



**Getting Through the Constraint: Decision-Making Processes Regarding
Pregnancy of Pregnant Thai Women with HIV Infection**

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 Regarding Pregnancy of Pregnant Thai Women With HIV Infection

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บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่ออธิบายกระบวนการตัดสินใจเกี่ยวกับการตั้งครรภ์ของหญิงตั้งครรภ์ไทยที่ติดเชื้อเอชไอวี โดยใช้ระเบียบวิธีการวิจัยเชิงทฤษฎีพื้นฐาน (grounded theory) เก็บข้อมูลโดยการสัมภาษณ์เจาะลึก การตอบแบบสอบถามปลายเปิด การสังเกตแบบไม่มีส่วนร่วม และการศึกษาบันทึกสุขภาพของหญิงตั้งครรภ์ ผู้ให้ข้อมูลคือหญิงตั้งครรภ์ไทยที่ติดเชื้อเอชไอวี จำนวน 38 ราย ซึ่งมารับบริการที่หน่วยฝากครรภ์ ในโรงพยาบาลของรัฐ 2 แห่ง เลือกผู้ให้ข้อมูล 5 รายแรกแบบเฉพาะเจาะจง (purposive sampling) หลังจากนั้นเลือกผู้ให้ข้อมูลโดยใช้วิธีการสุ่มตามแนวคิดที่ค้นพบ (theoretical sampling) วิเคราะห์ข้อมูลโดยใช้หลักการวิเคราะห์ข้อมูลเชิงคุณภาพด้วยการลงรหัสข้อมูล (coding) และเปรียบเทียบความเหมือน ความต่างกันของแนวความคิด (constant comparison) เพื่อสรุปเป็นแนวคิดเชิงทฤษฎี

ผลการศึกษาพบว่ากระบวนการตัดสินใจเกี่ยวกับการตั้งครรภ์ของหญิงตั้งครรภ์ไทยที่ติดเชื้อเอชไอวี เปรียบเสมือนกระบวนการก้าวผ่านทางเลือกที่จำกัด โดยหญิงตั้งครรภ์ได้ให้ความหมายของการตัดสินใจว่าเป็น “การทำใจเพื่อยอมรับสภาพการตัดสินใจของตัวเองภายใต้ข้อจำกัดที่เป็นอยู่ให้ได้ (Getting through the constraint)” ซึ่งประกอบด้วย 6 ระยะเวลา คือ (1) การรับรู้ถึงความเครียดที่เกิดขึ้น (2) ภาวะลังเลใจในการตั้งครรภ์ (3) การหาทางเลือกเพื่อการตัดสินใจ (4) การประเมินปัจจัยแวดล้อมที่เกี่ยวข้อง (5) การตัดสินใจเลือกแนวทางที่เหมาะสม และ (6) การยอมรับการตัดสินใจและผลที่จะเกิดตามมา โดยหญิงตั้งครรภ์ใช้การทำใจเพื่อปรับความคิด (adapting the mind) ในการตัดสินใจ ซึ่งประกอบด้วย 6 วิธี คือ (1) การยอมรับการตั้งครรภ์ที่ติดเชื้อเอชไอวี (2) การคิดทบทวนเกี่ยวกับความต้องการมีบุตรทั้งของตนเองและสามี (3) การตั้งความหวังว่าทารกจะไม่ติดเชื้อ (4) การพิจารณาความสามารถในการจัดการเกี่ยวกับการตั้งครรภ์

ที่ติดเชื่อเอชไอวี (5) การตัดสินใจโดยพิจารณาความต้องการมีบุตรกับความเสี่ยงที่ทารกจะติดเชื่อเอชไอวี และ (6) การเลือกทำสิ่งที่ดีที่สุดสำหรับบุตร ตนเอง และครอบครัว

นอกจากนั้นการศึกษานี้ยังพบว่า หญิงตั้งครรภ์ไทยที่ติดเชื่อเอชไอวีส่วนใหญ่มีความรู้สึกกังวลใจในการตั้งครรภ์ และมีความคิดที่จะทำแท้งในระยะแรก แต่หลังจากได้รับข้อมูลเกี่ยวกับความก้าวหน้าในการใช้ยาต้านไวรัส และผลในการควบคุมการติดเชื่อจากมารดาสู่ทารก ทำให้หญิงตั้งครรภ์ มีความหวังว่าทารกจะไม่ติดเชื่อ ซึ่งมีผลต่อการตัดสินใจตั้งครรภ์ต่อ ความรู้ที่ได้จากการศึกษาครั้งนี้สามารถนำไปใช้ในการวางแผนจัดกิจกรรมการพยาบาลเพื่อช่วยเหลือและ สนับสนุนให้หญิงตั้งครรภ์ที่ติดเชื่อเอชไอวีตัดสินใจเกี่ยวกับการตั้งครรภ์ได้ง่ายและเร็วขึ้น ซึ่งเป็นประโยชน์ในการดูแลสุขภาพของหญิงตั้งครรภ์ได้

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ABSTRACT

This study aimed at describing the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection. The methodology employed was grounded theory. Data were collected by means of in-depth interviews, open-ended survey, non-participant observation, and medical record reviews. The participants were 38 pregnant Thai women with HIV infection who attended antenatal clinics at two public hospitals in Thailand. The first five participants were selected using purposive sampling and the rest were recruited through theoretical sampling. Data were analyzed using qualitative data analysis techniques, including coding and constant-comparison, to generate a conceptual model.

The results of the study revealed that the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection reflecting the process of “Getting through the constraint”. It consisted of six stages, i.e., (1) expressing emotional distress, (2) feeling ambivalence towards continuing with pregnancy, (3) exploring decisional options, (4) appraising the influencing conditions, (5) making the appropriate choice, and (6) accepting the decision and its consequences. For adapting their minds, the women used six ways of thinking, i.e.,

(1) accepting the situation, (2) considering the desire to have a child, (3) hoping for an uninfected child, (4) considering the ability to manage pregnancy with HIV infection, (5) weighing between desire to have a child and perceived risk of mother-to-child transmission, and (6) doing the best thing for the child, oneself, and one's family.

In addition, most of the pregnant women with HIV infection faced ambivalence towards continuing on their pregnancies and initially considered an abortion. After receiving information about the advantages of using antiretroviral drugs and the low risk of mother-to-child transmission, the women were encouraged to adapt their minds to being pregnant and became hopeful for an uninfected child, and this influenced their decisions to continue their pregnancies. The knowledge gained from this study can be used to design nursing interventions that facilitating and supporting HIV-infected women in facing pregnancy and helping them to reach a healthy decision.

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CHAPTER 1

INTRODUCTION

HIV infection is a major health problem around the world. Many Thai women who become pregnant are infected with HIV. Pregnant women with HIV infection face difficult decisions regarding their pregnancies because of the danger of the mother-to-child transmission of HIV. This study aimed to generate a conceptual model describing the decision-making processes used by pregnant Thai women with HIV infection, using grounded theory methodology. The introduction is divided into seven parts: background of the study, purpose of the study, research questions, theoretical foundations of the study, definition of terms, scope of the study, and significance of the study.

Background of the Study

Human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) remain a leading cause of illness and death for people worldwide. A total of 33.2 million people were living with HIV in 2007 (WHO, 2008). Women are particularly at risk for HIV infection because it is often transmitted through unprotected sexual intercourse (CDC, 2008). By the end of 2007, 18.5 million women around the world were infected with HIV. In Thailand at that time, there were 250,000 women living with HIV infection (WHO, 2008). Additionally, 79% of HIV-infected women are of reproductive age. It was estimated at that time there were 2,100,000 pregnant women with HIV infection worldwide,

and of these, 150,000 lived in South and Southeast Asia (WHO, 2008). In Thailand, the number of women living with HIV has increased from 240,000 cases in 2001 to 250,000 cases in 2007. The number of pregnant women infected with HIV is also increasing. In 2005, there were 5,081 pregnant women attending antenatal care were infected with HIV; by 2007, that number had increased to 9,352 cases (WHO, 2008). However, the overall HIV prevalence among pregnant Thai women declined from 2.4% in 1995 to 0.87% in 2007 because of the impacts and success of Thailand's HIV prevention program (MOPH, 2008). However, HIV infection is still a major health problem among pregnant women in Thailand.

HIV infection among pregnant women affects both the health of the women themselves, and that of their unborn children. The biggest concern is the mother-to-child transmission of HIV during pregnancy, labour, and breast feeding. This transmission accounts for more than 90% of HIV infection cases in newborns and children. Each year, over 600,000 children around the world are infected with HIV through mother-to-child transmission (WHO, 2008). In Thailand, the highest number of children in a year to be infected with HIV from their mothers was 1,250 cases in 1997. After that, the number of children infected with HIV by their mothers decreased reaching 82 cases, 5.6% of births when the mother is infected with HIV in 2007. This decrease was largely because the Ministry of Public Health implemented a national program of mother-to-child HIV prevention by promoting the use of antiretroviral drugs (MOPH, 2008).

Women experience a critical and stressful period after being diagnosed with HIV infection during pregnancy because they perceive that HIV infection threatens their pregnancies and their lives. They are usually frightened, angry, anxious,

regretted, discouraged, and concerned over the HIV impact, so they often consider abortion (Ross, Sawatphanit, Draucker, & Suwansujarid, 2007; Thiangtham, Padumanondha, Sringernyuang, Lagampan, & Bennett, 2003). The previous studies revealed that women with HIV infection faced difficulty decisions regarding their pregnancies due to concern over the mother-to-child transmission, stigma, and social discrimination (Sinpisut & Suttharangsee, 2003; Kirshenbaum et al., 2004). As a result, pregnant women with HIV infection are often in two minds: continue with pregnancy or obtain an abortion (Jones, 2008). Therefore, they need guidance, information, and decisional support to make the best choices for their situations.

Currently, the Ministry of Public Health is implementing the Prevention of Mother-to-Child Transmission program (PMTCT) as a part of the overall maternal and child health care service in Thailand. This program provides comprehensive care for HIV-infected pregnant women including voluntary blood testing, pretest and posttest counseling, and antiretroviral therapy as recommended by the World Health Organization which may include the use of zidovudine, nevirapine, lamivudine or other drugs. As a result, the overall rate of mother-to-child transmission of HIV was 6.38% in 2007 (The Ministry of Public Health, 2008). Furthermore, research evidence has shown that the mother-to-child transmission of HIV could be decreased to between 1-2% by using highly active antiretroviral drugs and performing Cesarean sections before the rupture of the fetal membranes (Volmink, Siegfried, van der Merwe, & Brocklehurst, 2007). This advancement and success in antiretroviral therapy has encouraged pregnant women with HIV infection to consider taking antiretroviral drugs to prevent the mother-to-child transmission of HIV. Therefore, women now have more support for making the choice to continue with pregnancy.

Most of the previous studies focused on the actual experiences of women with HIV infection and the factors which influenced their decisions regarding pregnancy issues. Their experiences included both struggle and excitement about future motherhood (Ross, Sawatphanit, Draucker, & Suwansujarid, 2007; Wesley et al., 2000). There were many factors found to influence pregnancy decisions among HIV-infected women, including age, educational level, marital status, number of previous children, desire to have a child, family and social support, health status, and accessibility to abortion. The younger women were more likely to become pregnant than women aged over 30. The women who had less education were more likely to become pregnant than those had higher education (Kline, Strickler, & Kempf, 1995). The women who had no previous child were more likely to become pregnant and choose to continue pregnancy whereas the women who had one or more previous children did not want to have another child and were more likely to terminate the pregnancy. The significant reason provided for not want to have children while being infected with HIV was concern of the risk of mother-to-child transmission.

In addition, HIV-infected women chose to become pregnant because of the desire to have a child and confidence on the efficacy of antiretroviral drugs (Kirshenbaum et al., 2004). Most of the women decided to become pregnant and carry on their pregnancies because their husbands or partners want to have children (Siegel & Schrimshaw, 2001). Moreover, HIV-infected women who had family support were more likely to continue their pregnancies whereas those lack of family support were more likely to terminate the pregnancy (Kanniappan, Jeyapaul, & Kalyanwala, 2008). After becoming pregnant, health care providers, husbands and family members were

the important sources to provide information and support for the women to make appropriate choice on their pregnancies (Craft, Delaney, Bautista, & Serovich, 2007).

These prior studies revealed about the factors influenced the women's decision regarding their pregnancy. Little is known about their decision-making processes after becoming pregnant while being infected with HIV. Therefore, knowledge about the decision-making processes regarding pregnancy of these women needs to be explored, in order to facilitate and support the women's decision-making.

Purpose of the Study

This study aimed to describe the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection. In addition, the development of a conceptual model of the processes was constructed.

Research Questions

There were two main research questions:

1. How do pregnant Thai women with HIV infection make decision regarding their pregnancies?
2. What are the factors influencing the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection?

Theoretical Foundations of the Study

The theoretical foundations of the study were based on the philosophy of grounded theory, a simplified model of decision making, and feminism. The ontology of grounded theory was influenced by critical realists and relativists (Annell, 1997). Traditional grounded theory, according to Glaser and Strauss (1967), is in accordance with the beliefs of critical realists. Critical realists believe that there is a reality which science can study that is independent of human thought on the topic and that social reality is real, but only knowable in a probabilistic sense. In addition, Straussian grounded theory, developed by Strauss and Corbin (1990, 1998), is based on relativism. Relativism is the idea that some element or aspect of experience or culture is relative to, or dependent on, some other element or aspect. Strauss and Corbin (1990) stated that reality cannot actually be known, but can only be interpreted. Moreover, they believed in the complexity and variability of phenomena and human action (Strauss & Corbin, 1998). The epistemology of grounded theory is modified objectivist and subjectivist (Annells, 1997). Traditional grounded theory values modified objectivist views, represented by the application of a systematic and rigorous research method. On the other hand, Straussian grounded theory values subjectivist views (Annells, 1997). Subjectivism states that expressions are subjective because they are dependent on the opinion of the person making the statement.

In addition, grounded theory was also developed based on symbolic interactionism (Glaser, 1998). This is a theory for explaining human behavior which is based on a social constructionist approach to understanding social life, which focuses on how reality is constructed by active and creative actors through their interactions with others. There are three basic beliefs in symbolic interactionism: (1) human beings act toward things on the basis of the meanings they assign to those

things, (2) the meanings of such things are derived from social interaction, (3) these meanings are handled by and modified through interpretive processes used by the person in dealing with the things he or she encounters (Joen, 2004). Symbolic interactionism was used in this study to guide the researcher in examining and interpreting the infected women's decision-making processes regarding pregnancy. In particular, how these processes were influenced by the women's beliefs, values, meaning of pregnancy, motherhood, HIV infection, and personal meanings that they assigned to pregnancy. In addition, symbolic interactionism guided the researcher in observing their expressions of social symbols through social action and interaction, as well as their verbal and non-verbal communication within the decision-making contexts.

The simplified model of decision making proposed by Hulton (2001) was used to guide the analysis of the women's decision-making processes in this study. This model is comprised of seven components: the decision-making context, values, information, preferences, decisions, behavior, and outcomes. The women may prefer to continue their pregnancies or choose other options depend on their decision-making contexts and influencing factors. The final decisions lead to certain behavior and outcome.

Moreover, a feminist perspective was taken to better explore how reproductive rights and women's gender roles influence the decision-making processes regarding pregnancy and HIV infection. The theoretical foundations of the study can be seen in Figure 1.

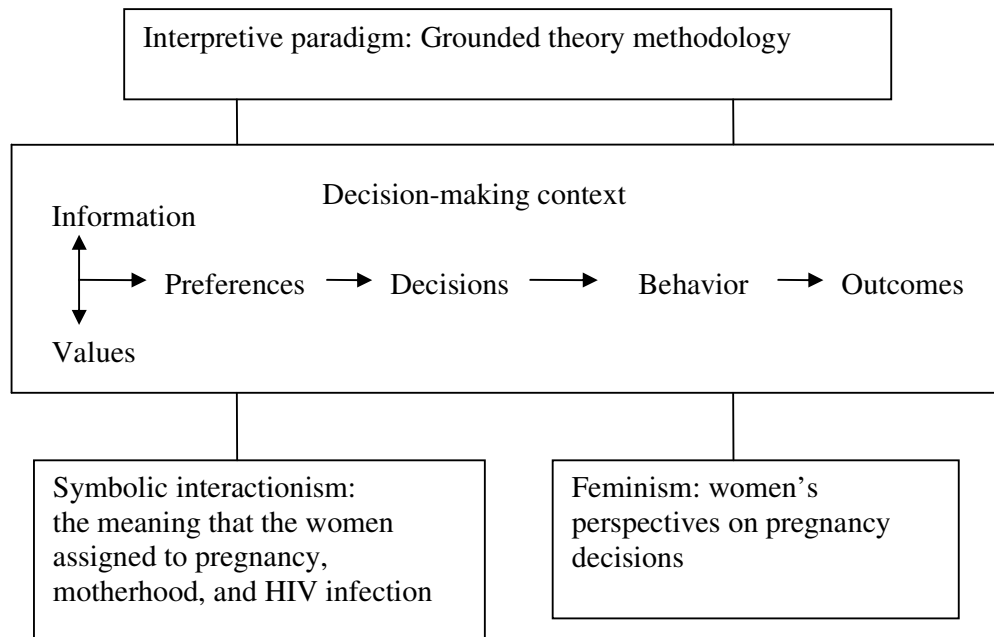


Figure 1. Theoretical foundations of the study

Definition of Terms

There are two key phrases used in this study: “decision-making processes regarding pregnancy” and “pregnant women with HIV infection.”

The phrase “decision-making processes regarding pregnancy” was defined as the cognitive reasoning used by pregnant women with HIV infection in order to make decisions regarding pregnancy, which included continuing with pregnancy and terminating pregnancy. The phrase referred to the cognitive reasoning which could be observed and understood through the women’s self-reporting and their interactions with family members, health care providers, and others.

The phrase “pregnant women with HIV infection” referred to pregnant Thai women attending antenatal care clinics who had been diagnosed with HIV infection, either before becoming pregnant or after becoming pregnant.

Scope of the Study

The study aimed to generate a conceptual model of the decision-making processes regarding pregnancy used by HIV-infected Thai women attending antenatal care clinics. The study focused on the decision-making processes which were used by infected women after they had become pregnant, principally, the decision whether to continue with pregnancy or to terminate pregnancy. The study did not include aspects of other types of decisions, such as those regarding the management of child birth, contraceptive use, self-care, or HIV/AIDS symptoms management.

Significance of the Study

Becoming pregnant while infected with HIV was a critical and stressful life event for the women because it affected their pregnancies and lives in many ways. Most of the women were concerned over the mother-to-child transmission of HIV, social stigma and discrimination, and maternal health. Therefore, they faced difficult decisions after they found themselves in that situation. Some of the women did not want to continue with pregnancy and therefore considered abortion. Most of the previous studies focused on the lived experiences of women infected with HIV, and factors which influenced pregnancy decisions. Little is known about how these factors interact during the decision-making processes after the situation has occurred. Therefore, this study aimed to generate a conceptual model describing the decision-

making processes regarding to pregnancy used by the women infected with HIV. Knowledge about these decision-making processes will be useful in designing interventions to facilitate and support such women in making an appropriate decision. This will give such women in the future an easier time in making a decision about their situation. In addition, such women would have greater access to the prevention of Mother-to-Child Transmission program. As a result, HIV infection among babies born to infected mothers will decrease and the quality of life of these children will improve.

Summary

HIV infection is still a health problem among pregnant Thai women. Becoming pregnant while infected with HIV is a very stressful situation. These women face difficulty making decisions because of their concern over the impacts of HIV infection on their health and pregnancies and particularly over the possible mother-to-child transmission of HIV. Previous studies focused on the lived experiences of HIV-infected women and the factors which influenced their decisions regarding pregnancy. Little is known about the decision-making processes used by such women after find themselves in the situation of being pregnant while infected with HIV. Therefore, this grounded theory study will be useful in exploring the decision-making processes regarding pregnancy used by pregnant Thai women with HIV infection.

CHAPTER 2

LITERATURE REVIEW

Literature related to HIV infection among pregnant women and decision-making on pregnancy with HIV infection was reviewed and presented into five main parts: current situations of HIV infection in Thai pregnant women, the impact of HIV infection on the pregnant women, decision-making concept, reproductive decision-making regarding pregnancy of pregnant women with HIV infection, and grounded theory.

Current Situations of HIV Infection in Pregnant Thai Women

In Thailand, HIV infection epidemic among women spread out since 1991. It was estimated that 610,000 Thai adults aged over 15 years living with HIV/AIDS (WHO, 2008). The number of women aged over 15 years infected with HIV is increasing because it is often transmitted through unprotected sexual intercourse. The previous studies found that women who had more than one lifetime sexual partner or women who had sexual relation with men who had more than one lifetime sexual partners were at risk of HIV infection. The research evidences showed that fifty-two percent of Thai pregnant women were infected with HIV from their current sex partners and forty-eight percent of them were infected with HIV from their previous sex partners (Danyuttapolchai, Poolkaysorn, Tangrua, & Pliplat, 2007). In addition, the epidemiological fact sheets reported that in 2001 there were 240,000 Thai women living with HIV/AIDS and 250,000 women by the end of 2007 (WHO, 2008).

The highest prevalence of HIV infection among pregnant Thai women was 2.3 % in 1995. After that, the number of newly infected pregnant women was decreased because of the impact and success of an HIV infection prevention program in Thailand. As a result, the prevalence of HIV infection among Thai pregnant women declined to 0.77% in 2008 (MOPH, 2009). However, HIV infection is still a health problem among Thai pregnant women because it is transmitted through mother-to-child transmission during pregnancy, childbirth, and breastfeeding.

Impact of HIV Infection on the Pregnant Women

Becoming pregnant with HIV infection is a critical and stressful life event because it has impacts on pregnancy and women lives in many ways. HIV infection affects the life and health of both pregnant women and their child. The impact of HIV infection among pregnant women was reviewed and focused on three main impacts: (1) mother-to-child transmission of HIV, (2) stigma and social discrimination and (3) women health and quality of life.

