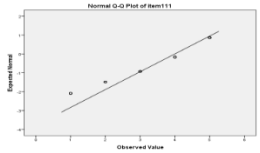

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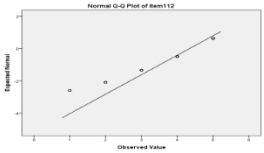

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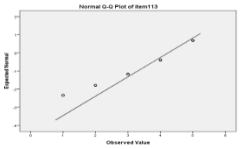

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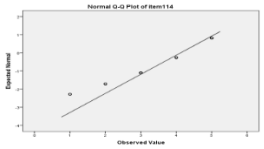

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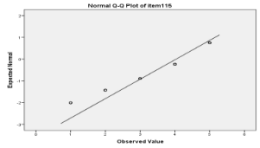

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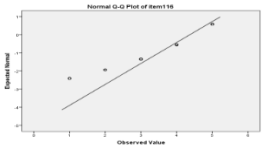

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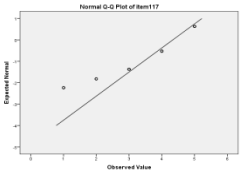

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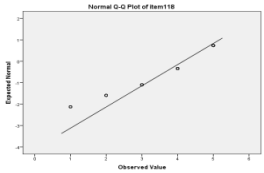

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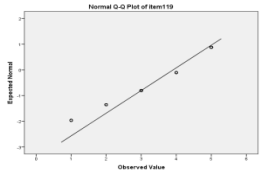

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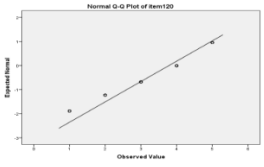

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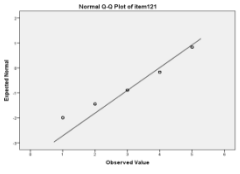

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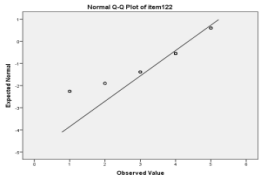

Item 122

Interpretations:

Appendix K

Assumptions of T-Test and Pearson's Correlation

Table. *The Assumptions of T-Test for Contrasted Group Analysis (N=30+30)*

Assumptions	Tests	Results	Interpretation
Normality	Histogram	Normal Histogram	The T-test assumptions met.
	Skewness/SE of .Skew.	<3.29 (Normal)	(Ho, 2014).
Homogeneity	Levene's Test	F- 1.052, p = 0.309	