Mother-to-child transmission

The most significant impact of HIV infection on the pregnant women is mother-to-child transmission of HIV during pregnancy, childbirth, and breastfeeding. Mother-to-child transmission (MTCT) of HIV remains a major maternal and child health problems worldwide. Each year, over 600,000 children around the world were infected with HIV through mother-to-child transmission (CDC, 2008). The risk of mother-to-child transmission of HIV has been associated with many conditions. They were: (1) advanced of maternal HIV/AIDS symptoms, (2) plasma HIV viral load, (3) CD4 lymphocyte count, (4) mode of delivery, vaginal or cesarean section, (5)

duration of rupture membranes, (6) types and duration of using antiretroviral drugs, (7) overall health of the women, and (8) other co-infections (Foster & Lyall, 2007). The actual risk of mother-to-child transmission varies according to these conditions. For instance, women with more advanced HIV infection, high viral load and low CD4+ T-lymphocyte cell count are more likely to pass HIV to their child. The risk of MTCT of HIV less than 1% in case of complete HAART and well management during childbirth by choosing cesarean section before rupture of membranes instead of vaginal delivery (CDC, 2008). The longer duration of ruptured membranes is the greater the risk of HIV transmission to the child. Moreover, in case of women had another infection, especially a sexually transmitted disease or an opportunistic infection, mother-to-child transmission of HIV increases. Therefore, the goal of HIV treatment is to reduce viral load to as low as possible. The preferable goal is undetectable levels or below 50 copies/ml. If HIV-infected women has undetectable viral load when she goes into labor, the risk of HIV transmission is almost zero (CDC, 2008).

The research evidence showed that the lowered maternal viral concentration resulting in using antiretroviral drugs was the most significant factors affecting the risk of mother-to-child transmission of HIV. In case of using short-course zidovudine in late pregnancy, from 36 weeks' gestation and every three hour from onset of labour until delivery, mother-to-child transmission rate was 9.4% compared to 18.9% in HIV-infected pregnant women who did not receive any antiretroviral drugs (Shaffer, 1999). In addition, the research evidence showed that the transmission rate reduced to 5.2% in the women who used zidovudine and nevirapine and 3.9% in the women used zidovudine, nevirapine and lamivudine (Plipat et al., 2007). In 2008, the Ministry of

Public Health reported that the overall risk of mother-to-child transmission of HIV among pregnant Thai women was 6.38% (MOPH, 2009). Moreover, the rate of mother-to-child transmission of HIV decreased to 1-2% in case of using highly active retroviral therapy (HAART) (Volmink, Siegfried, van der Merwe, & Brocklehurst, 2007).

Stigma and social discrimination

Most of HIV-infected women experienced stigma and social discrimination (Cohen & Alfonso, 2004). HIV-related stigma consists of negative attitudes towards those infected or suspected of being infected with HIV including their families. Social discrimination refers to any form of subjective distinction, exclusion or restriction affecting people because of their confirmed or suspected HIV-positive status (Cohen & Alfonso, 2004).

Stigma and discrimination affect HIV-infected pregnant women in many ways. The previous studies revealed some impacts of HIV stigma and social discrimination. They found that approximately half of the participants believed that punishment was an appropriate response towards those living with HIV, over half (56%) were unwilling to be friends with HIV-positive people and 73% thought that those living with HIV should be isolated (Kang, Rapkin, Remien, Mellins, & Alina, 2005). In addition, stigmatizing attitude tends to be associated with being female, older, married, less educated and unwilling to be tested for HIV (Sandelowski, Lambe, & Barroso, 2004). In 2005, the Asia Pacific Network of People Living with HIV/AIDS reported that over half of the 762 HIV-positive people experienced some form of discrimination from health-care providers, in particular violations of women's reproductive rights (UNAIDS, 2006). As a result, pregnant women who

worried about stigma and social discrimination were more likely to delay seeking antenatal care (Sandelowski, Lambe, & Barroso, 2004).

Women health and quality of life

HIV infection among pregnant women affects their health including physical health, mental health, and social health. HIV infection has an effect on physical health of HIV-infected pregnant women because it impairs their immune functions by destroying CD4 T-lymphocyte. When they have low CD4 T-lymphocyte, they have high risk for many infections such as urinary tract infection, sexually transmitted infection, tuberculosis or other opportunistic infections. Almost all of opportunistic infection in pregnancy is life threatening. In addition, HIV infection also places them at risk of complication during pregnancy, intrapartum and postpartum. HIV infection among pregnant women is considered high risk pregnancy. The research evidence revealed some health problems and pregnancy outcomes among HIV-infected pregnant women receiving antiretroviral therapy, such as anemia and preterm labor (Areechokchai, Bowonwatanuwong, Phonrat, Pitisuttithum, & Maekanantawat, 2009). The most serious effect is maternal death due to AIDS-related symptoms, opportunistic infections and its complications such as liver failure.

In addition, HIV infection is considered a stressful life event which has an effect on mental health. HIV-infected pregnant women experienced psychological distress and depressive symptoms such as feeling sad, difficulty going to sleep, difficulty staying asleep, dizziness, worrying too much about things, feeling hopeless about the future, or crying easily. The previous study found that forty-two percent of HIV- infected pregnant women had depressive symptoms (Cohen & Alfonso, 2004). Moreover, the research evidence found that HIV-infected Thai pregnant women have

higher stress than non-infected women (Boonpongmanee & Zauszniewski, 2003). In addition, HIV-infected Thai women experienced struggle and hopeless in their lives after receiving a HIV diagnosis (Ross, Sawatphanit, Suwansujarid, & Claire, 2007).

Moreover, social health of HIV-infected pregnant women changed due to stigma and discrimination. Additionally, stigma and discrimination of HIV infection not only affect pregnant women but also have an effect on their partners, children, families and friends leading to social rejection and social isolation (Cohen, & Alfonso, 2004). Social rejection, negative self-worth, perceived interpersonal insecurity, internalized stigmatizing are significant associated with social health (Trevino, Pargament, & Cotton, 2007). HIV infection affects their social role functioning, employment and illness cost burden (Carr, Gramling, 2004). Some HIV-infected pregnant women have to leave their home because of family and community rejecting. In addition, when they have AID-related symptoms or side effect of antiretroviral therapy, they can earn less income. In particular, HIV-infected pregnant women who are single, divorce or separate, these women lacked of social support, faced with their own limitations and had struggle in their daily lives (Ichikawa & Natpratan, 2004).

Decision Making Concept

Decision theory has evolved since the 1950s from the fields of psychology and economics and has been applied in healthcare research since the 1960s (Hulton, 2001). Decision making is the cognitive process and reasoning process leading to the selection of a course of action among variations. Every decision making process produces a final choice which can be an action or an opinion (Noone, 2002). The

anterior cingulate cortex and orbitofrontal cortex are brain regions involved in decision making process. In addition, emotions usually play a larger role than cognition. Decision making is a psychological construct which can not be seen, but it can be inferred from observable behavior. Decision making often occurs in the face of uncertainty about whether one's choices will lead to benefit or harm. Every decision making process produces a final choice, an opinion or an action. It can be rational or irrational (Pierce & Hicks, 2001).

Decision making is one of essential life skill to gain positive and adaptive behaviors that enable individuals to deal effectively with the demands and challenges of everyday life. There are three important factors related to human's decision making skill (Hulton, 2001). First, human makes decision during having social action and interaction. Second, decision making will be made based on interpretative process and the perceived meaning to persons, institutions, objects or related situations. Finally, interaction within the self and with others influenced decision making process.

The simplified model of decision making developed by Hulton (2001) was used to view the decision-making processes on pregnancy in this study. Decision-making is the process of identifying and choosing alternatives based on the values and preferences of the decision maker. The model of decision making (Figure 2) illustrates seven key concepts relevant to person's decision making in a real-life situation. In a given context, interaction of values and information produce preferences, which in turn shape decisions, behaviors, and subsequent outcomes. Decision making is a nonlinear and recursive process. Most decisions are made by moving forth and back between the choice and the alternatives. The double arrows between the concepts reflect the dynamic interaction among the concepts overtime.

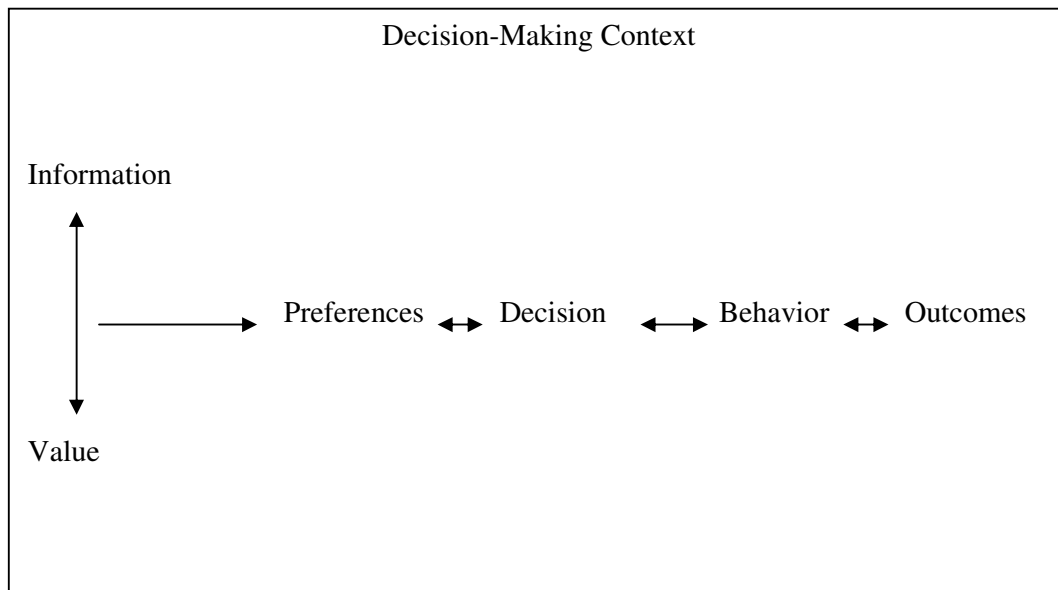


Figure 2. The simplified model of decision making (Hulton, 2001)

The model is composed of seven concepts: information, value, decision-making context, preferences, decisions, decision-making process, and outcomes. The explanations of them were presented as the followings.

1. Information refers to decision-relevant data inputs to decisions. It is knowledge about the decision, the effects of its alternatives, and the possibility of each alternative. For example, information can include the probabilities of risks, benefits, and lifestyle changes associated with taking a particular behavior. Information for patient decision making varies widely in its quality and comprehensible and must be adequately accessible to patients to be useful for decision making. There were four types of information used in decision-making: (1) information that individuals know they have, (2) information that individuals know that they did not have, (3) information that individual don't know they have, and (4) information that individuals don't know that they don't have.

2. Values refers to how desirable a particular outcome or the value of the alternative. It reflect the importance that people place on information for decision making, as well as on various aspects of their experience and other factors in the broader context of their decision making. Values are a major force for people because they categorize how people attach meaning, worth and importance to things. When a person's values are matched, they feel complete and satisfied. If values are not match, there is a sense of dissatisfaction and unease. Examples of values are health, pleasure, recognition, safety, and achievement. A personal values influence the decision-making processes because it determine the goals and outcomes.

3. The decision-making context concerns influences on decision making from the broader context of an individual's life, which may sometimes be powerful influences on the choices that patients make. Context includes various aspects of a person's day to day life and functioning, the health care system structure and process, and the broader socio-cultural milieu that shape people's experiences.

4. Preferences reflect the philosophy and moral hierarchy of the decision maker. The personal values influence preferences. It represents a relatively greater liking of one alternative as compared to other alternative, recently have begun to be studied. Preferences are the product of the interaction between decision-related information and values. Thus, information and values are key inputs to preferences within a given decision-making context.

5. Decisions are choices that are shaped by preferences, and preferences in turn shape patient behavior. These are possibilities one to choose from identified alternatives. There are three kinds of decisions (Hulton, 2001). Firstly, decision whether, yes/no and either/or, that must be made by weighing reasons pro and con.

Secondly, decision which involves a choice of one or more alternatives from among set of possibilities. Thirdly, contingent decision that it is hold until some condition is met.

6. Decision-making process refers to how information and values are combined to from preferences and to arrive at decisions. The process of how patients make decisions has rarely been studied. There are two ways of studying the decision-making process: the decision that should be made and the decision were made in real-life situation.

7. Outcomes are the end result of patient behavior and can be considered at both the individual and system levels. For example, individual health status, costs of health care. This is a rating of whether a decision is good or bad. A good decision is a logical one based on the available information and reflecting the preference of the decision-maker. Additionally, they should be accepted both intellectually and emotionally.

Reproductive Decision-Making regarding Pregnancy of Women with HIV Infection

Reproductive decision-making is defined as the decision about marriage, family planning, and pregnancy (UNFPA, 2005). It is one of the most sensitive topics that the women and their families must discuss. The choices made are based on family's beliefs and values on reproductive issues. In this study the literature review was focused on the decision-making processes and the influencing factors regarding pregnancy of women with HIV infection.

Decision-making processes regarding pregnancy of women with HIV infection

Decision-making processes regarding pregnancy among women with HIV infection influenced by biomedical consideration and socio-cultural beliefs. HIV infection was a significant predictor of fertility intentions among HIV-infected women of reproductive age. HIV infected women compared to uninfected women, were more likely to change their fertility intentions from wanting children to not wanting children (Taulo et al., 2009). The previous study revealed that the women with HIV infection made pregnancy decision through four stages: initial reproductive decision between partners, searching for information, their encounters with medical systems, and weighing risks of mother-to-child transmission of HIV and benefits of using antiretroviral drugs (Ko & Muecke, 2005).

1. Initial reproductive decision between partners

The research evidence showed that the women discussed their reproductive decisions with their husbands or partners both before becoming pregnant and after becoming pregnant. They considered both their husband's desire and their own desire (Kirshenbaum, 2004). HIV-infected women who had partners which expressed their desire to have children were more likely to become pregnant (Craft, 2007; Siegel & Schrimshaw, 2001). They wanted to have children because of socio-cultural norms which value pregnancy and parenthood. Though the women and their partners had learned their HIV-positive status, they still desire to have children because they viewed motherhood and fatherhood as joyful and fulfill their lives (Wesley et al., 2000). During the decision-making, the women judged and weighed between their desire to have children and the negative consequences, including mother-to-child

transmission of HIV, stigma, and social discrimination on the women and their children (Barnes & Murphy, 2009).

2. Searching for information

HIV-infected couples sought information about the impact of HIV infection on their pregnancies and the use of antiretroviral drugs from available media and resource persons (Ko & Muecke, 2005). In addition, during attending antenatal care they received information about the Prevention of Mother-to-Child Transmission Program (PMTCT). Information about the advancement of using antiretroviral drugs and the low risk of mother-to-child transmission appears to be an important indicator influencing the decision to continue the pregnancy (Kirshenbaum, 2004). The women reported that useful sources of information were health care professionals and significant others who had experienced pregnancy with HIV infection (Craft, Delaney, Bautista, & Serovich, (2007).

3. Encountering with medical systems

After becoming pregnant, the women visited antenatal care clinics. Pregnant women with HIV infection experienced both positive and negative relationship with health care personnel. Positive relationships with health care providers are essential to promote reproductive decision-making whereas the women experienced negative relationships were reluctant to make the decision on their pregnancies (Cooper, Harries, Myer, Orner, & Bracken, 2007). Some women reported that medical providers advised them not to become pregnant because of mother-to-child transmission of HIV (Barnes, 2009). However, most of the women could reach their decisions after receiving informative suggestions from health care providers (Kirshenbaum, 2004).

4. Weighing risks of mother-to-child transmission of HIV and benefits of using antiretroviral drugs

Decisions about pregnancy often are difficult among HIV-infected women. They struggled to weigh their decisions against the desire to have a child, concerns over transmission of HIV to their children, and consideration of abortion. The women who perceived that mother-to-child transmission was low because of efficacy of antiretroviral drugs were more likely to become pregnant and carry on their pregnancies. In contrary, those who perceived the high risk and did not have confidence on antiretroviral therapy were more likely to chose not to become pregnant or terminate their pregnancies (Barnes & Murphy, 2009; Bryant, Leighty, & Shen, 2007; Kirshenbaum, 2004).

Factors influencing decision- making regarding pregnancy of women with HIV Infection

Decisions about pregnancy when the women were infected with HIV often are difficult because they faced stressful situation due to mother-to-child transmission of HIV and other impacts of HIV infection on their lives. The previous studies suggested many factors influencing the women's decision on their pregnancies. Factors influencing decision making on pregnancy were reviewed and presented in three aspects: characteristics of pregnant women and their families, impacts of HIV infection and antiretroviral therapy, health policies and law related to HIV-infected women.

1. The characteristics of pregnant women and their families

There are seven significant characteristics of pregnant women and their families influenced decision making on pregnancy among HIV-infected pregnant women: age, gestational age, marital status, education, religion background, values to pregnancy and motherhood, number of living children, knowledge of mother-to-child transmission and experience of HIV infection.

1.1 Age

Seventy-nine percent of new HIV-infection occurred among women aged between 20 and 44 years. The trend of HIV infection is increasing among younger women because of their risky sexual behaviors (CDC, 2008). The research evidence revealed that younger women with HIV infection were more likely to become pregnant and had repeated pregnancy after being diagnosed with HIV infection. For instance, HIV-infected women aged less than 22 years were almost three times as likely as those aged over 22 years to get pregnancy (Bedimo, Bessinger, & Kissinger, 1998). Younger women are more likely to become pregnant because they did not use contraception consistently and they have no previous children. In addition, adult women who had one or more children are less likely to become pregnant women (Kirshenbaum, 2004). Moreover, older women who believe that all the babies of pregnant women with HIV will be infected are most likely to terminate their pregnancy when they are diagnosed as HIV positive (Wesley & Smeltzer, 2004).

1.2 Gestational age

Pregnancy decision is influenced by gestational age especially in case of unwanted pregnancy and seeking for induced abortion. The medical evidence supported that termination of pregnancy within the twelve weeks of gestation is the most safety for pregnant women. In addition, the previous evidences show that

seventy-two percent of induced abortion occurred within the first trimester of pregnancy (Warakamin, Boonthai, & Tangcharoensathien, 2004). Therefore, gestational age influences pregnancy decision to seek termination of pregnancy or continue their pregnancy.

1.3 Marital status

HIV-infected pregnant women who are single or separated are more likely to terminate their pregnancy because they have less motivation to bear children and lack of family support. The prior study found that only eighteen percent of HIV-infected pregnant women who choose to continue their pregnancy are single (Bedimorung, Clark, Dumestre, Rice, & Kissinger, 2005). Moreover, the relationship between wife and husband or sex partners took important part in pregnancy decision. The research evidence revealed that HIV-infected pregnant women who have a good relationship with their current husband or partner more likely to make a decision to carry on their pregnancy (Sowell & Misener, 1997).

1.4 Education

HIV-infected women who had less education, especially lower than higher education are more likely to become pregnant women. Sixty-two percent of HIV-infected African pregnant women did not complete higher education (Richter, Sowell, & Pluto, 2002). In addition, some of HIV-infected pregnant women are vulnerable or marginalized women such as sex worker, immigrants or laboring women. One study in northern Thailand found that fifty-eight percent of participants are have education lower than high school (Ichikawa & Natpratan, 2004). The evidence of previous study shown that women who had lower education were more

likely to get repeat pregnancy after being diagnosed with HIV infection (Bryant, Leighty, Shen, Read, Brouwers, Turpin, et al., 2007).

1.5 Religion background

Religious beliefs and practices influence decision making on pregnancy among HIV-infected pregnant women and their families. The research evidence revealed that HIV-infected pregnant women faith in God about protection their baby from HIV infection (Siegel & Schrimshaw, 2001). In addition, HIV-infected Thai women beliefs in Karma, wheel of life, and sin (Ross, Sawatphanit, & Suwansujarid, 2007). These religious beliefs and practices empower them to cope with HIV infection and provide principles of reasoning to make a decision.

1.6 Beliefs and values on pregnancy and motherhood

Thai society values maternal role of women. Women also viewed pregnancy and motherhood as fulfillment in their lives. Married women were expected to get pregnancy and take care for their children. Among HIV-infected women, they also desire to have a child to fulfill their marital lives and response to their family expectation (Sandelowski & Barroso, 2003). Most of HIV-infected pregnant women chose to become pregnant women because they believed that pregnancy is reproductive task of women. These beliefs and values influenced their motivation and desire to have a child (Morin, Payette, Moos, St-Cyr-Tribble, Niyonsenga, & Wals, 2003). Additionally, HIV-infected women decided to become pregnant after being diagnosed with HIV because they desired to have a child and their husband also wanted children (Sowell, Murdaugh, Addy, Moneyham, & Tavokoli, 2002).

1.7 Number of living children

The previous study revealed that sixty-three HIV-infected women who have one or more children reported that they did not plan to get pregnancy after having HIV diagnosis (Wesley, Smeltzer, Redeker, Walker, Palumbo, & Whipple, 2000). Additionally, HIV-infected pregnant women chose to terminate their pregnancies were mother who had previous child (Siegel & Schrimshaw, 2001). On the other hand HIV-infected pregnant women who had no previous child were more likely to carry on their pregnancies (Craft, Delaney, Bautista, Julianne, & Serovich, 2007).

1.8 Knowledge and experiences of HIV infection

Knowledge and experiences on the reduction of the risks of mother-to-child transmission of HIV are significant factors in HIV infected women's decision making on pregnancy. After the presentation of the effectiveness of highly active antiretroviral drugs, HIV-infected pregnant women choose to continue their pregnancy rather than termination of their pregnancies. Moreover, HIV-infected women who had experiences that their previous child or the children of other HIV-infected women were not infected with HIV, they were more likely to decide to become pregnant (Craft, Delaney, Bautista, & Serovich, 2007). However, the previous study found that most of Thai pregnant women (80%) did not have proper knowledge of the possibility of mother-to-child transmission (Hyodo, Tanaka, Kobayashi, Shimizu, Prueksunand, Nitithamyong et al., 2000). These findings indicated that HIV-infected women used their knowledge and existing information in their contexts to judge their decision making on pregnancy.

1.9 Disclosure of HIV serostatus

Pregnant Thai women with HIV infection were infected with HIV from their past husbands or current husbands (Danyuttapolchai, Poolkaysorn, Tangrua, & Pliplat, 2007). Disclosure of HIV serostatus between the women and their husbands influenced pregnancy decision. The previous study revealed that after disclosure of HIV, the women and their husbands could discuss about their desire to have a child and made a decision to continue the pregnancy (Sanders, 2009). For the women who ignored partner's HIV status were more likely to become pregnant with HIV infection than the women who knew their husband's serostatus (Kline, Strickler, & Kempf, 1995). On the other hand, HIV-infected women who had HIV-negative partners were more likely to become pregnant and carried the pregnancies to term (Cates, 2001).

2. The impacts of HIV infection and antiretroviral therapy

Being diagnosed with HIV infection and advancement of antiretroviral therapy influence pregnancy decision through three main factors: receiving HIV diagnosis, maternal health, and risk of mother-to-child transmission of HIV

2.1 Being diagnosed with HIV

HIV diagnosis is an important factor influencing decision making on pregnancy among HIV-infected pregnant women because it affects mother-to child transmission. Even though the overall transmission rate of HIV is low around 6.38% (MOPH, 2009), it still affects their quality of life. After being diagnosed with HIV infection, both women and men reported that they have low desire to have a child because of fear of having infected-child, family burden and orphanhood. However, some of HIV-infected couples still want to have children because they valued pregnancy and parenthood (Cooper et al., 2007). The majority of HIV-infected

women do not plan for future pregnancies after HIV is diagnosed (Siegel & Schrimshaw, 2001). The research evidences shown that 59% of women have not become pregnant since receiving a diagnosis of HIV and 38% of HIV-infected women had become pregnant after HIV infection was diagnosed (Craft, Delaney, Bautista, & Serovich, 2007). In addition, women who knew their HIV diagnosis tend to have lower rates of pregnancy and higher rates of sterilization and abortion than uninfected women (Bedimo, Bessinger, & Kissinger, 1998). This information supported that HIV diagnosis is one of important factor influencing pregnancy decision- making.

2.2 Maternal health and HIV/AIDS symptoms

Most of HIV-infected women who chose to become pregnant had three characteristics: having asymptomatic condition, CD4 T-lymphocyte higher than 500 cells/cu.mm and no opportunistic infections (Craft, Delaney, Bautista, Julianne, & Serovich, 2007). In addition, the advancement of antiretroviral therapy and other HIV/AIDS treatment can improve their health status and quality of life. Currently, HIV-infected women have longer live from about 10 years to 25 years (Bruyn, 2006). These evidences indicated that maternal health status and HIV/AIDS symptoms influenced the women's decision on their pregnancies.

2.3 Risk of mother-to-child transmission of HIV

Currently, risk of mother-to-child transmission of HIV decreased from 25-30% to 6-8% among HIV-infected women who received standard antiretroviral therapy. Additionally, the rate of transmission will decrease lower to 1-2% in case of receiving highly active retroviral therapy combine with elective caesarean section (Volmink, Siegfried, van der Merwe, & Brocklehurst, 2007). HIV-infected women who are confident of decreasing transmission risk are more likely to make a decision

to continue their pregnancy (Craft, Delaney, Bautista, Julianne, & Serovich, 2001). Therefore, clear communication about the potential risks and benefits of using antiretroviral drugs to reduce mother-to-child transmission is crucial for pregnant women with HIV infection to make a decision to continue the pregnancy.

3. Health policies and law related to pregnancy decision among HIV-infected women

Health policies and law related to pregnancy decision among HIV-infected women were reviewed and presented in two parts: the National Prevention of Mother-to-child Transmission Program and abortion law related to HIV-infected women

3.1 The National Prevention of Mother-to-child Transmission Program (PMTCT)

The Thai Ministry of Public Health has implemented the National Prevention of Mother-to-child Transmission Program since 2000. The program aimed at decreasing the risk of mother-to-child transmission by administering antiretroviral drugs for the women during pregnancy, delivery, and postpartum. Therefore, almost of HIV-infected Thai pregnant women could access to antiretroviral therapy under the support of the Government Organizations, Social Security Office services, or Universal Health Coverage services. A few of HIV-infected women who did not include in the prescribed government welfare had to pay for antiretroviral drugs. Additionally, Thai Red Cross Organization also provided antiretroviral drugs for pregnant women with HIV infection who had financial problem. The Thai PMTCT provides free services for two rounds of Voluntary Counseling and Testing (VCT) for all pregnant women, at first antenatal visit and at 28 weeks. The Ministry of Public Health purchased antiretroviral drugs and distributed via the government public

hospitals (Teerawattananon, Vos, Tangcharoensathien, & Mugford, 2005). This policy encouraged pregnant women with HIV infection to continue their pregnancies. In 2007, there were 9,352 HIV-infected women attending antenatal care received informed decision making on their pregnancies and offered antiretroviral drugs for prevention of mother-to-child transmission (MOPH, 2008).

3.2 Abortion law related to HIV- infected pregnant women

Thailand's current abortion law became effective in 1956. Article 305 of the Criminal Code of Thailand identified that abortion is illegal except committed by medical practitioners. There are four criteria to offer legal abortion in Thailand: to save the life of the mother, to preserve the physical health of the mother, to preserve the mental health of the mother, and in case of rape and incest. A woman is also to be criminalized if she allows someone to illegally perform an abortion on her (Bunchalaemwipas & Yamjinda, 2003). In addition, HIV infection is considered not a definite medical indication to provide therapeutic abortion because it can prevent by using contraceptive methods. In addition, currently there are advancements of antiretroviral therapies resulting in the low risk of mother-to-child transmission of HIV. Therefore, induced abortion due to HIV infection was considered illegal and it occurred only 4.9% among all induced abortion cases in public hospitals in Thailand (Warakamin, Boonthai, & Tangcharoensathien, 2004). However, providing an induced abortion for HIV-infected pregnant women is judged by physicians and they considered medical indications based on gestation age of pregnancy, impacts on maternal physical health and mental health. In case of this condition, it requires consideration and signature of two physicians (Bunchalaemwipas & Yamjinda, 2003). However, in clinical practice, some pregnant Thai women with HIV infection who did

not want to continue their pregnancies faced difficulty in seeking abortion and had limited option during the decision-making processes.

Grounded Theory

The literature review of grounded theory focused on ontology, epistemology, and essential grounded theory procedures used to guide research methodology for the study. Grounded theory referred to either research method or the result of the study. Glaser (1998) defined grounded theory as the systematic generation of theory from data acquired by a rigorous research method. Grounded theory study resulted in an integrated set of conceptual hypotheses. It provided the probability statements about the relationship between concepts. There are two types of grounded theory result: a substantive theory and a formal theory. A substantive theory describes the relationship of the emergent concepts within the particular substantive area such as patient care, professional practice, or specific social behavior. In contrast, a formal theory is broader than the substantive theory. It can be used to explain human behavior in general social context such as career development or power generation. Both substantive and formal theory is classified as a middle-range theory which contains fewer concepts than a grand theory (Glaser, 1978).

Grounded theory was first described by Barney G. Glaser and Anselm L. Strauss in 1967 which published in a book named “The discovery of grounded theory” (Glaser, 1998). After that it was widely used in social research and other areas including nursing. Development of grounded theory can be classified in 3 groups: Glaserian grounded theory, Straussian grounded theory, and constructivist grounded theory. Glaserian grounded theory aims to generate hypotheses explaining

relationship between concepts whereas Straussian grounded theory prefers to develop a conceptual model describing social phenomena being studied. In addition, constructivist grounded theory emphasizes construction of a theory by the researcher mutually with the participants. However, they shared the same philosophy in terms of ontology and epistemology.

Ontology of grounded theory

Ontology is the philosophy of the worldview of reality. There are two ontological questions for a research (Annells, 1996). First, what is the form and nature of reality? Second, what can be known about reality. The ontology of grounded theory is influenced by critical realist and relativist (Annell, 1997). Traditional grounded theory by Glaser and Strauss (1967) believed on critical realist. A critical realist believes that there is a reality independent of our thinking about it that science can study and social reality is real but only knowable in a probabilistic sense. In addition, Straussian grounded theory and constructivist grounded theory believed on relativist. Relativism is the idea that some element or aspect of experience or culture is relative to or dependent on some other element or aspect. In addition, Strauss and Corbin (1990) stated that the reality cannot actually be known but is always interpreted. Moreover, they also believed in the complexity and variability of phenomena and human action (Strauss & Corbin, 1998).

Epistemology of grounded theory

The concept of epistemology refers to underlying assumptions about how it is possible to acquire knowledge about social reality and how the knowledge that exists can be made known (McCann & Clark, 2003). The epistemological question is asked about the relationship between the researcher and what can be known (Annell, 1996).

The epistemology of grounded theory is modified objectivist and subjectivist (Annells, 1997). Traditional grounded theory valued modified objectivist represented by application of the systematic and rigorous research method. On the other hand, Straussian grounded theory and constructivist grounded theory valued subjectivist (Annells, 1997). Subjectivism says that statements are subjective, in that they are dependent on the opinion of the person making the statement. Therefore, grounded theory attempt to apply systematic research method and value subjective meaning of human experiences. This epistemology can be seen through the process of data collecting, theoretical sampling, coding, using of constant comparative analysis technique, conceptualizing, interpreting and generating the theory. In addition, Strauss & Corbin (1998) stated that during the analytic process, the researchers should set aside their knowledge and experience to form new interpretations about phenomena being studied.

Essential grounded theory procedures

The essential grounded theory procedures were reviewed and presented into four aspects: theoretical sampling, theoretical sensitivity, conceptualization, and theoretical saturation.

1. Theoretical sampling

Theoretical sampling was the method used for data collection in grounded theory research. It was used to sample the concepts related to the phenomena being study in order to discover variations of concepts and their properties (Glaser, 1998). After the initial data were collected, coded and analyzed to formulate some concepts, the emergent concepts or conceptual codes were used to guide further data collection until the saturation of data was obtained. The aims of theoretical

sampling are to discover and compare the concepts regarding the phenomena being studied. In addition, the theoretical sensitivity of the researcher was useful for theoretical sampling. However, the researcher should avoid using preconception ideas during theoretical sampling. It was the deductive reasoning in doing grounded theory. Firstly, inductive reasoning was used to formulate the concepts based on the data through coding procedures and concept-indicator model. Then, deductive reasoning was applied by using the induced concepts to sample additional data until reaching saturation (Glaser, 1987).

According to Strauss and Corbin (1998) theoretical sampling was carried out along with open coding, axial coding, and selective coding. First of all, open sampling, purposefully, systematically, or conveniently, was used during the initial phase of data collection and open coding in order to open for discovering and collecting the variety of data. Then, relational and variational sampling was conducted during axial coding by looking for the data that pertaining the relationship and variation among the concepts. Lastly, discriminate sampling was used to maximize the constant comparison in order to achieve saturation of the categories.

2. Theoretical sensitivity

Theoretical sensitivity is the ability of the researcher to capture the conceptual ideas related to the social phenomena being studies. Glaser (1978) suggested two ways for maintaining theoretical sensitivity. Firstly, the researcher should enter the research setting without the theoretical idea or hypotheses to frame to data in order to see what is really happening and going on. After the data were analyzed until some concepts and categories emerged, the researcher should review

related literatures in order to sharpen conceptual ideas for generating a model or theory.

3. Conceptualization

Grounded theory was generated through the process of conceptualization. The data were conceptualized into concepts, categories and a core category through the process of coding and constant comparison. Coding is the process of assigning conceptual labels relevant to the data in order to formulate a concept connecting the data and theory. There are two types of codes using in grounded theory: substantive codes and theoretical codes. Substantive codes used to conceptualize the empirical data indicating that concept and theoretical codes relate and conceptualize the substantive codes to form a conceptual model or hypotheses.

Constant comparison is analysis technique to generate a concept through a concept-indicator model (Figure 3) and asking questions about what, when, where, why, how, and with what consequences (Strauss & Corbin, 1998).

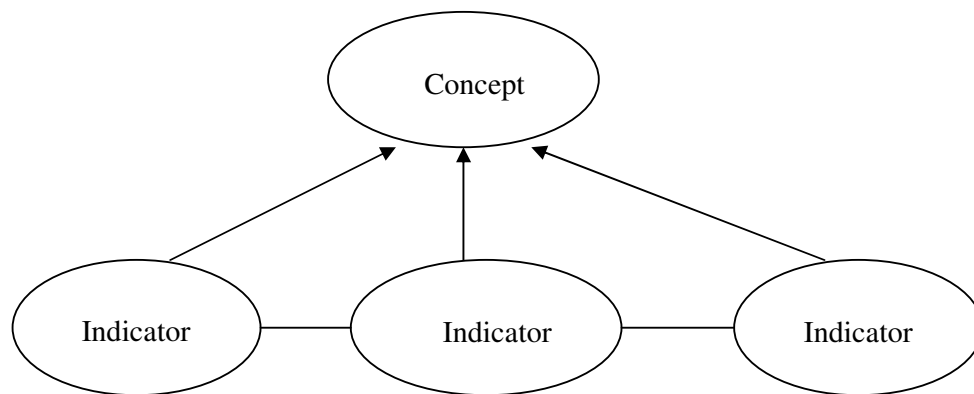


Figure 3. The concept-indicator model (Glaser, 1978)

The data containing similar ideas were group together to form a higher abstract concept. Constant comparison can be used to compare data with data or data with the concept in order to see the similarities and differences among the data and concepts. In addition, the categories were conceptualized based on the emergent concepts and the core category was conceptualized to organize the related categories (Glaser, 2002). Application of the constant comparative analysis and concept indicator model used in the study was illustrated (Figure 4).

4. Theoretical saturation

Saturation refers to data adequacy determining by collecting the data until no new data were obtained (Morse, 1995). A saturated grounded theory results in a comprehensive theoretical model that makes senses and has no gaps. The researcher should collect and analyze the data until reaching theoretical saturation. Theoretical saturation is considered when the researcher achieved these indicating characteristics: (1) no new relevant data emerged within the category, (2) the categories are well formulated, and (3) the relationship among the concepts and categories were verified (Strauss & Corbin, 1998). In addition, theoretical saturation would be achieved by applying these three procedures (Morse, 1995).

1. Select the sample that attains the similar conceptual ideas regarding phenomena being studied.

2. Theoretical sampling enhances theoretical saturation quicker than other sampling method.

3. Sample the data to fill all variations as possible. Additionally, the researcher should pay attention to all hypotheses when generating a theory.

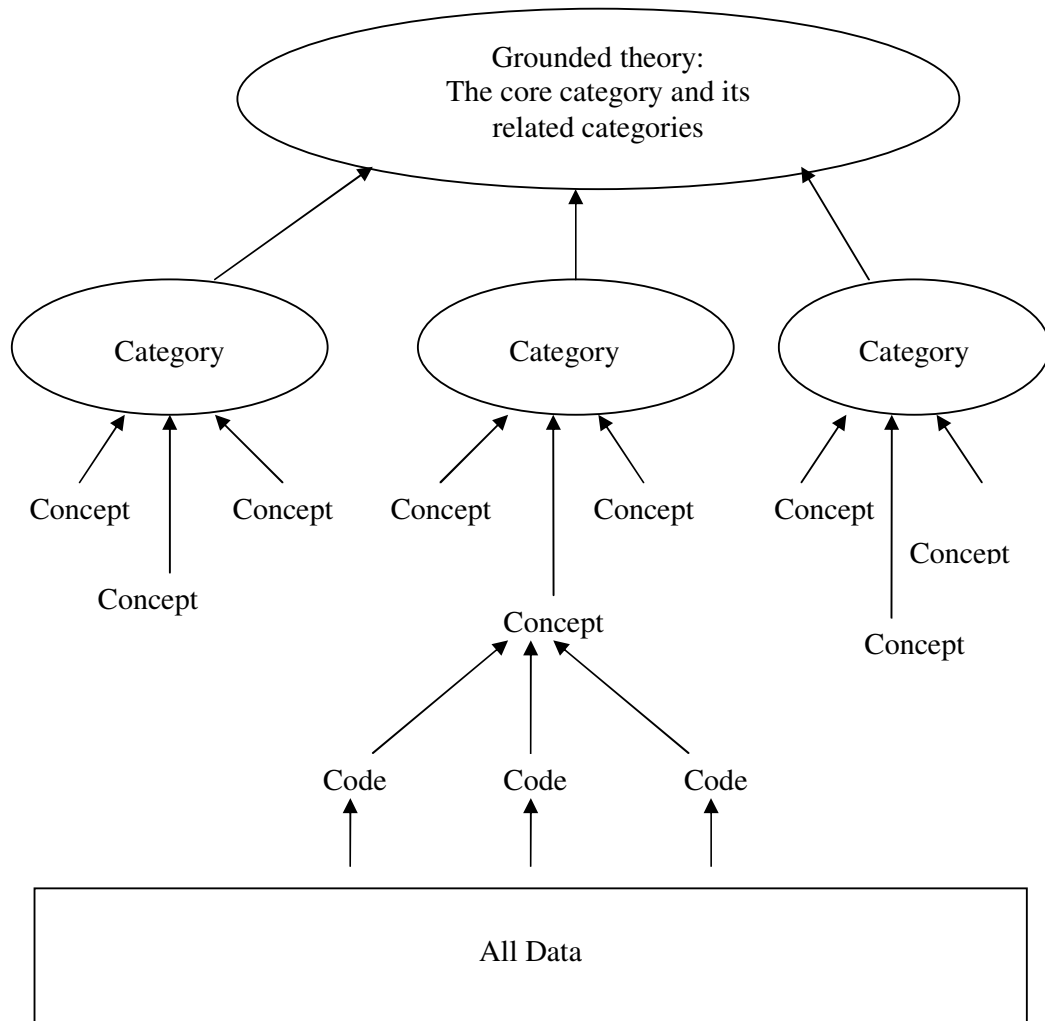


Figure 4. Application of the constant comparative analysis and concept indicator model in the study

Moreover, Strauss and Corbin (1998) suggested that grounded theory arrived at theoretical saturation when no new relevant data emerged to support the category. Additionally, the categories and the relationship between the concepts were well developed.

Trustworthiness of the Study

Trustworthiness of the study is the evaluation criteria for quality of research procedures and findings. It can be achieved through credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1987). Credibility is the criteria to evaluate the truth value of the study findings which can be established through the processes of prolonged engagement, triangulation, member checking and peer debriefing. Dependability refers to the stability of the findings over time and confirmability to the internal consistency of the data in relation to interpretation. An audit trail can be used to demonstrated dependability and confirmability. Confirmability is the criteria to evaluate that the research findings can be confirmed by others. Transferability is the criteria to evaluate that the research findings can be transferred or used to described the same phenomena in other populations, settings, and contexts. To ensure and enhance transferability the findings should be presented with thick descriptions of the phenomena.

Moreover, four criteria for doing and evaluating grounded theory suggested by Glaser (1978, 1998), fit, workability, relevance, and modifiability, were used to guide the study.

1. Fit.

Fit refers to validity of the study. Fit of this grounded theory achieved by using the conceptual codes, concepts and categories emerged from the data. In addition, the constant comparative analysis was used during coding and formulating concepts through concept indicator model. Therefore, the generated conceptual model and substantive theory would be fit and grounded in the data.

2. Workability.

Workability means do the concepts and hypotheses can explain and predict the main concern of the participants. Workability of this grounded theory obtained by using theoretical sampling and the theoretical sensitivity of the researcher. In addition, the researcher attempted to discover the important concepts and categories that reflected decision-making processes on pregnancy with HIV infection among Thai pregnant women.

3. Relevance.

Relevance is significance of the phenomena being studied. The study achieved relevance when it dealt with the main concerns and the ways to solve that problem of the participants. Grounded theory achieved relevance when the researcher allowed the concepts and categories emerged from the data. This study aimed at discovering decision-making processes on pregnancy with HIV infection among Thai pregnant women. Currently, these women still face difficult decision making because of the impacts of HIV infection on their pregnancies and quality of life. Additionally, during data collection and analysis the researcher attempted to capture the main concern and decision-making processes of the participants. Therefore, this study was considered relevance for Thai pregnant women with HIV infection.

4. Modifiability

Grounded theory can be modified based on the supporting data. The new data were used to verify the concepts and categories. Then, the hypotheses can be modified to explain the relationship between related concepts.

Summary

This chapter described the literature reviews related to the study in five aspects: current situations of HIV infection among pregnant women in Thailand, the impacts of HIV infection on pregnancy and women's lives, decision making concept, factors influencing decision-making on pregnancy among HIV- infected pregnant women and grounded theory. HIV infection is still a health problem among Thai pregnant women because of mother-to-child transmission and the impacts on women's lives including stigma, social discrimination, and quality of life. Therefore, HIV-infected women faced difficult decision making on their pregnancies. There were three important factors influencing the women's decision making on pregnancy: characteristics of pregnant women and their families, the impacts of HIV infection and antiretroviral therapy, and health policies and law related to HIV-infected pregnant women. In addition, philosophical foundation of grounded theory and its essential procedures, including theoretical sampling, theoretical sensitivity, conceptualization and theoretical saturation were reviewed to guide the study. The concepts and categories were formulated through the process of conceptualization until reaching theoretical saturation. Moreover, trustworthiness of the grounded approaches was reviewed to guide the study.

CHAPTER 3

METHODOLOGY

This chapter provided a description of research methodology employed in the study including research design, study settings, participant recruitments, data collection, theoretical sampling, data analysis, and trustworthiness of the study.