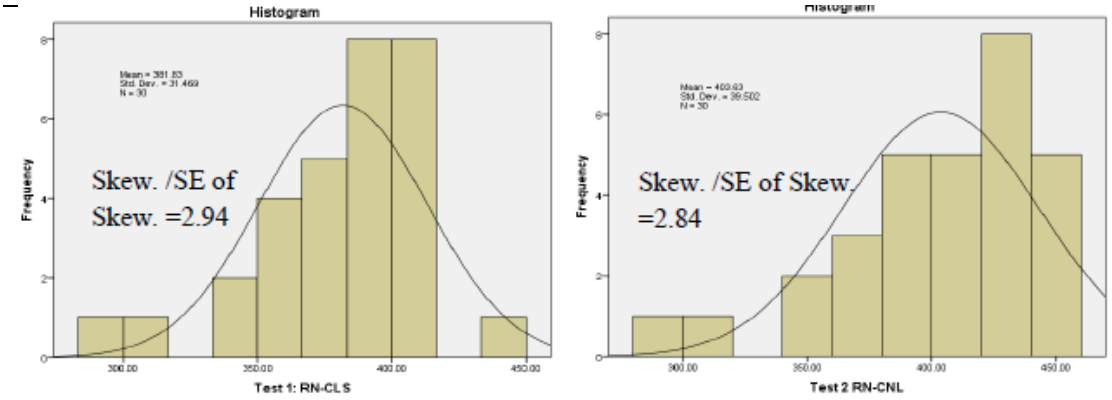

Figure: Distribution of Normality by in Two Contrasted Groups

Table. *The Assumptions of Pearson's Correlation (r) for Test Retest (N=30+30)*

Assumptions	Tests	Results	Interpretation
Normality	Q-Q Plots	Normal Plots	Assumptions of
Linearity	P-P Plots	Linear Relationship	Pearson's
Homoscedasticity	Scattered Plot	Homoscedasticity met (Two scores were relatively constant).	correlations were met (Ho, 2014).

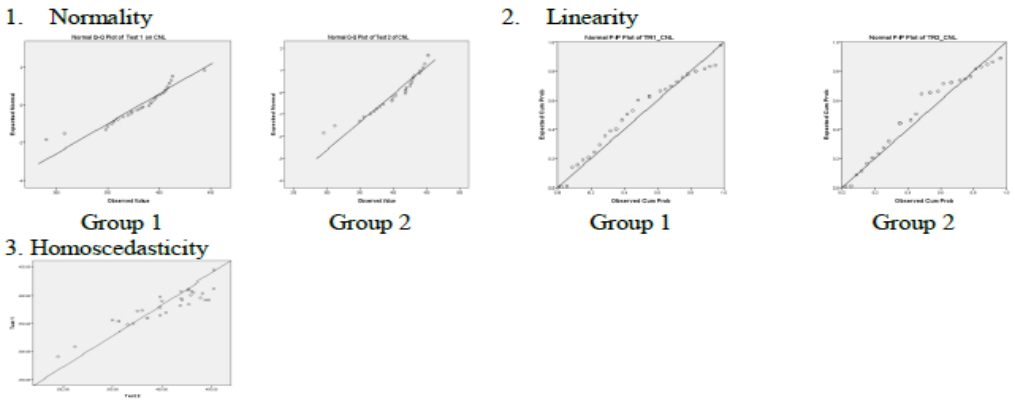

Figure: The Assumptions of Pearson's Correlation

Appendix L

Outputs of Exploratory Factor Analysis

Table

Comparisons Table of Factor Extractions by PCA with 8, 9 and 10 Factors Extortions with 102 Items and 9 Factors with 92 Items in Final Analysis (N=627)

Total Variance Explained										Interpretation of the Results
Component	Initial Eigenvalues (Max-Min)			Extraction Sums of Squared Loadings (Max-Min)			Rotation Sums of Squared Loadings (Max-Min)			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
8 Factors 102 items	21.34 to 2.53	20.92 to 2.48	20.92 to 47.62	21.32 to 2.53	20.92 to 2.48	20.92 to 47.62	10.52 to 3.90	10.31 to 3.83	47.62	Variance <50%, Number of items loadings, 6-23, Cutoff point .40, total unloaded items =13 and load items 89 items.
9 Factors 102 items	21.34 to 1.98	20.92 to 1.94	20.92 to 49.57	21.32 to 1.98	20.92 to1.94	20.92 to 49.57	10.52 to 3.89	10.31 to 3.81	49.57	Variance 50%, Number of Items Loadings, 5-20; Cutoff point .40, total unloaded items =8 and loaded items =94 items.
10 Factors 102 items	21.34 to 1.72	20.92 to 1.69	20.92 to 51.25	21.32 to 1.72	21.32 to 1.69	21.32 to 51.25	21.32 to 2.42	10.31 to 2.38	51.25	Factor 10 consisted with 4 items (4-20); Cutoff point .40, total unloaded items =5 and loaded items 97items
9 Factors 92 Items	20.02 to 1.94	21.52 to 2.08	21.53 to 52.06	20.05 to 1.94	21.56 to 2.08	21.56 to 52.06	9.54 to 3.73	10.25 to 4.01	52.06	9 Factors with cutoff point .40, total unloaded items =2 and loaded items 92items.