Research Design

Grounded theory was used as a research method for this study because the study aimed to generate a conceptual model describing the decision-making processes on pregnancy with HIV infection. Becoming pregnant with HIV infection is a critical and stressful life event among women. They faced difficult decision-making processes because they perceived that HIV infection threatened their lives and concerned over the impacts of HIV infection in particular mother-to-child transmission of HIV. Individual's decision making is a cognitive reasoning processes influenced by many factors including personal characteristics, perception, value or meaning giving to that thing within the decision-making contexts. Additionally, human's responses in decision making expressed through social action and interaction processes. Grounded theory methodology was used in this study because it provided guidance to explore basic social processes and other human actions or interaction related to decision-making processes on pregnancy with HIV infection.

Grounded theory employed interpretive and inductive methods to generate hypotheses and substantive theory. The philosophical foundation of grounded theory

is based on an interpretive paradigm which values the perspective of multiple truths based on individual experiences and perceptions. Grounded theory is an inductive methodology because the meaning of data collected from the participant's perspective would be captured and conceptualized into concepts and categories which attained higher abstraction. In addition, it provided conclusions from specific situations to general perspectives. The researcher did not use a preconceived idea from existing theories to frame the investigation. However, deductive reasoning was also used in theoretical sampling after the concepts was generated in order to collect additional data for further induction procedure (Glaser, 1998, 2005). Additionally, grounded theory methodology was suggested to use for exploring and conceptualizing social phenomena of a sensitive nature enriched with the values and meanings of human behaviors that cannot be captured using only quantitative method.

Study Settings

The study was conducted at two antenatal care clinics in two public hospitals located in Songkhla, Thailand. These two settings were chosen to study decision-making processes on pregnancy with HIV infection because they were referral centers for pregnant women with HIV infection under the Prevention of Mother-to-Child Transmission Program offered by the Thai Ministry of Public Health. In these hospitals Obstetric physicians, infectious physicians and counseling nurses are responsible to provide care and support for pregnant women with HIV infection. The counseling nurses are responsible for informing and advising all pregnant women with HIV infection about voluntary HIV blood testing, transmission of HIV through the mother to their child, prevention of mother-to-child transmission of HIV, use of

antiretroviral therapy, transmission rate and other related issues. Counseling and antenatal care for pregnant women who have positive HIV was routinely provided as the followings.

1. All pregnant women will be offered routine of pretest counseling and voluntary testing during the first antenatal care visit.

2. Their blood test results will be informed to the women within one week later. For the women who had the first HIV-positive, the second HIV blood test will be requested.

3. If the second blood test is positive, the women will receive post-test counseling. In addition, when the women have the second blood test positive, the CD4 cell count will be further investigated after 14 weeks of gestation.

4. The women will be considered to be HIV-positive if the second test was confirmed. Posttest counseling will be offered for all of the HIV-positive pregnant women.

5. Posttest counseling for the women who have HIV-positive includes the following activities:

- 5.1 The HIV-positive result will be described clearly.

- 5.2 Discussion on the impact of HIV infection, particularly on mother-to-child transmission and antiretroviral therapy in reducing the risk of the transmission will be conducted.

- 5.3 The support and care of the program for prevention of mother-to-child transmission was described to the women and their husbands. Then, an implementing plan will be mutually designed.

5.4 Their husbands will be asked to have HIV blood testing.

5.5 Discuss with significant others of the women who they want to share the test results

5.6 Educate and encourage safer sexual practices and provide condoms to the women and/or their husbands

5.7 Encourage the woman to ask questions

5.8 Discuss on infant feeding options

5.9 Provide information on future fertility.

6. The women will receive antiretroviral drugs regimens based on their CD4 cell count during pregnancy, intrapartum and postpartum.

6.1 If the CD4 cell count less than 200 cells/ml or the HIV/AIDS symptoms were manifested, the NVP-based HAART will be provided to the women that included zidovudine (AZT) 100 mg (two capsules), lamivudine (3TC) 150 mg, and nevirapine (NVP) 200 mg every 12 hours until the onset of labor.

6.2 If the CD4 more than 200 cells/ml, the women will be provided short-course zidovudine from 28 weeks until delivery and single dose nevirapine at the onset of labor.

Participant Recruitments

The participants in this study were thirty-eight Thai pregnant women with HIV infection attending antenatal care clinics at two public hospitals in Songkhla, Thailand. All were informed on the objective of the study and asked for participation by nurse counselor. After the women agreed to participate in the study, the researcher approached them and processed informed consent. The first five participants were

recruited through purposive sampling. To be included in the study, the women had primary characteristic of pregnant women with HIV infection either before becoming pregnant or after becoming pregnant. In addition, other characteristics were considered for participant recruitment including various religious background, primiparous, multiparous women, teenage, and adult women. In addition, after the initial data were analyzed to see some emergent concepts, the participants were recruited through theoretical sampling using the suggested hypotheses until data saturation were obtained. For example, the researcher found that the women who had a strong desire to have a child related to considering whether or not to seek an abortion. As a result, the researcher looked for pregnant women who had high or low desire to have a child in order to compare their consideration of abortion.

Data Collection

In this part, five topics under data collection were described: proposal approval, informed consent, research instruments, data collection procedures, and theoretical sampling. Data were collected after the processes of proposal approval and informed consent.

Proposal approval

The research proposal, data collection instruments (Appendix A, B, C and D) and informed-consent form (Appendix E) were approved by the research and ethical committee at the Faculty of Nursing, Prince of Songkla University. In addition, the two hospitals where the data were collected each had a committee that reviewed the proposal and approved research instruments for data collection.

Informed consent

After approaching the participants through an introduction by the counseling nurse, informed consent was obtained. The women were informed by the researcher about the objectives of the study, data collection procedures, and time expenditure. The participants were asked to voluntarily participate in the study. In addition, they were informed about their right to withdraw from the study at any time without any impact on medical or nursing care. Moreover, in case a question arose, contact persons and telephone numbers were also given. The informed consent was obtained either in writing or orally depending on the participant's preference.

Research instruments

Data were collected using four research instruments: demographic form, interview guides, open-ended questionnaire, and observation record form.

1. Demographic form

Demographic form (Appendix A.) was designed to collect demographic data, obstetric history and HIV infection history. Obstetric history included gravidity, parity, number of living children, and abortion history. HIV infection history included when they were diagnosed with HIV, either before becoming pregnant or after becoming pregnant, gestational age at attending antenatal care clinic and being diagnosed with HIV infection, and HIV/AIDS symptoms.

2. Interview guides

Interview guides (Appendix B) was used for conducting in-depth interview about decision-making processes on pregnancy with HIV infection. It comprised fifteen probing questions including response to becoming pregnant, reaction to being diagnosed with HIV infection, and decision-making processes on

pregnancy with HIV infection. For example, how did you make a decision on your pregnancy with HIV infection?

3. Open-ended questionnaire

The open-ended questionnaire (Appendix C) was designed to collect additional data related to the decision-making processes on pregnancy with HIV infection. The questions were focused on their responses to become pregnant with HIV infection and decision-making processes on pregnancy. It was administered to the participants after conducting the interviews. The participants were allowed to complete it at home and returned to the researcher by mail or on the next appointment. These data were useful to triangulate with interview data and were used to probe or clarify some points in the next interviews.

4. Observation record form

Observation record form (Appendix D) was used to make field note on decision-making contexts including antenatal care services, participants' action and interaction during seeking antenatal care with health care providers, family, or others. These data were collected through non-participant observation by the researcher.

Data collection procedures

Data were collected using four main methods: in-depth interview, completion of the open-ended questionnaire, non-participant observation, and reviewing of the participant's medical record. The data collection procedures were conducted as follows.

1. The counseling nurses at antenatal care clinics were informed of the purpose of study and data collection procedures. Then, they were asked to introduce the participants to the researcher.

2. Observations of the antenatal care provided for pregnant women with HIV infection was conducted in the clinic setting. The interactions between the pregnant women and health care providers, family members and/or others were the focus. Non-participant observation was used in order to gain understanding on their decision-making contexts. In addition, field notes were written by using the observation from (Appendix D).

3. The invitation to take part in the project was made to each participant by the counseling nurses. When they accepted the invitation, the counseling nurse introduced the researcher to them.

4. Each participant was informed on the objectives of study and data collection procedures. After she agreed to participate, either written-informed consent or oral-informed consent was obtained (Appendix E).

5. The medical records of each participant were reviewed. The data were collected, such as demographics, antenatal care history and counseling data. All data were collected using the demographic and health history form (Appendix A).

6. An in-depth interview of each woman's decision-making processes regarding pregnancy while infected with HIV was conducted using an interview guide (Appendix B). After obtaining their informed consent, the interviews were conducted in counseling room or health education room at the antenatal care clinics of both hospitals. The interviews were recorded using digital audio tape after obtaining participant's permission. The first interviews lasted approximately 30 minutes to 45 minutes.

7. Field notes were written during the interviews by using keywords of questions and participants' response such as unplanned pregnancy, unintended

pregnancy, shocked, frightened, stressed, angered, concerned over mother-to-child transmission of HIV, or concerned over disclosure of HIV infection. In addition, other meaningful actions/interactions were observed and noted such as stressful behavior, unwilling to respond to some questions, crying, sadness, or unexpected responses e.g., critical emotion or suicidal idea.

8. After completing the first interview, the open-ended questionnaire (Appendix C) was administered to each participant in order to collect additional data for triangulating with the interview data. The participants were asked to complete the questionnaire at home and return it to the researcher on the next appointment or by mail. The participants' responses to the open-ended questions were used for developing probing questions and to clarify some points related to decision-making processes on pregnancy with HIV infection, such as responses to becoming pregnant with HIV infection, perceptions of mother-to-child transmission of HIV and influencing conditions.

9. The tape records were transcribed verbatim in Thai and then were translated into English. The probing questions were developed for the second interview, e.g., "Why do you think that your child would be infected with HIV?", "How do you feel after your mother inhibit you to seek an abortion?" and "Why do you make a decision to terminate a pregnancy?"

10. On the second interviews, the participants were asked to clarify or validate some points of the previous interview data such as "After becoming pregnant with HIV infection, why do you feel ambivalence to continue with the pregnancy?", "How about the discussion with your husband towards the decision regarding pregnancy while infected with HIV?", and "How did you adapt your mind during the

decision-making processes?. The interviews were also conducted at antenatal clinics and lasted for 20 to 30 minutes. Audiotape recorders were used. Then, the data were transcribed and added to the first transcriptions.

Theoretical Sampling

In this study, three types of theoretical sampling were utilized: open sampling, relational and variational sampling, and discriminate sampling (Strauss & Corbin, 1998).

1. Open sampling

Open sampling was used after collecting of the data from the first participant because some concepts emerged after analysis of the initial data. Then, it was used to collect data from the five participants in order to see the emerging concepts. The example of emergent concepts during open sampling were: (1) pregnancy planning, (2) desire to have a child, (3) considering an abortion, (4) preferring to keep the child, (5) being frightened of HIV infection, (6) being concerned over mother-to-child transmission, (7) being concerned over disclosure of HIV infection, (8) seeking information, (9) discussing with health care providers, husbands and family members and (10) adapting the mind.

2. Relational and variational sampling

It was used in order to collect the data to add various dimensions of the concepts and to relate the concepts and categories during axial coding. Theoretical sampling using for collecting of the relational concepts was implemented through the hypothesis. The example of hypotheses were: (1) the women who planned a pregnancy had a strong desire to have a child, (2) the women who had unplanned

pregnancy were more likely to consider an abortion, (3) the women who had high concern over mother-to-child transmission of HIV were more likely to consider an abortion. The example of emergent concepts used in theoretical sampling for collecting of variation concepts were: (1) characteristics of emotional distress, (2) variations of concern over the impacts of HIV infection, (3) variations of decision-making processes, (4) variations of influencing factors and (5) variations of adapting the mind. Relational and variation sampling was used for collecting the data from fifteen participants.

3. Discriminate sampling

It was employed after discovering of the core category and related categories in order to verify the core category with additional new data and previous data. In this study the decision-making processes regarding pregnancy of pregnant Thai women was conceptualized, including experiencing emotional distress, feeling ambivalence towards continuing with pregnancy, exploring alternative options, appraising the influencing conditions, and making the appropriate choice. In addition, adapting the mind was the strategy that the women considered throughout throughout the decision-making processes. It was composed of five properties: accepting the situation; considering the desire to have a child; hoping for an uninfected child; considering the ability to manage pregnancy while infected with HIV; and doing the best thing for the child, oneself, and one's family. These concepts were used in theoretical sampling in order to verify them with additional data.

Data Analysis

Data analysis aimed to discover the emergent concepts related to decision-making processes on pregnancy with HIV infection experienced by Thai pregnant women. Data were analyzed using coding and constant comparative analysis. Data analysis was conducted after the collection of data from the first participants. Coding of the data aimed to conceptualize the data into conceptual codes, concepts and categories. In addition, constant comparative analysis was used during coding and formulating of the core category, conceptual model and hypotheses.

Coding procedures

Coding procedures guided by Strauss and Corbin (1990, 1998) were used in this study. There were three steps of coding: open coding, axial coding, and selective coding.

1. Open coding

Open coding was the first step of data analysis. All data, interview transcripts, self-reporting to the open-ended questionnaire, the participant's medical records, and non-participant observation notes, were translated into English and analyzed through open coding line-by-line, paragraph- by-paragraph until the whole document was coded. Open coding was done by searching key words that emerged from the data. The key words in those sentences were highlighted and written in the left margin of the data using participants' words or concepts that relevance with the meaning of that data. Then, the conceptual codes were assigned to those key words. Each conceptual codes and coded data including key words were typed in computer files and separated from the data. After that all conceptual codes were grouped into concepts and categories using concept-indicator model (Glaser, 1998). Open coding was performed with the data collected from the five participants. The example of

codes were: (1) shock, (2) concern over mother-to-child transmission, (3) desire to have a child, (4) considering an abortion, (5) seeking information, (6) discussing with husband, (7) adapting the mind, (8) continuing with pregnancy, (9) offering the child for adoption, and (10) terminating a pregnancy.

2. Axial coding

Secondly, axial coding was done in order to relate the emergent concepts and categories using the paradigm model, including phenomena, conditions, strategic actions/interactions, and consequences. Phenomena were repeated patterns of the women's responses to becoming pregnant with HIV infection, their actions and interactions. The example of phenomena emerged in the study were expressing of emotional distress and feeling of ambivalence to continue with the pregnancy. The conditions explained how and why the women responded to becoming pregnant with HIV infection and their decisions regarding pregnancy. The example of codes for conditions were: (1) being frightened of HIV infection, (2) being concerned over the impacts of HIV infection, (3) the desire to have a child, (4) beliefs in abortion, (5) preferring to keep the child, and (6) considering an abortion. Strategic actions/interactions were the women actions to make the decisions regarding their pregnancies. The example of codes used for strategic actions/interactions were: (1) exploring decisional options, (2) appraising the influencing condition, (3) making the appropriate choice, and (4) adapting the mind. The examples of codes for consequences were: (1) continuing with pregnancy and keeping the child, (2) continuing with pregnancy and offering the child for adoption, and (3) terminating a pregnancy. At the end of axial coding, the preliminary core category was conceptualized.

3. Selective coding

Thirdly, selective coding using the core category and related concepts was performed in order to verify the core category. Selective coding was carried out until obtained theoretical saturation. The core category used in selective coding was “adapting the mind” and its properties were: (1) accepting the situation; (2) considering the desire to have a child; (3) hoping for an uninfected child; (4) considering the ability to manage pregnancy with HIV infection; and (5) doing the best thing for the child, oneself, and one’s family. In addition, the five stages of the decision-making process emerged in the study were used for selective coding that included: (1) expressing of emotional distress, (2) feeling ambivalence towards continuing with pregnancy, (3) exploring alternative options, (4) appraising the influencing conditions, and (5) making the appropriate choice.

Constant comparative analysis

The constant comparative analysis guided by Glaser (1978, 1998) was used in this study. Constant comparative analysis was used to analyze conceptual codes in order to develop the concept, categories, and substantive theory through concept-indicator model (Figure1). The indicator is the conceptual code indicating the meaning or the property of the concept. The concept-indicator model aimed at comparing the similarities and differences among the properties of the indicators representing that concept. In addition, it related the similar indicators under the same concept (Glaser, 1978, 1998). In this study, the constant comparison and concept indicator model were applied in order to generate concepts, categories, conceptual model including the core category and its related categories.

1. Generation of concepts

The concepts were developed by analyzing the conceptual codes during open coding. Conceptual codes were assigned to the coded data which were fit under that code. The coded data were compared with previous data in order to classify them under the same codes or difference codes. Then, each code was compared the conceptual meanings that indicated their common properties under that concept. Finally, the similar codes were grouped to form the concept. As a result, many concepts emerged during open coding.

2. Generation of the categories

The category is the higher abstraction of the concepts. There are many concepts under the same category. The properties and dimensional ranges of each concept are compared the similarities and differences during axial coding. In addition, the common characteristics of each concept were also compared to indicate their fit under the same category. This stage of constant comparison resulted in a few categories grouped the common meaning and properties of many concepts.

3. Generation of a conceptual model

The conceptual model was generated during selective coding. The conceptual model composed of essential categories and concepts represented the main theme of the study. It was generated using constant comparison of the concepts and categories in order to identify the core category and its related categories. The core category represented the highest abstract of the concepts and categories. The concepts and categories were verified against the data using the hypotheses relating the relationship among the concept and categories within the conceptual model. As a result, only the significant concepts and categories contained in the final model used to developed the substantive theory.

In addition, memo writhing was performed during coding and constant comparative analysis in order to write down the researcher's emerging ideas about the codes, concept, categories, and the conceptual model. These conceptual ideas were integrated to generate the findings of the study.

Trustworthiness of the Study

To ensure and enhance trustworthiness of the study, credibility, dependability, confirmability and transferability, the following procedures of data collection and data analysis were performed.

Credibility

Credibility of research findings could be shown by prolonged engagement of the researcher and triangulation method.

1. The researcher entered the field of the study, two antenatal clinics, to build the relationship and rapport with HIV-infected pregnant women and health care providers. It was helpful to gain more understanding on the nature of the decision-making processes on pregnancy with HIV infection among Thai pregnant women in the study settings.

2. Data was collected using a variety of methods that included in-depth interviews, open-ended questionnaire, reviewing of medical records, and non-participant observation in order to validate data from multiple sources and methods of data collection.

Dependability

Dependability of research findings can be achieved by using an audit trail of all collected data and describing the decision-making process of pregnant women with HIV infection.

1. Field notes, transcribed verbatim, audio-tape recording, and memo writing were conducted and kept as the documents for providing audit trail.

2. The researcher attempted to capture the nature and the whole processes of decision-making among the pregnant women with HIV infection by conducting two interviews in order to clarify and confirm the data. The second interview usually conducted at 4 weeks after the first interview.

Confirmability

Confirmability can be achieved through awareness of the researcher to individual subjectivity by using variation of participants, member checking, and peer debriefing.

1. The participants were recruited by maintaining conditions that expected to be related to the decision-making processes on pregnancy with HIV infection. They were variety of personal age, religion, educational level, employment, gravidity, parity, gestational age and HIV infection history.

2. Member checking was used during data collection and data analysis. The researcher clarified unclear data and summarized emerging themes with each participant as the first interviews had been progressed and on the second interviews.

3. Peer debriefing with advisors and co-advisors was conducted during data analysis and writing-up the research report. Three Thai advisors at Faculty of Nursing, Prince of Songkla University, Thailand and one International advisor at

School of Nursing, The University of Texas Health Science Center at Houston, USA were approached.

Transferability

Transferability can be illustrated by clearly describing on research method and participant characteristics, contexts, and setting. The findings of this study could be used to compare and contrast to the decision-making processes of other groups of pregnant women with HIV infection. Therefore, transferability was applied in the study through the following procedures:

1. All research methods were described thoroughly.
2. Characteristics of participants, contexts, and settings in the study were described clearly.
3. Interviewed data in Thai were coded using both Thai and English keywords that reflected the similar meaning of conceptual labels. In addition, summary of interviewed data were translated into English and used the same codes.

Summary

This grounded theory study was designed to explore the decision-making processes regarding pregnancy used by pregnant Thai women with HIV infection. The participants were 38 pregnant Thai women with HIV infection who attended antenatal care clinics of two public hospitals in Songkhla, Thailand. The data were collected through in-depth interview, open-ended questionnaire, non-participant observation, and reviewing of medical records. Theoretical sampling was used to sample the concepts during data collection and analysis. Data were analyzed using coding and constant-comparative analysis in order to formulate concepts, categories, and a

conceptual model. Trustworthiness of the qualitative research i.e., credibility, dependability, confirmability, and transferability, were implemented in the study.

CHAPTER 4

RESULTS AND DISCUSSION

This study aimed to describe the decision-making processes and generate a conceptual model explaining the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection. It attempted to answer two main research questions using grounded theory methodology. Firstly, how do pregnant Thai women with HIV infection make decisions regarding their pregnancies? Secondly, what are the factors influencing the decision-making processes of pregnant Thai women with HIV infection? The results of this study were presented in three main parts: the characteristics of the participants, the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection, and the discussion.

Characteristics of the Participants

The participants in this study were thirty-eight pregnant Thai women with HIV infection. They were classified into two groups: 30 women who were infected with HIV after becoming pregnant and 8 women who were infected with HIV before becoming pregnant. Their ages ranged from 17 to 39 years. Most of them (84.2%) were Buddhist. Their educational levels varied, ranging from primary school to a bachelors degree. Twenty-two women (57.9%) were employed. Twenty-five of the participants (65.8%) were multiparous pregnant women and the other 13 (34.2%) were primiparous. Fifteen women (39.5%) had no previous child. The details of the participant characteristics are presented in three parts: demographic data (Table 1), obstetric history (Table 2), and HIV infection history (Table 3).

Demographics of the Participants (N=38)

Demographics	Frequency	Percentage
Age (years)		
15-19	1	2.6
20-29	19	50.0
30-39	18	47.4
Marital status		
Single	6	15.8
Married	32	84.2
Marital history		
First marriage	18	47.36
Second marriage	20	52.64
Religion		
Buddhism	32	84.2
Islam	4	10.5
Christianity	2	5.3
Education level		
Primary school	10	26.3
High school	19	50.0
Vocational school	7	18.4
Bachelors degree	2	5.3
Current employment		
Yes	22	57.9
No	16	42.1

Table2

Obstetric History of the Participants (N=38)

Obstetric history	Frequency	Percentage
Number of pregnancies		
1	13	34.2
2	17	44.7
3	6	15.8
4	2	5.3
Abortion history		
No previous abortion	33	86.8
Had previous abortions	5	13.2
Number of living children		
0	15	39.5
1	17	44.7
2	5	13.2
3	1	2.6

Table3

HIV Infection History of the Participants (N=38)

HIV infection history	Frequency	Percentage
Diagnosed with HIV infection		
Before becoming pregnant	8	21.1
After becoming pregnant	30	78.9
Gestational age when diagnosed with HIV (weeks)		
6-12	8	21.1
13-20	26	68.4
21-28	4	10.5
HIV/AIDS symptoms		
Present	3	7.9
Not present	35	92.1
HIV infection status of husband		
Positive	25	65.78
Negative	5	13.16
Not tested	8	21.06

The Decision-Making Processes Regarding Pregnancy of Pregnant Thai Women with HIV Infection

The results of this study revealed that the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection composed of six stages: (1) expressing emotional distress, (2) feeling ambivalence towards continuing with pregnancy, (3) exploring alternative options, (4) appraising the influencing conditions, (5) making the appropriate choice, and (6) accepting the decision and its consequences. Adapting of the mind to being pregnant with HIV infection was identified as the core category because it was the strategies that the women used throughout the decision-making processes. After becoming pregnant with HIV infection the women experienced emotional distress including being frightened, angered, worried, regretful, discouraged, and concerned over the impact of HIV infection on their pregnancies and daily lives. They had to adapt their mind to accept the occurrence of pregnancy with HIV infection before making a decision. Then, the women were ambivalent about continuing their pregnancies because of concern over mother-to-child transmission, disclosure, social discrimination, maternal health, and family burden. They had to review their desire to have a child by discussing with their husbands and family members. Next, the women explored their decisional options and hoped for an uninfected child. After appraising the influencing conditions, the women considered their abilities to manage pregnancy while being infected with HIV and made appropriate choice by weighing their desire to have a child and perceived risk of mother-to-child transmission of HIV. Finally, they could accept their decisions and consequences by thinking that they had done the best thing for their children, themselves, and their families. "Getting through the Constraint" was conceptualized

as the basic psychological process of the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection. It reflected that the women had to make the decision after becoming pregnant under emotional distress and limited options due to restriction of abortion law. The emergent concepts and stages of these decision-making processes were formed into a model (Figure 5) which is presented below.

Figure 5. Getting through the constraint: A model of the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection

Expressing emotional distress

Emotional distress was the women's psychological responses to becoming pregnant while being infected with HIV. This distress was composed of two categories: experiencing crisis state and being concern over the impact of HIV infection on their pregnancies and daily lives. After being diagnosed with HIV while becoming pregnant, the women experienced emotional crisis state including the feelings of being frightened, angered, worried, regretful, and discouraged. Concern over the impact of HIV infection was the women's reaction to becoming pregnant while being infected with HIV experienced by the women who became pregnant before being diagnosed with HIV infection and those were diagnosed with HIV before becoming pregnant. The findings showed that the 30 women who were diagnosed with HIV after becoming pregnant experienced both feelings of crisis state and concern over the impacts of HIV infection. On the other hand, the eight women who were diagnosed with HIV before becoming pregnant expressed only concern over the impact of HIV infection because they had been able to cope with HIV infection for a previous period of time, ranging from 6 months to 11 years. However, they indicated that they had also experienced emotional crisis when they were initially diagnosed with HIV infection. Details regarding this conceptual idea of emotional distress are given below.

1. Experiencing of crisis state

Emotional crisis was the initial emotional reaction experienced by the women after being diagnosed with HIV infection and it was followed by feelings of being frightened, angered, worried, regretful and discouraged. Of the 38 participants, the 30 women who were diagnosed with HIV after becoming pregnant experienced

emotional crisis. Most of the women felt frightened, worried, and regretful. Some women experienced anger and discouragement. They later reflected that they were not able to accept their condition when first informed of the positive diagnosis. In addition, they perceived that HIV infection was threatening to their health and quality of life and would lead to premature death. They reported that these reactions affected their daily living in ways that included loss of appetite, insomnia, quickness to tears, and no desire to go outside. The critical period generally lasted no more than a week; after that time, their feelings turned more to worry, regret, and discouragement. They were nevertheless able to cope with these emotional conditions because they received psychological support from their husbands, family members, and health care providers, which included an understanding of their condition, a refusal to cast blame, a show of encouragement and guidance towards helping the women adapt their minds to accept the situation. Some quotes of the participants' expressions of emotional crisis were provided.

"I felt shock and disbelief that I was infected with HIV because I was careful and did not have extramarital sex. I was worried so much. It was a stressful period. I could not eat anything and could not sleep well for a week." [P.R., 36 years]

"I was frightened of my HIV infection. It was unexpected for me. I was afraid that I would exhibit AIDS symptoms." [P.N.T., 30 years]

"I cried after the doctor informed me about my blood test and I was angry with my husband because he did not tell me about his HIV infection before I became pregnant." [W.A.S, 28 years]

“I could not accept that I was infected with HIV because I perceived that HIV-infected people could not have long lives. I regretful it because I had been infected by my previous husband” [A.N.T, 28 years]

“Being infected with HIV discouraged me because I intended to have a child and hoped that he or she would take care of us when my husband and I were old. I thought that I had lost my hope to have a healthy child.” [S.D.N., 32 years]

2. Being concerned over the impact of HIV infection

The findings revealed that pregnant Thai women with HIV infection experienced emotional distress because of concern over the impacts of HIV infection on their pregnancies, health, and lives. This concern was the women’s reaction to their situation and included worry about mother-to-child transmission, disclosure of HIV infection, social discrimination, maternal health, and family burden. All of the women were concerned about possible mother-to-child transmission of HIV because they knew both from their previous education and from health care providers that HIV can be transmitted to babies during pregnancy. This concern was the major influencing condition affecting their decision-making processes regarding being pregnant with HIV infection and can be seen in the following expressions.

“After the doctor informed me that I was positive for HIV, I asked him whether or not I needed to abort my pregnancy because I was worried my child might be infected with HIV.” [N.P.R., 29 years]

“I did not want to continue my pregnancy because I feared that my child would be infected with HIV.” [S.R., 24 years]

“I thought that my child would be infected with HIV because I was infected with it.” [K.N., 35 years]

Most of the women were concerned about disclosing the news of HIV infection to their husbands, family members, and others. There were six women who did not disclose their HIV status to their current husbands because they had been infected with HIV from their previous husbands and thus worried about their current spouses’ reactions and how it would affect their marital relationships. In addition, some women did not tell their parents, family members or friends about their HIV infection because of concern over social discrimination. The women shared their concerns about HIV disclosure, some examples of which are given as follows

“I did not tell my husband and his family about my infection because I was infected with HIV from my previous husband. I was afraid that if he knew about my infection, he would not accept me. I was afraid of the consequences if my husband found out about my HIV infection.” [N.P.R., 29 years]

“I told my husband about my HIV infection because I thought that he had transmitted it to me, but I did not tell my parents about it because I was concerned for their feelings.” [S.Y.M., 23 years]

“After I knew that I was infected with HIV, I did not go outside my house to meet my friends because I worried that I would face discrimination from them.” [W.J.T., 29 years]

The women were concerned about their health because they knew that HIV would affect their immune system and lead to premature death. They reported that they were afraid of HIV/AIDS symptoms and they were worried that there would

be no one to care for their children. This concern influenced the women's attitudes towards continuing their pregnancies and their consideration of abortion as the following quotes demonstrate.

"I was afraid of having some skin lesions. I was concerned that I would have some HIV/AIDS symptoms. I felt in fear of death. In addition, I was worried that there would be no one to take care of my." [N.T., 32 years]

"I knew that HIV-infected people do not have as long of lives as is usual. Therefore, I was sorry for myself." [A.N.T., 23 years]

Furthermore, they were worried about the burden on their families and whether their children would be infected with HIV or not. Some of the women were unemployed, separated from their husbands, or had husbands who were also HIV positive. The women's concerns over the impacts of their HIV infection on their families are demonstrated by the following quotes:

"I was worried that the child would be a burden on my family because I already had one previous child and I was unemployed. In addition, my husband had been infected with HIV." [S.M.T., 26 years]

"I thought that I could not take care of my child because I had low income and I had some health problems. In addition, I was separated from my husband." [P.R., 39 years]

The findings revealed that the major contributing factors for the women's emotional distress were: (1) the time when they were diagnosed with HIV infection before becoming pregnant or after becoming pregnant, (2) their perceptions of HIV infection, and (3) their concerns over the impact of HIV infection, including mother-

to- child transmission of HIV, disclosure of HIV infection, social discrimination, maternal health, and family burden. After becoming pregnant with HIV infection the women experienced emotional distress particularly they were concerned over mother-to-child transmission of HIV. Therefore, they had to consider their desire to have a child while being infected with HIV.

Feeling ambivalence towards continuing with pregnancy

Ambivalence towards continuing with pregnancy was the women's reaction upon learning of their conditions because they were concerned over the impacts of HIV infection. At first, most of them were unhappy and unsure about continuing their pregnancies. They expressed their pre-decision options as either preferring to keep the child or considering an abortion.

1. Preferring to keep the child

The findings revealed that some of the women (14 out of 38) preferred to keep their unborn children because they and their husbands had a strong desire to have a child as well as strong beliefs against abortion. They expressed such strong desires to have children because most of them had no previous children and they intended to become pregnant due to value of pregnancy and motherhood. Additionally, they believed that abortion is a sin and they did not want to harm their children. Among these women, four were women who had been diagnosed with HIV infection before pregnancy and ten were women who had been diagnosed after pregnancy. There were similarities and differences in their desires to have children and their beliefs on abortion. The data suggested that the women who learned of their HIV diagnosis during pregnancy preferred to continue their pregnancies because of a strong desire to have children and strong beliefs against abortion whereas the women

who knew of their HIV infection before becoming pregnant had less of a desire to have children, but also had strong beliefs against abortion. In addition, the finding showed that regardless of the women's religious background –Buddhist, Muslim, or Christian- they generally agreed that abortion is a sin. The women shared their experiences during this stage, some of which are given below.

“I intended to become pregnant because my husband and I wanted to have a child. After I learned that I was infected with HIV, I discussed our desire to have a child with my husband, and the concern that the child might be infected with HIV. Then, we chose to keep the child because we did not want to harm it.” [S.D.N., 32 years]

“I knew that I was infected with HIV since my previous pregnancy. This current pregnancy was unplanned, but I decided to keep the child because my current husband had no previous child and he desired to have a child.” [A.M.E., 24 years]

“I had two previous children but I preferred to keep the unborn child because my husband and I still wanted to have this child.” [S.D., 34 years]

2. Considering an abortion

Considering an abortion was a pre-decision option explored by the women after becoming pregnant with HIV infection, and was due to concern over the mother-to-child transmission of HIV. The findings showed that most of the women (24 out of 38) considered seeking an abortion in the initial period of the decision-making processes. Both the women who were diagnosed with HIV before becoming pregnant and those diagnosed after becoming pregnant considered an abortion. There

were 20 women who became pregnant before being diagnosed with HIV and 4 women who became pregnant after being diagnosed with HIV who did not want to continue their pregnancies and thus considered seeking an abortion. The reasons provided for considering an abortion were similar, and included: (1) high concern over the mother-to-child transmission of HIV, (2) unplanned or unintended pregnancy, (3) little desire to have a child, (4) the presence of previous children, (5) financial problems due to unemployment, and (6) lack of spousal support due to being single or separated from one's husband.

For the women who became pregnant after being diagnosed with HIV, an additional reason provided for considering an abortion was maternal health problems due to HIV/AIDS symptoms including low immunity, opportunistic infections, and candidiasis. The women's views on abortion are expressed in the following quotations.

"I had an unplanned pregnancy. I did not intend to have a child because I was unmarried. I considered an abortion before I was diagnosed with HIV, but my mother did not agree with me. Therefore, I sought antenatal care. When I knew that I was infected with HIV, I considered an abortion again." [P.T., 32 years]

"I had one previous child. I desired to have a second child. Unfortunately, I was infected with HIV. I considered an abortion because I did not want to give birth to an HIV-infected child." [N.T, 30 years]

"I was diagnosed with HIV before I became pregnant. Then I had this unplanned pregnancy. I did not want to have a baby; therefore I considered an abortion." [P.T.A., 32 years]

After becoming pregnant while infected with HIV, the women showed ambivalence towards continuing their pregnancies because they were concerned about the mother-to-child transmission of HIV. The findings revealed that the women considered their desire to have a child before expressing of two pre-decisions. There were 14 women preferred to keep their unborn children and the other 24 women considered an abortion. Some characteristics of the women who preferred to keep their children included: (1) a planned pregnancy, (2) a strong desire to have a child, (3) not having a previous child, (4) a strong belief against abortion, (5) a gestational age of more than 12 weeks, (6) knowledge of using antiretroviral drugs to prevent the mother-to-child transmission, and (7) experience with pregnancy while infected with HIV. Among the women who considered an abortion, some reasons provided were: (1) being in an unmarried relationship, (2) having an unplanned pregnancy, (3) having little or no desire to have a child, (4) having previous children, (5) not having strong feelings against abortion, (6) having a gestation age of less than 12 weeks, (7) being highly concerned over the mother-to-child transmission of HIV. Given these feelings many women needed to consider alternative decisional options.

Exploring alternative options

The women explored alternative options using two main strategies: seeking information, service and support and discussing options with health care providers, husbands and family members. Three alternative options emerged from the women's investigation: trying to seek an abortion, using antiretroviral drugs, and offering the child for foster care.

1. Seeking information, service and support

Seeking information, service and support was a strategy that the women used to explore the alternative options during their decision-making processes. The women sought information, services and support from many sources including health care providers, family members, friends, and the media such as the internet books, and magazines. The women who considered an abortion also sought information about the accessibility of abortion methods. In addition, two women contacted the Child House Agency to offer their children for foster care. This information was useful in reassuring the women during such a difficult period. Some women shared their experiences during this information-gathering stage, and their quotes are given below.

“After the doctor informed me about my HIV infection, I considered an abortion and asked the doctor for one. The doctor recommended that I not abort my pregnancy and advised me to use antiretroviral drugs. After that my husband and I sought information via the Internet about pregnancy and HIV infection. From this, we found that I could continue my pregnancy.” [S.Y.M., 20 years]

“I considered offering my child for foster care; therefore I contacted Child House agency about the process of foster care. After the agency agreed to accept my unborn child, I made the decision to continue with my pregnancy.” [P.T., 32 years]

2. Discussing options with health care providers, husbands, and family members

Discussing options with health care providers, husbands, and family members was a common strategy that the women used during the decision-making processes, and was helpful in allowing them to share their concerns and seek advice on decision options. The findings revealed that all of the participants discussed their options with doctors and counseling nurses. As a result, they received information about the use antiretroviral drugs and were informed of the low risk of mother-to-child transmission of HIV, both of which were useful to them. In addition, the women who considered an abortion asked the doctors and counseling nurses about abortion options. However, they could not receive an abortion in Thailand due to Thai law and policy. Moreover, 30 of the 38 women shared their concerns and decision options with their husbands, including the preference to keep the child, the use of antiretroviral drugs to prevent the mother-to-child transmission of HIV, and the consideration of an abortion. In contrast, eight women did not discuss the situation with their husbands because they did not want to disclose their HIV status to them. Furthermore, 10 women consulted with their family members including mothers, fathers, sisters, and brothers. In addition, two women discussed their concerns with older sisters, who were also infected with HIV while pregnant. As a result, these women were able to benefit from the experience of another who had been in the same situation. The women shared their discussion experiences with health care providers, husbands, and family members in the following statements.

“I considered an abortion and asked some doctors about it. A doctor told me that I did not need to abort my pregnancy because of the availability of antiretroviral drugs to prevent mother-to-child transmission. In addition, he informed me about the low possibility of the mother-to-child transmission of HIV. Therefore, I agreed to use antiretroviral drugs and made the decision to continue my pregnancy.” [C.N.K., 30 years]

“I told my husband that I was considering abortion after I learned that I was HIV positive. He said that abortion is a sin. He did not agree with me on seeking an abortion. In addition, he encouraged me to continue my pregnancy because he did not have any children. He really desired to have a child.” [A.N.T., 28 years]

“I shared my consideration of getting an abortion with my sister and brother. They told my mother, and she prohibited me from seeking an abortion because she was worried that I would face harm from abortion complications. In addition, my brother and sister suggested to me that I offer the child for foster care.” [P.T., 32 years]

“My older sister was infected with HIV when she was pregnant. Therefore, I could discuss my concerns with her. She suggested that I continue my pregnancy and use antiretroviral drugs, because as she had done this and her child had not been born with HIV. [J.N., 29 years]

3. Trying to seek an abortion

Trying to seek an abortion was one of the women’s actions following their exploration of possible decisions. The findings revealed that the 24 women who considered an abortion tried to seek an abortion by asking the doctors and counseling

nurses about getting one. However, the doctors and nurses informed them that antiretroviral drugs could prevent the mother-to-child transmission of HIV, and that abortion is illegal in Thailand. In Thailand, HIV infection is not a valid medical situation to permit therapeutic abortion. Additionally, most of the women had a gestational age of more than 12 weeks which would make any abortion attempt fairly dangerous. Therefore, abortion was not a valid option. Certainly, the women discussed abortion with their husbands and family members. Most of these people did not agree with the women about abortion, believing it to be a sin and not wanting to see the women and their children faced with possible harm. As a result, 22 of 24 women failed to seek abortion and reconsidered their options. Most of them considered using antiretroviral drugs. However, two women continued with seeking an abortion. The women shared their experiences about this, which are related below.

“I considered abortion after I knew that I was HIV positive. I asked the doctor to provide an abortion but he advised me to use antiretroviral drugs instead. Therefore, I stopped trying to seek an abortion and made the decision to continue my pregnancy.” [P.N.T., 24 years]

“I tried to seek abortion from two government hospitals but I could not get one; they advised me to continue using antiretroviral drugs. However, I did not want to continue my pregnancy because I did not desire to have the child. Therefore, I had to try to seek abortion elsewhere. My mother agreed with me about seeking an abortion and suggested that I seek one in another city.”
[P.T.P., 32 years]

4. Consideration of antiretroviral drugs usage

The consideration of antiretroviral drugs usage was one of the decision options the pregnant women had. They considered using antiretroviral drugs after learning that antiretroviral drugs can prevent or greatly lessen the risk of the mother-to-child transmission of HIV. The women sought information about these drugs from health care providers, friends, family, the Internet, and books on the topic. The findings showed that 36 of the 38 women considered using antiretroviral drugs. There were two groups of women who considered using antiretroviral drugs. The first group, consisted of 14 women who preferred to keep their children whereas the second group consisted of 22 women who first considered abortion but failed to get one. Therefore, they had to consider using antiretroviral drugs as their second choice. Some comments from the women are below.

“After the doctor informed me of antiretroviral drugs and the low risk of mother-to-child transmission of HIV they offered, I decided to use the drugs because I wanted to keep my child.” [O.R., 24 years]

“At first I asked the doctor for an abortion because I was worried that my child might be infected with HIV. However, he informed me that I did not need to abort my pregnancy because of the availability of antiretroviral drugs. Therefore, I changed my mind and decided to consider the use of antiretroviral drugs as he recommended.” [N.T., 31 years]

5. Offering the child for foster care

Offering the child for foster care was a decision option considered by the women that involved either contracting the Child House agency to offer the child for foster care by themselves or offering it through the counseling nurses. The

findings showed that the two women who had little desire to have a child, and who considered abortion but did not get one, considered offering their children for foster care. Additionally, these women lacked family support, therefore they sought social support to take care of their children. The reasons provided for offering the child for foster care were: (1) little or no desire to have a child due to being unmarried, (2) a lack of family support due to being unmarried or separated, (3) no employment, and (4) the presence of some HIV/AIDS symptoms. The women shared their insights when considering offering their children for foster care as can be seen below.

“I considered an abortion but my mother did not agree with me. In addition, my sister and brother suggested that I contact Child House agency to offer my unborn child for foster care. After that organization agreed to adopt. I made the decision to continue my pregnancy.”[P.T., 31 years]

“I considered offering my unborn child for foster care since my neighbor was interested in adopting. I consulted my counseling nurse about this, but she suggested that I offer the child to Child House agency for foster care rather than to my neighbor in order to avoid social discrimination.” [P.R., 39 years,]

After exploring all alternative options by seeking information and discussing concerns and options with health care providers, husbands, and family member, the women found that there were three available options: (1) using antiretroviral drugs to prevent the mother-to-child transmission of HIV, (2) continuing with the pregnancy and (3) offering the child for foster care. The women had to review these options by considering their husbands and their own desire to have a child while being infected with HIV. In particular, the 24 women who considered an abortion failed to seek induced abortion during seeking antenatal care because

abortion is illegal and there were availability of the Prevention of Mother-to-Child Transmission Program.

Appraising the influencing conditions

After the women learned about their options, they appraised the influencing conditions within their decision-making contexts in order to evaluate their ability to manage a pregnancy with HIV infection. The findings revealed that the women based their final decisions on an appraisal of nine influencing conditions. They were: (1) age, (2) spousal relationship, (3) the desire to have a child, (4) gestational age, (5), beliefs and experiences regarding abortion, (6), accessibility of abortion, (7) experiences with pregnancy and HIV infection, (8) HIV/AIDS symptoms, and (9) availability of family supports.