Appendix M

Inter-Factor Correlations of RN-CLS

	Mean	SD	AE	PCI	IQS	CR	IDC	SC	PVC	DMPS	PD
AE	51.92	10.46	1								
PCI	50.25	7.66	.64	1							
IQS	42.54	7.06	.46	.62	1						
CR	37.14	5.63	.26	.39	.24	1					
IDC	34.32	4.70	.43	.53	.42	.35	1				
SC	29.07	4.59	.42	.48	.35	.26	.41	1			
PVC	21.26	4.11	.12	.26	.17	.38	.24	.13	1		
DMPS	82.45	12.59	.29	.29	.18	.59	.29	.21	.39	1	
PD	28.91	5.19	.23	.23	.15	.39	.18	.16	.35	.46	1

Note: AE=Assessment and Evaluation, PCI= Patient-Centered Intervention, IQS= Imply Quality and Safety, CR= Caring Relationship, IDC=Interdisciplinary collaboration, SC= Skills in Communication, PVC=Professional Values in Caring, DMPS= Decision- Making and Problem-Solving, and PD= Professional Development.

Appendix N

Review of Existing Tools Related to Clinical Nurse Leadership

Tools and Authors	Objectives	Methods & Sample	Dimensions and items	Psychometric Tests
Clinical Leadership Competency Tool (CLCT); NHS, UK-(2012)	To assess the clinical leadership competency of healthcare professionals in UK.	Cross disciplinary consultation with of staff, patients, clinicians, professional bodies and academics, and with the input of the Department of Health.	40-item, 3-point Likert's scale.. Five dimensions: demonstrating personal qualities, working with others, managing services, improving services, and setting direction.	No psychometric evaluation is provided Observations: The dimensions are relevant to clinical nurses. However, not specifically designed for nursing. Only one study found that used this scale. Cultural variations.
Clinical Leadership Survey (CLS); Patrick et al., 2011, Canada.	To assess the clinical leadership behaviors of staff nurses in acute care settings.	Kouzes & Posner (1995) transformational leadership (TL)used as theoretical framework. Online Survey from the 480 staff nurses with 46% return rate used for data analysis.	15 items with 5-point Likert scale. Five dimensions of TL: CL for challenging the process, enabling others to act, inspiring share vision, modeling the way, and encouraging the heart	Performed CFA and Overall Cronbach alpha coefficient of CLS scale was 0.86. Although, it was specific to clinical nurse leadership. But, the number of items was very few for each component. Moreover, the contextually and culturally also deferred.
Self-efficacy scale for Clinical Nurses Leadership **(SE-CNL);** Gilmartin & Nokes, 2015; USA.	To assess the nurses' perception of their ability to function effectively as clinical nurse leader.	This study was a web-based survey of 1378 questions and only returned 197of RN in USA and analysis used N= 147.	56-items scale and the response format not reported. It measures 8 dimensions: population care, care planning, strategic leader, financial resources, management, continuing education, mobilizing others, professional leader and mentor.	Factor structured confirmed by PCA, but factor loading s not reported. The number of subjects for 56 items can consider as minimum (only 147). It was just pilot study and not used by any research.
Task and People Oriented Questionnaire (TPOQ); Joseph, (1968) in USA.	To identify how much leader emphasize task and relationship behaviors and how task behavior is related to relationship behavior.	Used the Theory of Leadership Behavior. (Task & People oriented Leadership). Used only, N =86 Nursing students.	18 Items for Likert type response format. Measure two aspects of leadership: Task oriented behaviors and People orientated behaviors.	Not reported. And no other study used this scale in later.
Self-Assessment Leadership Instrument **(SALI);** Smola, 1988 in USA.	To assess the leadership behaviors of nursing students.	Review of Leadership Theories and Literature and based on LBDQ & Leadership Behavior Tool.	40 items, 5-point Liker's scale measured four dimensions: Critical thinking & decision making, Interpersonal relationship, Group relations and Job relations.	Although. The psychometric evaluation of the scale was not reported; but this tool was used in many researches in nursing including the nursing students and staff nurses. The tool is very old and was developed in Western culture (USA).