1. Age

The results of the study revealed that the women appraised their age during the decision-making processes regarding pregnancy while they were infected with HIV, particularly the teen women and the women with advanced age. There were three teenage pregnant women and six women aged 36-39 years considered abortion. The teen women considered abortion because they were un-prompt to become pregnant and take care of their children. For the women with advanced age, they considered abortion because they already had children and they perceived that they were old for becoming pregnant. The reasons provided were:

“After becoming pregnant I considered abortion because I just was 17 years. I did not want to have a child. I enjoyed with my working and my friends.”

[T.D., 17 years]

“I considered abortion because I was 39 years. I was old to become pregnant. Additionally, I already had three children.” [K.R., 39 years]

2. Spousal relationship

The women appraised their relationships with their husbands before making the decisions regarding pregnancy. Spousal relationship influenced the women’s decisions in two opposite ways. Either the husbands gave their support in continuing the pregnancies or they supported considering abortion and terminating the pregnancies. The 14 married women who preferred to keep their children reported that they had good and stable relationships with their husbands. Therefore, they could make the decision to continue their pregnancies. In addition, of the 24 women who considered abortion, 20 made the decision to continue their pregnancies in order to maintain their relationships with their husbands. Additionally, their husbands encouraged them to continue their pregnancies due to the desire to have a child or a strong belief against abortion. In contrast, among the three unmarried women who were separated from their husbands, two of them made the decision to offer their children for foster care and one woman decided to terminate her pregnancy. Also, one married women made the decision to terminate her pregnancy because her husband was HIV positive. This finding suggested that pregnant women needed psychological and physical support from their husbands. The woman shared their appraisals of their relationships with their husbands during the decision-making processes below.

“I was concerned about my relationship with my husband after I was diagnosed with HIV because his test result was negative. Therefore, he knew that I was infected from my previous husband. However, he told me not to

worry about it. He would not leave me. In addition, he encouraged me to continue my pregnancy." [O.R., 24 years]

"I chose to offer the child for foster care because my husband left me after I became pregnant, knowing that I was infected with HIV from him. Additionally, I was not married." [P.T., 31 years]

"I was not married. I had unplanned sex with him and I got an unintended pregnancy. Therefore, I considered abortion and I made the decision to terminate my pregnancy because I did not have a marital relationship with him. In addition, he could not marry me because he was already married."
[P.U.N., 32 years]

3. The desire to have a child

The desire to have a child influenced the women's decisions as well as those of their husbands. The findings suggested that the women appraised their desires to have a child and their husband's desires to have a child before making the decision to continue with pregnancy. The women's desire to have a child varied from strong desire to have a child to low or no desire. The findings showed that 14 women expressed high desire to have a child and made the decision to continue with pregnancy. These women desired to have a child because it was their first marriage and they had no previous children. In contrast, 24 women expressed a low desire to have a child and considered abortion because their pregnancies were unplanned or they had one or more previous children. However, during the decision-making processes, these women reconsidered their desire to have a child and the available options. As a result, 20 of the 24 women considering abortion made the decision to continue with pregnancy. Of these, 18 women, who had been previously married,

reported that they made the decision to continue with pregnancy because their current husbands desired to have a child. Their expressions of desire to have a child are presented in the following statements.

“I was married for one year. My husband and I desired to have a child. Therefore, I made the decision to continue my pregnancy in spite of knowing that we were HIV positive.” [A.N.E., 28 years]

“I was separated from my first husband and was living with my current husband. I got an unplanned pregnancy and considered abortion after I knew that I was HIV positive. However, my husband did not agree with me about terminating the pregnancy because he desired to have a child. He said that he did not have a child already. Therefore, I made the decision to continue my pregnancy.” [A.N.T., 23 years]

4. Gestational age

Gestational age when the women were diagnosed with HIV infection influenced their decisions regarding continuing or terminating their pregnancies. The findings showed that the women considered their gestational age while making their decisions. However, only eight women sought antenatal care at a gestational age of 8-12 weeks. Most of them, 26 women had their first antenatal visit during the 13-20 week gestation age. For the 24 women who considered an abortion, three had a gestational age of 8-12 weeks. As a result, 22 women had to make the decision to continue with pregnancy. On the other hand, the two women who terminated their pregnancies had a gestational age between 10-12 weeks. However, there were five women with a gestational age between 8-12 weeks who made the decision to continue with pregnancy after being diagnosed with HIV because of their strong desire to have

a child and their strong feelings against abortion. Some of the women's comments regarding this are below.

"I knew that I was HIV positive after 16 weeks of gestation. I considered abortion but it was too late. Therefore, I made the decision to continue my pregnancy." [P.N.T., 24 years]

"I considered abortion after the doctor informed me about my HIV infection. At that time, my gestation was between 8-10 weeks but I could not access abortion from a government hospital. Therefore, I sought abortion from elsewhere." [S.M.T., 24 years]

5. Beliefs and experiences regarding abortion

Abortion beliefs and experiences influenced the women's decisions to continue with pregnancy. All of the women believed that abortion was a sin, based on their religious beliefs and social norms. The 14 HIV-infected women who preferred to keep their children after becoming pregnant had strong beliefs. Also, 22 of the 24 women who at first considered abortion made the decision to continue their pregnancies because they believed that abortion is a sin and they did not want to harm their children. In addition, their husbands and family members were against abortion, also believing it to be a sin. Moreover, one woman who had had a previous abortion considered abortion this time, but feared possible complications from the procedure. Therefore, she made the decision to continue her pregnancy. The women shared their beliefs and experiences regarding abortion in the following statements.

"I considered abortion because I was unmarried and my husband forced me to seek abortion. However, my mother prohibited me from seeking abortion. She warned me that abortion is a sin and she did not agree with me about aborting"

the pregnancy. Therefore, I reconsidered it and made the decision to continue my pregnancy.” [P.T., 32 years]

“I had been admitted to a hospital because of heavy bleeding and infection from a previous abortion complication. I considered abortion after I got this unplanned pregnancy, but I feared similar complication would occur this time as well. Therefore, I chose to continue my pregnancy.” [C.T.A, 26 years]

6. Accessibility to abortion.

Accessibility to abortion was the women’s ability to obtain abortion when they had decided on it as a solution. In Thailand, accessibility to abortion is limited because abortion is illegal and it is not a medical recommendation for HIV-infected women. However, the women who considered abortion appraised their accessibility to abortion before making choices regarding their pregnancies. The findings showed that the 24 women who considered abortion asked their doctors or counseling nurses for an abortion but they could not receive one because of the availability of the prevention of mother-to-child transmission program and the low risk of transmission when antiretroviral drugs are used. However, two women successfully sought an abortion elsewhere. The women shared their abortion-seeking experiences during the decision-making processes below.

“My gestation was 8 weeks, when I was diagnosed with HIV infection. I asked my doctor for an abortion but he recommended that I use antiretroviral drugs. I could not access an abortion elsewhere because I did not have enough money. Therefore, I had to continue my pregnancy.” [P.R., 36 years]

“I had an unplanned pregnancy and I considered abortion. My gestational age was 11 weeks, I requested an abortion but the doctor advised me to use

antiretroviral drugs instead. I could not get access to an abortion at that hospital but I tried to seek abortion illegally from another place, and was eventually successful.” [PT.A, 36 years]

7. Previous experiences with pregnancy and HIV infection

The findings showed that there were four women who experienced previous pregnancies while infected with HIV and they resolved the problem by taking antiretroviral drugs to prevent the mother-to-child transmission of HIV. In addition, one woman had had an older sister in the same situation who took antiretroviral drugs during her pregnancy. None of these women’s children were infected with HIV. These experiences caused the women to continue their pregnancies and use antiretroviral drugs to prevent their children from getting the HIV infection. They were thus fairly confident in the antiretroviral drugs and naturally hoped that their children would not be infected with HIV. Some of their comments on this are below.

“I thought that my unborn child might not been infected with HIV because my first child had not been infected. Therefore, I chose to continue my pregnancy.” [A.M., 20 years]

“My older sister experienced pregnancy while HIV positive and she used antiretroviral drugs. Her child was not infected with HIV. I learned from this and chose to continue my pregnancy, hoping that my child would not be infected either.” [J.N., 24 years]

8. The presence of HIV/AIDS symptoms

The findings showed that the women appraised their HIV/AIDS symptoms before choosing to continue a pregnancy or terminate their pregnancies.

There were three women who showed some of HIV/AIDS symptoms including low CD4 T-lymphocyte and opportunistic infection. One woman who had been infected with HIV for ten years and had a low CD4 and candidiasis reported that she made the decision to terminate her pregnancy because she had significant concern that her child would be infected with HIV due to her HIV/AIDS symptoms. Another woman who had tuberculosis of the lymph nodes decided to continue her pregnancy but offered her child for foster care because she perceived that her symptoms would affect her ability to take care of the child. However, one woman who was diagnosed with HIV during pregnancy and had only a low CD4, the decision to continue her pregnancy because of her desire to have a child. In addition, most of the women made the decision to continue their pregnancies because they exhibited no HIV/AIDS symptoms. The women expressed their concerns about HIV/AIDS symptoms in the following statements.

“The counseling nurse told me that I had low CD4, so I had to continue antiretroviral drugs postpartum. However, I had no other symptoms at that time. Therefore, I made the decision to continue my pregnancy.” [W.S.J., 30 years]

“The doctor informed me that I had low CD4 and I was infected with tuberculosis of the lymph nodes at the neck area. I thought that I would not be able to take care of my child. Therefore, I made the decision to offer my child for foster care.” [P.I., 39 years]

“I had been infected with HIV for ten years. I knew that I had low CD4 and opportunistic infection. I was afraid that my child would be infected with HIV

like I was. Therefore, I made the decision to terminate my pregnancy.”

[P.T.A., 32 years]

9. Availability of family support

The findings revealed that the women appraised level of family support before making decisions regarding their pregnancies. Availability of family support positively influenced the women’s decisions to continue with pregnancy, whereas the women who lacked family support were more likely to consider abortion or offer the child for foster care. The women stated that they needed both psychological and financial support from their families, in particular from their husbands. Additionally, the women who were unemployed during pregnancy reported that they could more easily continue their pregnancies because they received financial support from their husbands or family members. On the other hand, the four women who made the decision to offer their children for foster care or terminate their pregnancies reported that they lacked family support because of being separated from their husbands. Some viewpoints shared by the women on this issue are below.

“I made the decision to continue with pregnancy because my husband gave me psychological support and encouraged me to continue the pregnancy. In addition, my mother-in-law and my husband’s brother told me not to worry about taking care of my children because they were willing to provide care for them.” [N.T., 32 years]

“After I became pregnant, I moved from my mother’s home to a rental apartment. My sister and brother provided psychological support to me and gave me some money to pay the rent. Additionally, they supported me in continuing my pregnancy.” [P.T., 32 years]

During appraising these influencing factors the women considered their abilities to manage pregnancy while being infected with HIV in order to make the appropriate choice regarding their pregnancies.

Making the appropriate choice

After the women explored their decisional options and appraised their situations, they each came to a decision by weighing three available options and adapting their minds that they did the best thing for the child, oneself, and one's family. The findings revealed that the women made their decision in three choices: (1) continuing with pregnancy and keeping the child, (2) continuing with pregnancy and offering the child for foster care, and (3) terminating the pregnancy.

1. Continuing with pregnancy and keeping the child.

The finding showed that most of the women (34 out of 38) made the decision to continue with pregnancy and raise these children themselves. The characteristics of these women were as follows: 14 were women who preferred to keep their children, 20 were women who considered abortion, 7 were women were diagnosed with HIV before becoming pregnant, 27 were women who were diagnosed with HIV after becoming pregnant, 15 were women had not given birth previously and 19 were women who had had either one or two previous children. The influencing conditions that supported the women's decisions to continue with pregnancy and keep their children were as follows: (1) a stable relationship with their husbands, (2) a shared desire with their husband to have a child, (3) a gestational age of more than 12 weeks, (4) a strong belief against abortion among the women, their husbands, or their family members, (5) a lack of access to abortion, (6) the decision to use antiretroviral drugs to prevent the mother-to-child transmission of HIV and hoping for uninfected

child, (7) a lack of HIV/AIDS symptoms, and (8) the availability of family support. Some feedback from the women on this is given below.

“My husband and I wanted to have a child because we did not have a child already. I did not consider abortion because I did not want to harm my unborn child. After the doctor and counseling nurse informed my husband and me about using antiretroviral drugs and the low risk of mother-to-child transmission they offered, I decided to go that route.” [N.P.T, 28 years]

“At first I considered an abortion but my husband prohibited me from seeking an abortion because he desired to have a child and had strong beliefs against abortion. In addition, I could not access to abortion anyway because gestation was already 18 weeks. After the doctor and counseling nurse informed me of antiretroviral drugs, I thought that my child might not be infected with HIV and that we could raise him or her normally.” [A.N.T., 32 years]

A model describing the decision-making processes of the women who ended up keeping their children is given in Figure 6. At first, the women were ambivalent towards continuing with pregnancy while infected with HIV as they were concerned over the impacts of their HIV infection, such as mother-to-child transmission, disclosure, social discrimination, maternal health, and family burden. There were two pre-decisions preferences: preferring to keep the child and considering an abortion. The women who preferred to keep their children had had planned pregnancies and possessed a strong desire to have a child, whereas the women who considered an abortion had had unplanned pregnancies and naturally had a low desire to bear a child. Next, the women explored decisional options, and found that using antiretroviral drugs to prevent the mother-to-child transmission of HIV was

the most appropriate option. There were four important conditions that influenced this realization: knowledge of and experience with antiretroviral drugs, a perception of the low risk of mother-to-child transmission, fear of abortion complications, and failure to obtain an abortion. In addition, there were six conditions that made continuing with pregnancy and keeping the child more amenable: (1) a stable spousal relationship, (2) a desire to have a child, (3) a gestational age of more than 12 weeks, (4) a strong belief against abortion, (5) a lack of HIV/AIDS symptoms, and (6) the availability of family support.

2. Continuing with pregnancy and offering the child for foster care.

A few women (2 out of 38) made the decision to continue with pregnancy and offered their children for foster care. Some specific reasons provided for this decision included not having access to abortion, having family members who prohibited abortion, and receiving promises of foster care from Child House agency. These women offered their children for foster care because they did not want to take care of the children due to financial problems, lack of employment, and health problems from their HIV/AIDS symptoms. Additionally, they lacked spousal support due to being either single or separated. However, they did consider the use of antiretroviral drugs to prevent the mother-to-child transmission of HIV, as was recommended to them. The participants' statements regarding this choice are given below.

“I considered an abortion because my husband forced me to do so, but my mother prohibited me to abort my pregnancy. In addition, my sister and brother suggested that I contact Child House agency to offer the child for

foster care. After the agency agreed to adopt my child, I made the decision to continue my pregnancy.” [P.T., 32 years]

“I considered an abortion because I did not want to have a child, but I could not obtain one. Therefore, I had to continue my pregnancy. After my husband learned that I was HIV positive and that he was negative, he separated from me. In addition, I was unemployed and was infected with tuberculosis. Therefore, I decided to offer the child for foster care.” [P.R., 39 years]

The decision-making processes that resulted in the women choosing to offer their children for foster care are illustrated in Figure 7. At first, the women were ambivalent towards continuing their pregnancies as they were concerned over the impacts of HIV infection. The women considered abortion because they either had no desire to have a child or they were forced by their husbands to seek abortion. However, they failed to obtain an abortion because of a lack of access to abortion or because of prohibitions from family members. Hence, they sought alternative options, one of which was child foster care. After that, they considered using antiretroviral drugs to prevent the mother-to-child transmission of HIV. Finally, they made the decision to continue with pregnancy and offer the child for foster care. There were six factors which influenced their decisions: (1) an unmarried relationship, (2) no desire to have a child, (3) a gestational age of more than 12 weeks, (4) the presence of HIV/AIDS symptoms, (5) no employment, and (6) lack of spousal support.

3. Terminating the pregnancy

There were two women who made the decision to terminate their pregnancies. The reasons they provided were: (1) no desire to have a child due to unintended pregnancy, as well as having a previous child, (2) high concern over the

mother-to-child transmission of HIV, (3) current health problems due to HIV/AIDS symptoms, (4) financial problems due to being unemployed, and (5) lack of spousal support due to being either single or separated. Additionally, both women had gestational ages of less than 12 weeks, so they could access abortion illegally somewhere. They shared their decision-making processes regarding abortion as follows.

“I was not married and did not intend to become pregnant. In addition, I had been infected with HIV for ten years and I had some current health problems. I thought that my child would be infected with HIV like me. Therefore, I chose abortion.” [P.T.P., 32 years]

“I considered abortion since I knew that I was HIV-positive and I did not want to give birth to an HIV-infected child. He or she might be a burden on my family because I had already had one previous child and my husband was infected with HIV. Additionally, I was unemployed.” [S.M.T., 24 years]

The decision-making processes resulting in abortion are shown in Figure 8. At first, the women were ambivalent towards continuing with pregnancy due to concern over the impacts of HIV infection, including mother-to-child transmission, disclosure, social discrimination, maternal health, and family burden. They considered abortion because they had no desire to have a child and were not married. Hence, they tried to obtain an abortion. After they failed to obtain one from a public hospital, they sought an abortion illegally. In addition, their family members agreed with them about abortion. As a result, they made the decision to terminate their pregnancies. Although they received information about using antiretroviral drugs to prevent mother-to-child transmission, they did not choose this option. There were four conditions which

influenced their decisions to terminate their pregnancies. They were: (1) a gestational age of less than 12 weeks, (2) the presence of HIV/AIDS symptoms, (3) a lack of spousal support, and (4) no employment.

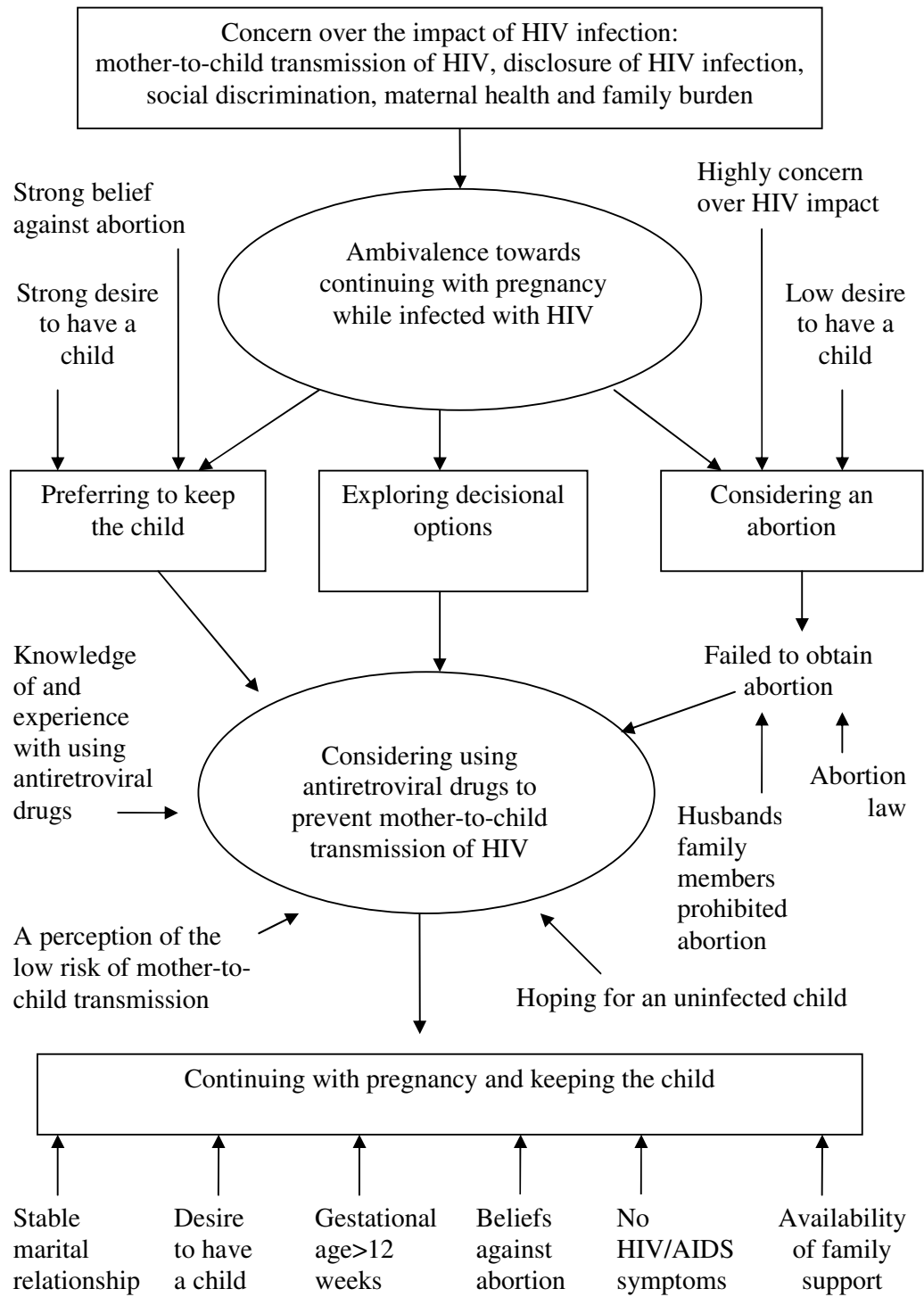


Figure 6. Processes of decision to continue with pregnancy and keep the child

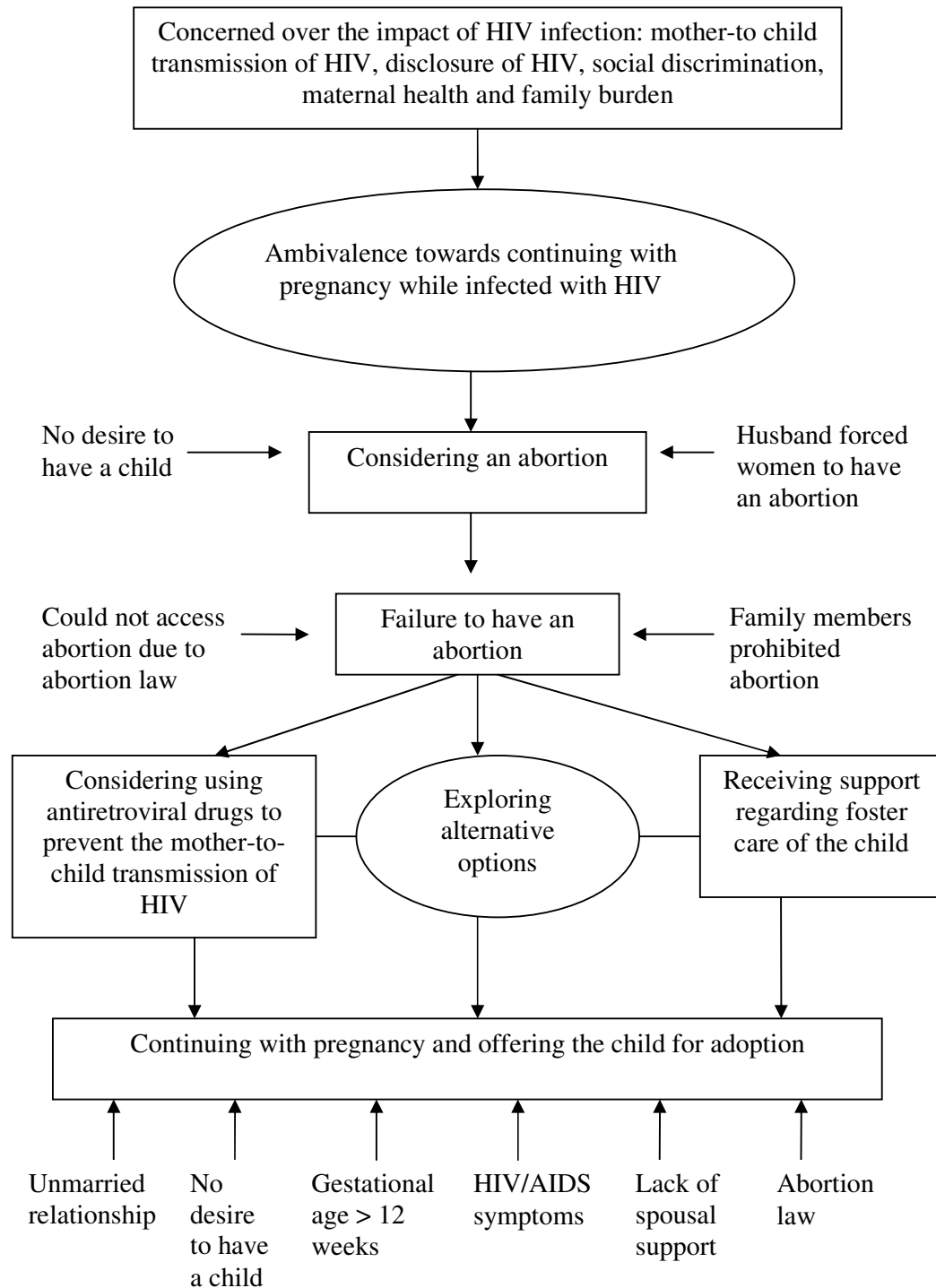


Figure 7. Processes of decision to continue with pregnancy and offering the child for foster care

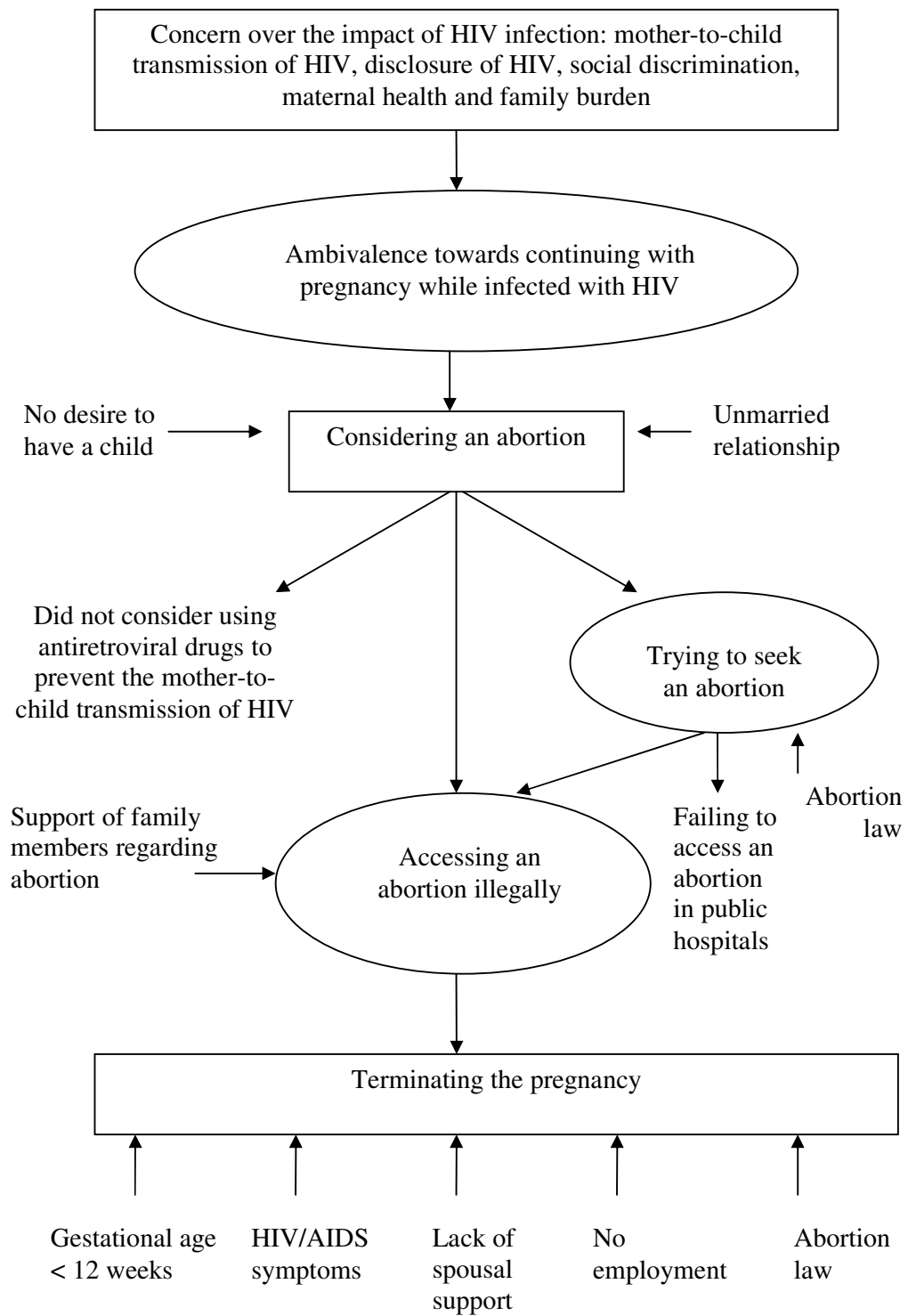


Figure 8. Processes of decision to terminate the pregnancy

Accepting the decision and its consequences

After making appropriate choice, the women performed that behaviors either carrying on their pregnancies or terminating their pregnancies. The women shared their experiences that they could adapt their minds to accept the decision and its consequences by thinking that they had done the best thing for the child, themselves, and their families. However, they still had some degree of emotional distress due to concern over the impact of HIV infection on their pregnancies and daily lives. The women's statements reflecting their acceptances the decision and its consequences are illustrated by the following quotes:

"I tried to adapt my mind to accept my situation after my husband told me that we should do the best thing for our child. Whether my child would be infected with HIV or not, I could accept it." [N.T., 32 years]

"I chose to continue my pregnancy because I thought that I should not make harm to my child. If my child would be infected with HIV, I could accept because I thought that it was my Karma and my child Karma." [S.G.D., 30 years]

"I was relieved from my concern after I could terminate my pregnancy because I did not want to give birth for HIV-infected child." [P.T.A., 32 years]

Adapting the mind

Adapting the mind was the strategy that the women used throughout the decision-making processes in order to arrive at the decision. It was composed of six ways of thinking that included: (1) accepting the situation, (2), considering the desire to have a child, (3) hoping for an uninfected child, (4) considering the ability to manage pregnancy with HIV infection, (5) weighing between the desire to have a

child and perceived risk of mother-to-child transmission, and (6) doing the best thing for the child, oneself and the family.

1. Accepting the situation

After becoming pregnant with HIV infection, the women experienced emotional distress because they perceived that HIV infection threatened their pregnancies and daily lives. It was unexpected. They shared their experiences that they had to adapt their mind to accept the pregnancy with HIV infection because it occurred and it could not be changed. In addition, after exploring alternative options and appraising the influencing factors, the women found out that they had limited options due to abortion law, their beliefs against abortion, and prohibition of abortion by their husbands or family members. Therefore, thinking in this way was helpful to cope with pregnancy while being infected with HIV. As a result, their emotional distress relieved and recovered to carry on their pregnancies. On the other hand, the two women who made decision to terminate their pregnancies also accepted their situations. The women's statements were presented to support the finding as the followings.

"I experienced shock after the doctor informed about HIV. I did not know how to deal with it. When I thought that everything occurred and it could not be changed. I felt better and could adapt my mind to accept it." [P.T., 32 years]

"I was feared of death from HIV infection. I thought that I might have no long life as usual. I did not want to see the doctor and spent time to consider about it. The emergent ideas came to my mind that everybody has to die due to something soon or later. Therefore, I found out that my life should going on to take care of my children." [S.K.Y., 34 years]

“I made decision to terminate my pregnancy because I did not intend to become pregnant and I was not married. I had some health problems due to HIV/AIDS symptoms. Therefore, I could not take care of my child. I accepted my situation.” [P.T.A., 32 years]

2. Considering the desire to have a child

Pregnant women with HIV infection were ambivalent to continue the pregnancy with HIV infection because of concerns over mother-to-child transmission, disclosure, social discrimination, maternal health and family burden. The women reported that they had to discuss about the desire to have a child with their husbands or family members. For the women who planned the pregnancies and expressed the desire to have a child had to adapt their mind because of concern over mother-to-child transmission. However, they chose to keep the child because of strong belief against abortion due to sin and being sorry for their child. On the other hand, the women who had unplanned pregnancies and expressed the low or no desire to have a child adjusted their mind to consider an abortion. As a result, they came up with pre-decision ideas, preferring to keep the child or considering an abortion, as the following supportive statements.

“I felt unhappy and unsure to continue my pregnancy since I knew that I was infected with HIV. I told my husband about my pregnancy and HIV infection. We chose to keep the pregnancy because we want to have a child though we worried that the child would be infected with HIV.” [S.D., 28 years]

“I did not want to continue the pregnancy after the doctor told me that I had positive HIV because I did not intend to have a baby. Therefore, I considered an abortion.” [C.T.K., 30 years]

3. Hoping for an uninfected child

During exploring decisional options, the findings revealed that there were two patterns of adapting the mind. For the women who preferred to keep the child, after they received information about advantages of using antiretroviral drugs and the low risk of mother-to-child transmission of HIV they considered using the drugs to protect their children from HIV infection. In contrast, the women who considered an abortion they tried to seek an abortion but most of them failed to access to induced abortion because of abortion law and policy. Therefore, they had to adapt their mind to consider using antiretroviral drugs. The results of the study revealed that thirty-six women hoped for uninfected child but there were two women thought that their children would be infected with HIV because they had some HIV/AIDS symptoms. The women's expressions of adapting the mind during they explored the decisional options were illustrated as the followings.

“I consulted the doctor about my pregnancy with HIV infection. He advised me to use antiretroviral drugs for preventing mother-to-child transmission. I adapted my mine to continue the pregnancy because I thought that my child would not be infected with HIV.” [O.R., 24 years]

“At first, I considered an abortion because I did not want to give birth for HIV-infected child. I asked for an abortion but the doctor informed me about using antiretroviral drugs. Then, I had to adapt my mind to consider using the drugs as recommended.” [C.T.K. 26 years]

4. Considering their ability to manage pregnancy while infected with HIV

During appraising the influencing conditions, the women adapted their mind to consider about their ability to manage pregnancy while infected with HIV. There were thirty-four women perceived that they could manage their pregnancies with HIV infection. The reasons provided for this consideration were stable spousal relationship, their husband desired to have a child, experiences with pregnancy and HIV infection, no HIV/AIDS symptoms and the availability of family support. For the four women who thought that they could not manage the pregnancy with HIV infection, the reasons provided were: (1) unmarried relations, (2) their partners did not want to have a child, (3) the presence of HIV/AIDS symptoms, and (4) a lack of family support. The supporting statements of the participants were provided as the followings.

“I had two previous children already. This pregnancy was unplanned. However, I chose to continue my pregnancy because my husband and I wanted to keep my child because we could take care of them. [S.D, 32 years]

“I preferred to continue the pregnancy to consider an abortion because I thought that I could deal with it. In addition, my husband and my mother encouraged me to continue the pregnancy and they could support me during pregnancy.” [P.Y.N., 21 years]

5. Weighing between the desire to have a child and perceived risk of mother-to-child transmission of HIV

After exploring options and appraising the influencing conditions, the women arrived at their decisions by weighing the desire to have a child and perceived

risk of mother-to-child transmission of HIV. There were 36 women chose to continue their pregnancies because their husbands and their own desired to have children. In addition, after receiving information about using antiretroviral drugs and the low risk of mother-to-child transmission of HIV they hoped that their children would not be infected with HIV. Conversely, there were two women terminated their pregnancies because they had no desire to have children and perceived that their unborn children would be infected with HIV. They shared their considerations as the following expressions.

“I made a decision to carry on my pregnancy after the doctor told me about using antiretroviral drugs to prevent mother-to-child transmission. I thought that my child would not be infected with HIV. Additionally, my husband and I wanted to have this child.” [S.R., 28 years]

“I chose to become pregnant because my husband desired to have a child but I was concerned about my HIV infection. However, I thought that my child would not be infected with HIV as my previous child.” [A.M., 19 years]

“I did not want to continue my pregnancy because I thought that my child would be infected with HIV. I did not want to give birth for an HIV-infected child. Therefore, I considered abortion and made a decision to terminate my pregnancy.” [S.M.T., 24 years]

6. Doing the best thing for the child, oneself and one’s family

Doing the best thing for the child, oneself and one’s family was something that the women always considered during their decision-making processes. It was the strategy that the women used to adapt their mind. Their actions included: (1) continuing their pregnancies, (2) using antiretroviral drugs as recommended, (3)

going to see the doctor as appointments, and (4) preparing for the child's future life. For the women who made the decisions to offer the child for adoption or terminate the pregnancy, they thought that they also did the best thing for the child, oneself and the family. The two women who offered the child for adoption perceived that Child House agency could provide better care for their children because they had family financial and health problems. Moreover, the two women who made a decision to terminate their pregnancies thought that they were sorry for their children to be HIV-infected person like them. In addition, they did not want to have the burden on their families. The women shared their experiences of adapting the mind during making the decision as the followings.

“My husband told me that we had to fight and needed to be alive for our children. Therefore, I thought that I had to do the best thing for our children, i.e., take antiretroviral drugs on time as recommended, eat enriching foods, and relax my mind.” [N.I.T, 32 years]

“I offered my child for adoption because I was not married and separated from my partner that I could not take care of the child because I had no employment due to my HIV/AIDS symptoms. [P.R., 39 years]

“I thought that my child would be infected with HIV because I had some symptoms. Therefore, I made a decision to take an abortion. I did not want to give birth for HIV-infected child because I was sorry for them. In addition, I did not want to bring some burden to my family.” [P.T.P., 36 years]

After becoming pregnant with HIV infection, most of the women could not accept their pregnancies with HIV infection and experienced ambivalence to continue the pregnancy because of their concerns over the impacts of HIV infection

on their pregnancies and daily lives. After they passed through the decision-making process and used all six strategies for adapting the mind, thirty-six women could accept their pregnancy with HIV infection and made a decision to continue the pregnancy. There were two women could not accept their pregnancies with HIV infection and made a decision to terminate a pregnancy because they perceived that their unborn children would be infected with HIV and they had less ability to manage their pregnancies than those women due to HIV/AIDS symptoms, no employment and lack of husband support. However, they could adapt their minds to accept their decisions by thinking that they did the best thing for their children, themselves, and their families.

The factors influenced the decision-making processes regarding pregnancy of pregnant Thai women can be summarized into a model (Figure 9). There were three main influencing factors: (1) personal characteristics, (2) socio-cultural beliefs, and (3) maternal and child health care policy. Personal characteristics included age, spousal relationship, the desire to have a child, number of living children, gestational age, experience of abortion, experience of pregnancy with HIV infection, the presence of HIV/AIDS symptoms, and availability of family support. Socio-cultural beliefs involved three important aspects: (1) values and meaning assigned to pregnancy and motherhood, (2) perception on pregnancy while being infected with HIV, and (3) beliefs in abortion. The maternal and child health care policy encompassed the Prevention of Mother-to-child Transmission Program, abortion law and providing access to abortion. Personal characteristics of the women included age, marital status, number of living child, gestational age, the presence of HIV/AIDS symptoms, and the availability of family support. Socio-cultural beliefs

involved values and meaning on pregnancy and motherhood, perception on pregnancy while infected with HIV, and beliefs in abortion. Maternal and child health care policy involved the Prevention of Mother-to-Child Transmission of HIV, abortion law and providing access to abortion.

The study findings can be used to generate hypotheses explaining the relationships among the influencing factors related to the decision-making processes regarding pregnancy of pregnant Thai women. There were 10 hypotheses were proposed as the followings.

1. The strong desire to have a child resulted in continuing with pregnancy and keeping the child

2. Strong beliefs against abortion resulted in continuing with pregnancy and keeping the child

3. Receiving information about using antiretroviral drugs, and the low risk of mother-to-child transmission of HIV that they offer, resulted in the decision to continue with pregnancy and keep the child

4. Hope for an uninfected child facilitated the decision to continue with pregnancy and keep the child

5. The availability of family support facilitated the decision to continue with pregnancy and keep the child

6. Low desire to have a child positively influenced the consideration of abortion

7. High concern over the mother-to-child transmission of HIV positively influenced the consideration of abortion

8. A lack of desire to have a child positively influenced the decision to offer the child for foster care or terminate the pregnancy.

9. The presence of HIV/AIDS symptoms positively influenced the decision to offer the child for foster care or terminate the pregnancy.

10. Lack of spousal support positively influenced the decision to offer the child for foster care or terminate the pregnancy.

Figure 9. A model explaining the factors influenced the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection

Discussion

After becoming pregnant with HIV infection, the women had experienced emotional distress and ambivalence towards continuing with their pregnancies. This distress was expressed with feelings of being frightened, angered, worried, regretful, discouraged, and concern over mother-to-child transmission, disclosure, social discrimination, maternal health, and family burden. The women reacted in these ways because they perceived that HIV infection would be harmful to their pregnancies, health and daily lives. These findings showed that the women experienced emotional crisis after being diagnosed with HIV infection (Grimes & Grimes, 1995). It was consistent with a previous study found that women experience some kinds of emotional distress after being diagnosed with HIV (Sanders, 2008) including stress, confusion, worry, hopelessness, and the consideration of abortion (Thiangtham, Padumanondha, Sringeriyuang, Lagampan, & Bennett, 2003). Even though, currently there are advancements in antiretroviral therapy to prevent mother-to-child transmission of HIV and improve quality of life among HIV-infected women and their children, they still expressed high concern about HIV impact on their lives (Siegel & Schrimshaw, 2005). These evidences indicated that HIV infection not had only impact on physical health but also affected their psychosocial conditions which influenced the decision-making processes regarding their pregnancies.

The women showed ambivalence towards continuing their pregnancies for one to four months after learning that they had become pregnant while being infected with HIV. The women were unsure of continuing their pregnancies because of their perception that HIV infection would have impacts on their pregnancies and maternal health. Even though they desired to have children, they were concerned about HIV

impact on their children's future lives (Jones, 2008). This phenomenon is known as "defensive mothering" which revealed that pregnant women with HIV infection expressed their roles in protecting their unborn children from HIV infection as well as protection of their health (Ingram & Hutchinson, 1999). At this stage, the women judged their preliminary decision in two ways: preferring to keep the child and considering an abortion. According to fuzzy-trace theory, people made decision based on their perspective representation and value assigned to that thing (Reyna, 2008). The women who viewed that mother-to-child transmission of HIV is low and it can be prevented by using antiretroviral drugs, they were more likely to continue their pregnancies. In contrast, the women who perceived that HIV could be transmitted to their children and they expected that their children would be infected with HIV, they were more likely to consider abortion.

Pregnant Thai women with HIV infection came to a decision regarding their pregnancies by exploring alternative options and appraising the influencing conditions. They explored their decisional options by seeking additional information and discussing with health care providers, their husbands and family members. At this stage, they received information about using antiretroviral drugs and the low risk of mother-to-child transmission of HIV which is helpful for them to find out their decisions. For the 14 women, they preferred to keep their pregnancies since they received information about advancement in using antiretroviral drugs to prevent mother-to-child transmission of HIV. In addition, for 22 of the 24 women who considered abortion they reconsidered to carry on their pregnancies and use antiretroviral drugs after receiving this information. According to the simplified model of decision-making process, information is the essential input operating the

decision-making processes (Hulton, 2001). Similarly with the previous studies found that information seeking behavior was the important strategy that the women used in making the decision (Brown, Carroll, Boon, & Marmoreo, 2002). The previous research evidences supported that the important resources for providing information to the women were health care providers and significant others who had experienced pregnancy with HIV information (Kirshenbaum et al., 2004).

There were three main factors influenced the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection. They were: (1) personal characteristics, (2) socio-cultural beliefs, and (3) maternal and child health care policy. These factors influenced the women's seeking information behaviors, values, and cognitive reasoning during the decision-making processes regarding their pregnancies.