Appendix O

List of the Experts in Different Areas

1. Experts for Content Validity

Name and Designation	Departments
1. Assoc. Prof. Dr. Wandee Suttharangsee	Department Of Psychiatric Nursing, Faculty of Nursing, Prince Of Songkla University, Hatyai, Songkla, Thailand
2. Assoc. Prof. Dr. Gunyadar Prachusilpa	Department of Nursing Administration, Faculty of Nursing, Chulalongkorn University, Bangkok, Thailand.
3. Mrs. Ira Dibra	Principal, BIRDEM Nursing College, Bangladesh; President, Bangladesh Nurses Association, Bangladesh.
4. Dr. Md. Mofiz Ullah	Lecturer, Nursing College, Khulna, Bangladesh; General Secretary, Bangladesh Diploma Nurses Association.
5. Mr. Md. Nurul Islam Farazi	Nursing Instructor and Clinical Specialist, Nursing College, Mymensingh, Bangladesh

2. Experts for Focus Group Guidelines Reviewing

Name and Designation	Departments
1. Assoc. Prof. Dr. Wandee Suttharangsee	Department of Psychiatric Nursing, Faculty of Nursing, Prince of Songkla University, Hatyai, Songkla, Thailand
2. Assoc. Prof. Dr. Praneed Songwathana	Department of Nursing Administration, Faculty of Nursing, Chulalongkorn University, Bangkok, Thailand.
3. Mrs. Ira Dibra	Principal, Dhaka Nursing College, Dhaka; President, Bangladesh Nurses Association, Bangladesh.

1. Experts for Translation Process of the Items

Name and Designation	Departments
Md. Khairul Islam, (MA in Eng.)	Asst. Professor, Mymensingh BF College Mymensingh, Bangladesh.
Md. Azharul Islam, LL.B (Hon's.)	Professional Translator and Notary Public, Mymensingh.
Md. Adul Aziz Miah, (Eng. Hon's.)	Asst. Professor, Teachers Training College, Mymensingh, Bangladesh.
Md. Mozibur Rahman, RN, BSN, MSN.	Senior Staff Nurse, Mymensingh Medical College Hospital, Mymensingh.
Mr. Prokas Kumar Pondeet, RN, BSN, MNS	Nursing Instructor, Mymensingh Nursing College, Mymensingh.

Appendix P

VITAE

Name Mr. Md. Abdul Latif

Student ID 5610430019

Educational Attainment

Degree	Name of Institution	Year of Graduation
Bachelor in Public Health Nursing	College of Nursing, Mohakhali, Dhaka University, Bangladesh	2004
Master of Nursing Science	Prince of Songkla University, Thailand	2010

Scholarship Awards during Enrolment

1. PhD in Nursing Science (International Program) Scholarship, Funded by Directorate General of Nursing and Midwifery and Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh.
2. PhD Thesis Grant from Graduate School, Prince of Songkla University. Thailand

Work-Position and Address

Nursing Instructor, Mymensingh Nursing College, Mymensingh-200, Bangladesh.
Email: ablatif15@gmail.com

List of Publication and Proceeding

1. Latif, A., Thiangchanya, P., & Nasae, T. (2010). *Relationship between organizational climate and nurses' job satisfaction in Bangladesh*. Conference Proceeding, International Conference on Humanities and Social Sciences, April 10, 2010. Faculty of Liberal Arts, Prince of Songkla University, Thailand.
2. Latif, A., Boonyoung, N., & Chaowalit, A. (2017). Clinical leadership skills of registered nurse: A qualitative study from the perspective of Bangladesh. *Songklanagarind Journal of Nursing, 37*(Supplement), 106-115.