The study findings revealed that there were two crucial values influencing the women's decision-making to continue or terminate their pregnancies. They were the desire to have a child and belief against abortion. These values affected their interpretation of information and shaped their preferences to make choice (Hulton, 2001). The study finding revealed that the women valued their husband's and their desire to have a child. Most of the women who made decision to continue the pregnancy expressed either a strong desire to have a child or little desire to have a child. In contrast, there were two women made decision to terminate their pregnancies because they did not want to have children. It was known from earlier studies that HIV-infected women chose to become pregnant because their husbands wanted to have children (Siegel & Schrimshaw, 2001). For pregnant Thai women with HIV

infection, they value pregnancy and motherhood as the gender role to fulfill their marital relationships (Boontong & Wattanapailin, 2009).

Pregnant Thai women with HIV infection came to a decision regarding their pregnancies by using six strategies to adapt their minds throughout the decision-making processes. They were: (1) accepting the situation; (2) considering their desire to have a child; (3) hoping for an uninfected child; (4) considering their ability to manage pregnancy while infected with HIV; (5) weighing between the desire to have a child and perceived risk of mother-to-child transmission of HIV; and (6) doing the best thing for the child, themselves, and their families. The women who could adapt their minds to accept their situations were more likely to make the decision to continue with pregnancy, whereas the women who could not adapt their minds to their unfortunate situation were more likely to make the decision to terminate their pregnancies. The research finding revealed the important role of human mind in the decision-making processes because the mind action influences all human's decisions and behaviors (Charon, 2004).

After becoming pregnant with HIV infection, the women experienced emotional distress and ambivalence to continue with pregnancy which forced the women engaged in exploring decisional options. During the decision-making processes, the women used cognitive reasoning in appraising the influencing conditions and making the appropriate choice. These findings indicated that the decision-making processes regarding pregnancy with HIV infection involved interactions of emotional and cognitive factors as proposed in the cognitive neuroeconomic model of decision-making (Gutnik, Hakimzada, Yoskowitz, & Patel, 2006). The cognitive factors included: (1) the women's values on pregnancy and

motherhood, (2) their desire to have a child, (3) beliefs and experiences in abortion, and (4) perception of the risk of mother-to-child transmission of HIV and the benefits of using antiretroviral drugs. This finding revealed that the women made their decision by weighing between the desire to have a child and perceived risk of mother-to-child transmission of HIV. It was similar with the prior study found that the women with HIV infection made their decision by weighing the positive outcomes of motherhood and the negative consequences of HIV infection on their lives (Barnes & Murphy, 2009).

Moreover, the findings revealed that there were four factors affected the desire to have a child and the decision-making processes regarding pregnancy with HIV infection. They were: age, marital status, spousal relationship, and number of living children. The women considered their age to become mothers. There was one woman aged 17 years who considered an abortion because she perceived that she was young for child rearing. In addition, there were six women aged between 36 and 39 years considered abortion because of their advanced age to become pregnant. These findings was supported by the previous study found that the women aged under 22 and over 30 were more likely to terminate their pregnancies while being infected with HIV because of no desire to have a child or already had children (Wesley et al., 2000).

The quality of spousal relationship played an important role on the desire to have children. There were 32 married women shared their experiences that they made the decisions to continue with pregnancies because they had stable relationships with their husbands. In contrast, there were two single women and two married women who were separated from their husbands made decisions to terminate the pregnancy or

offer their children for foster care. This finding was different from the prior study showed that 56% of HIV-infected women who were married terminate their pregnancies (Kline, Strickler, & Kempf, 1995).

The study findings revealed that there were 13 women chose to continue their pregnancies because they had no previous children. However, there were 23 women who had one or more previous children continued their pregnancies because their desire to have additional children. In addition, there were 20 women had second marriage and their current husbands had no previous children. Therefore, most of them made decisions to continue with their pregnancies. This finding was supported by a previous studies found that HIV-infected women made decisions to become pregnant because of no previous children and the desire to have children (Kirshenbaum, 2004; Suryavanshi et al., 2008).

Previous experience with pregnancy while infected with HIV, as well as with using antiretroviral drugs, influenced some of the women's decisions regarding continuing with pregnancy. Experience with these drugs resulted in confidence in the antiretroviral therapy used to prevent the mother-to-child transmission of HIV. There were four women who had previously been in this situation. None of their children were infected with HIV. These women reported that they made the decision to continue their pregnancies because of these experiences. This finding was supported by a previous study which revealed that previous experiences with using antiretroviral drugs encouraged pregnant women with HIV infection to continue their pregnancies (Siegel & Schrimshaw, 2001; Kirshenbaum et al., 2004).

The availability of family and social support was a helpful factor in assuring the women and facilitating their decisions to continue with pregnancy. In particular

the women who had no employment needed financial supports from their husbands or family members. In addition, most of the women were concerned about the availability of caregivers for their children because they perceived that they might not have long lives. The findings showed that 34 women made the decision to continue with pregnancy and keep the child because they received social support from their husbands and family members. In contrast, there were two women who offered their children for foster care and another two women who obtained abortions and these were due to lack of spousal support, as these women unmarried or separated. A previous study supported this conclusion, also finding that HIV-infected women generally made the decision to continue with pregnancy because they had family support (Kanniappan, Jeyapaul, & Kalyanwala (2008).

Moreover, Thailand maternal and child health care policy influenced the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection. They were availability of the Prevention of Mother-to-Child Transmission (PMTCT) Program and abortion law. After becoming pregnant with HIV infection, the women were offered counseling, support, and care under the PMTCT program. The women and their husbands received information about advancement of using antiretroviral drugs and the low risk of mother-to-child transmission which facilitated the women's decision to continue their pregnancies. Many of the previous studies mentioned that availability and efficacy of antiretroviral drugs to reduce the risk from mother-to-child transmission of HIV affected the women's decisions to become pregnant and carry on their pregnancies (Boontong & Wattanapailin, 2009; Cooper, Harries, Myer, Orner, & Bracken, 2007; Kanniappan, Jeyapaul, & Kalyanwala, 2008).

Accessibility to abortion was another important factor influencing the decisions of the women who considered it. The findings indicated that the 24 women who considered abortion asked for abortion while seeking antenatal care but they could not access abortion because it is illegal in Thailand. In addition, HIV infection is not a legitimate medical reason for receiving a therapeutic abortion under Thai law because pregnancy could be prevented by using contraception and the risk of mother-to-child transmission of HIV was low in case of using antiretroviral drugs as recommended (Bunchalaemwepas & Yamjinda, 2008). Medical law offered accessibility to abortion for HIV-infected pregnant women who had gestational age not more than 12 weeks or faced mental health problems due to HIV infection. It was considered by two physicians who provided care for the women (Bunchalaemwepas et al., 2008). On the other hand, in clinical practice a few pregnant women could access abortion. The research evidence revealed that induced abortion due to HIV infection occurred only 4.9% of all abortion cases in public and private hospitals in Thailand (Warakamin, Boonthai, Tangcharoensathien, 2004). Therefore, the women faced limited options and many had to continue with pregnancy. However, there were two women who made the decision to terminate their pregnancies and were successful in obtaining abortion elsewhere.

Getting through the constraint was conceptualized as the basic psychological process of the decision-making regarding pregnancy of pregnant Thai women with HIV infection. It reflected that the women made the decision after becoming pregnant under emotional distress because of concern over the impact of HIV infection on their pregnancies and daily lives. The constraints influencing the women's decisions included their advancement of gestational age and lack of accessibility to abortion due

to restriction of abortion law. They had limited options during making the decision. As a result, 36 women decided to continue their pregnancies and only two women terminated their pregnancies. In addition, this finding showed that the most significant concern of HIV-infected women was the risk of mother-to-child transmission of HIV as reflected by the term “Throwing the dice” which meant that the women had to make their decisions under uncertainty. It indicated that their children might be infected with HIV or not, though the risk of mother-to-child transmission was very low (Kirshenbaum et al., 2004).

Conclusion

“Getting through the Constraint” was conceptualized as the basic psychological process of decision-making regarding pregnancy of pregnant Thai women. It reflected that the women had to make the decision after becoming pregnant under emotional distress and limited options due to restriction of abortion law. The decision-making processes consisted of six stages: expressing emotional distress, feeling ambivalence towards continuing with pregnancy, exploring decisional options, appraising influencing conditions, making the appropriate choice, and accepting of the decision and its consequences. The useful strategies that the women used during the decision-making processes were: (1) accepting the situation, (2) considering the desire to have a child, (3) hoping for an uninfected child, (4) considering the ability to manage pregnancy with HIV infection, (5) weighing between the desire to have a child and perceived risk of mother-to-child transmission of HIV, and (6) doing the best thing for the child, oneself, and family.

After becoming pregnant with HIV infection, the women experienced emotional distress including feelings of being frightened, angered, worried, regretful, and discouraged. The women showed ambivalence towards continuing with pregnancy because of concern over the impact of HIV infection. They made decisions on their pregnancies by exploring decisional option and appraising the influencing factors within their decision-making contexts. They considered their desire to have a child, beliefs against abortion, and consideration by discussing the situation with their husbands and family members. As a result, 24 women considered abortion and 14 women preferred to keep their children. Then, they explored decisional options using five strategies: (1) seeking information, service and support; (2) discussing concerns and decisional options with health care providers, husbands, and family members; (3) trying to seek an abortion; (4) considering using antiretroviral drugs to prevent mother-to-child transmission of HIV; and (5) offering the child for foster care.

After receiving information about the advantages of using antiretroviral drugs and the low risk of mother-to-child transmission of HIV that they offer, many women had hope that their children would not be infected with HIV. In addition, the women appraised the conditions influenced their decision-making, which included: (1) maternal age, (2) spousal relationship, (3) the desire to have a child, (4) gestational age, (5) beliefs on and experiences with abortion, (6) accessibility to abortion, (7) experiences with pregnancy while infected with HIV, (8) the presence of HIV/AIDS symptoms, and (9) the availability of family support. During this appraisal stage, the women considered their ability to manage pregnancy while infected with HIV. As a result, 34 women came to the decision that they could manage their pregnancy and hence decided to continue with pregnancy and keep the child. There were two women

who made the decision to continue with pregnancy but offer the child for foster care, and this was because they could not take care of their children due to health problems, financial problems, and a lack of spousal support. The last two women made the decision to terminate their pregnancies because they had no desire to have a child and they could not manage their situations due to both the presence of HIV/AIDS symptoms and financial problems.

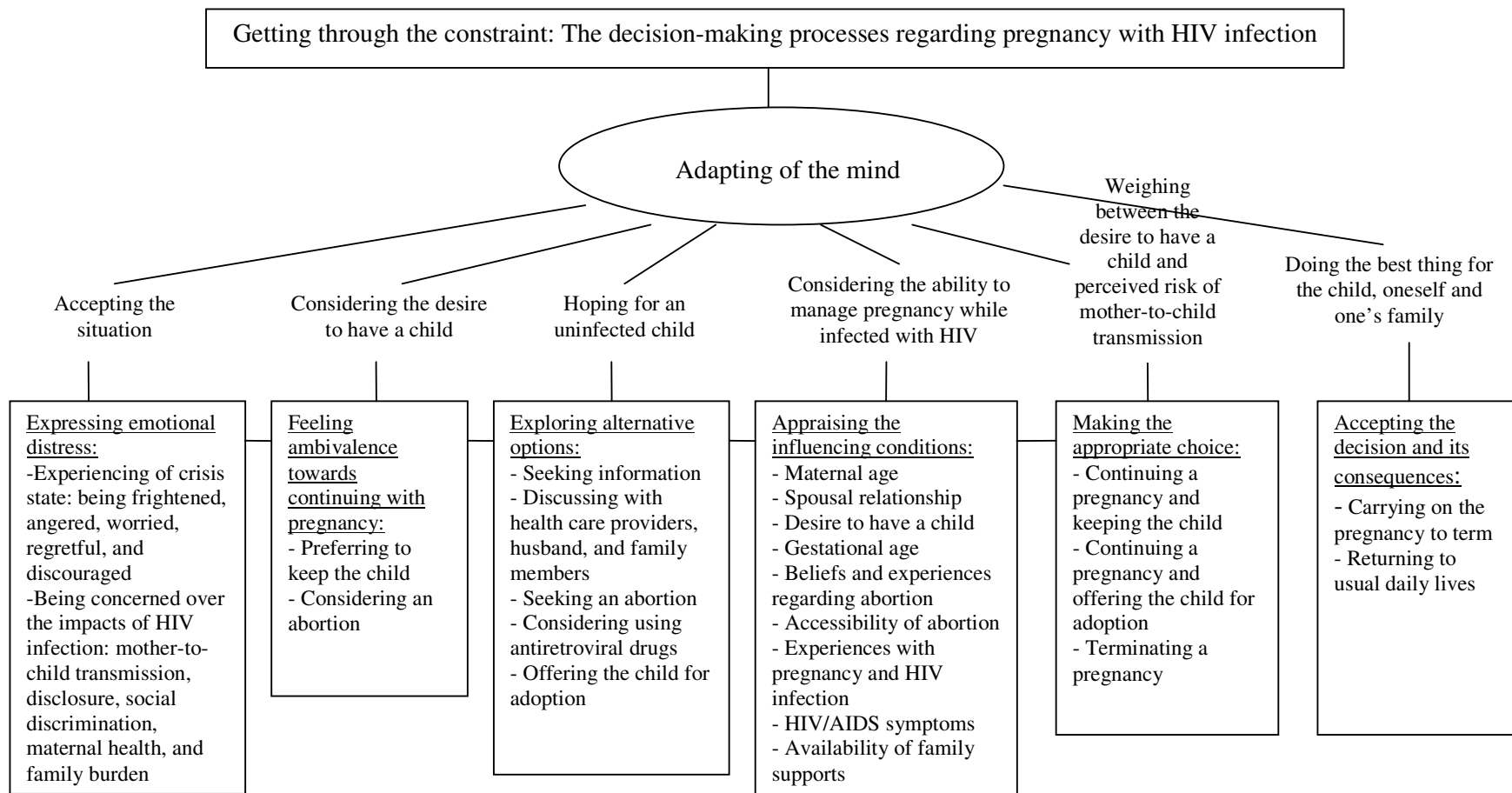


Figure 5. Getting Through the Constraint: A model of the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection

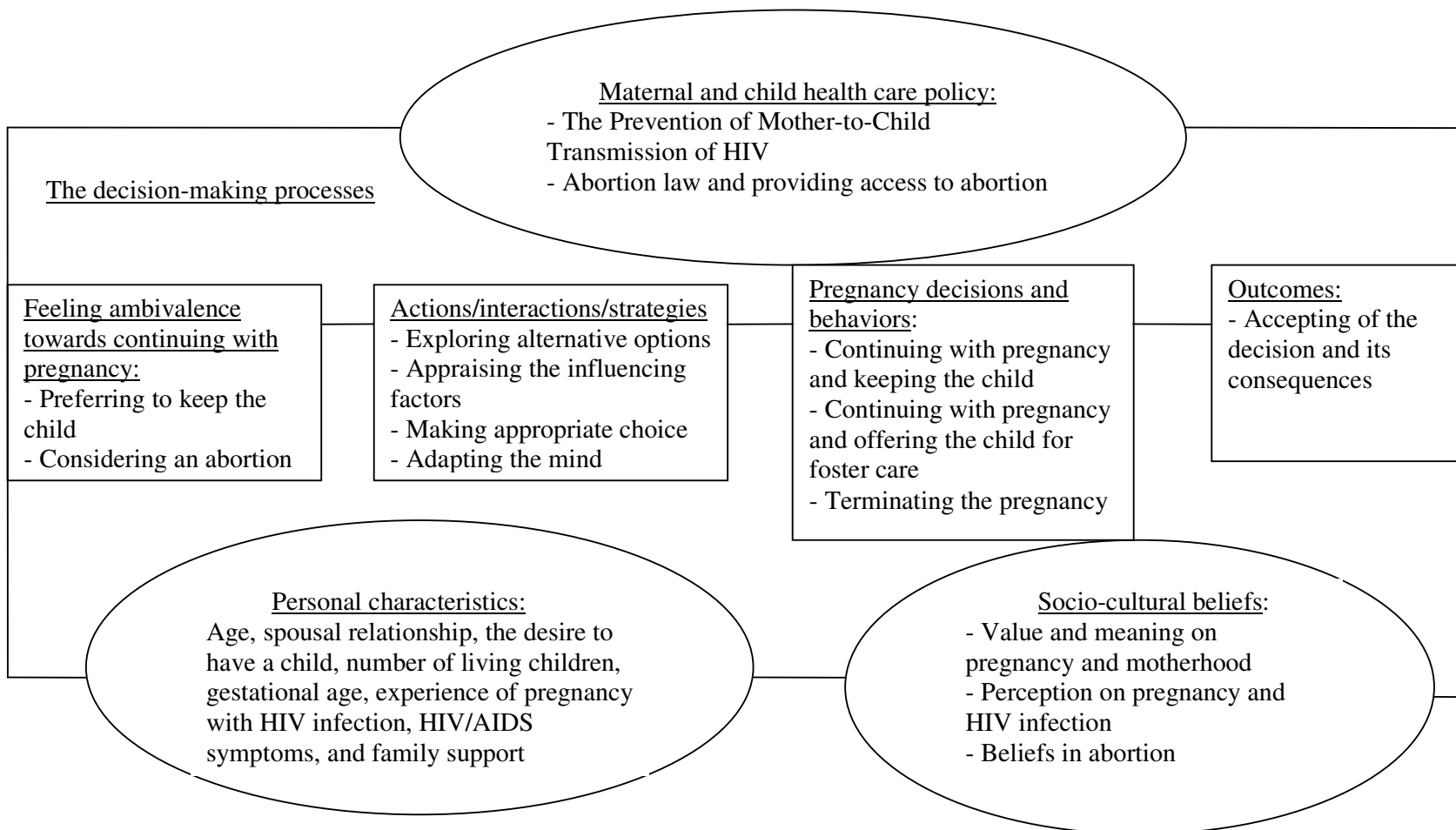


Figure 8. A model explaining the factors influenced the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

This study described the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection and a conceptual model was generated. The study's findings are summarized and presented in three parts: the conclusion of the findings, recommendations, and limitations of the study.

Conclusion of the Findings

After becoming pregnant with HIV infection, the women experienced emotional distress and faced ambivalence towards continuing with their pregnancies. It was a critical and stressful period for the women and their families. They needed psychological and decisional support to arrive at appropriate choice. The findings of this study revealed that "Getting through the constraint" was the basic psychological process of the decision-making regarding pregnancy experienced by pregnant Thai women. It reflected that the women had to make decisions after becoming pregnant under emotional distress and limited option due to abortion law. The decision-making processes consisted of six stages: (1) expressing emotional distress, (2) feeling ambivalence towards continuing with pregnancy, (3) exploring alternative options, (4) appraising the influencing conditions, (5) making appropriate choice, and (6) accepting the decision and its consequences. Adapting the mind was the strategies that the women used throughout the decision-making processes including six ways of thinking.

They were: (1) accepting the situation, (2) considering the desire to have a child, (3) hoping for an uninfected child, (4) considering the ability to manage pregnancy with HIV infection, (5) weighing between the desire to have a child and perceived risk of mother-to-child transmission of HIV, and (6) doing the best thing for the child, oneself, and one's family. The stages of these decision-making processes are summarized as the followings.

1. Immediately after learning of their HIV infection, the pregnant Thai women experienced emotional distress including being frightened, angered, worried, regretted, discouraged, and concern over the mother-to-child transmission of HIV, disclosure, social discrimination, maternal health, and family burden. This emotional distress influenced the women's decisions on their pregnancies because they could not make any decision under emotional distress. The women had adapted their minds by accepting the situation because they perceived that pregnancy and being infected with HIV had occurred. They could not be changed.

2. Next, the women faced ambivalence towards continuing with their pregnancies because they were concerned over the impacts of HIV infection including mother-to-child transmission, disclosure, social discrimination, maternal health, and family burden. Therefore, they had to reconsider their desire to have a child by themselves or discussing with their husbands and family members. At this stage, there were 24 women who initially considered an abortion and 14 women who initially preferred to keep the child.

3. While the women faced ambivalence towards continuing with their pregnancies, they explored decisional options using five strategies: (1) seeking information, service, and support, (2) discussing concerns and decisional options with

health care providers, husbands and family members, (3) trying to seek an abortion, (4) considering the use of antiretroviral drugs, and (5) considering offering the child for adoption. During this stage, the women received information about the advantages of using antiretroviral drugs and the low risk of mother-to-child transmission of HIV that they offer. This information was useful to them for making decisions regarding their pregnancies because they hoped that their children would not be infected with HIV infection.

4. After exploring decisional options, the women considered various influencing conditions on their decision-making contexts, which included: (1) maternal age, (2) relationship with husbands or partners, (3) the desire to have a child, (4) gestational age, (5) beliefs and experiences in abortion, (6) accessibility to abortion, (7) experiences with being pregnant while infected with HIV, (8) the presence of HIV/AIDS symptoms and (9) the availability of family support. During this stage, the women considered their abilities to manage pregnancy with HIV infection. The women who perceived that they could manage their situation were more likely to make the decision to continue with the pregnancy. In contrast, the women who believed they could not manage their situation were more likely to make the decision to terminate their pregnancies.

5. Making the appropriate choice. Then, the women came to a decision regarding their pregnancies by considering their desire to have a child, perceived risk of the mother-to-child transmission, and available options. Most of the women (34 out of 38) made the decision to continue with pregnancy and keep the child. Two women made the decision to continue with pregnancy and offer the child for foster care, and the last two women terminated their pregnancies.

6. Accepting the decision and its consequences. Finally, the women could accept their decisions and consequences by thinking that they had to do the best thing for their children, themselves, and their families.

In addition, the findings showed that there were three major contributing factors which influenced the decision-making processes regarding pregnancy of pregnant Thai women. They were: (1) personal characteristics, (2) socio-cultural beliefs, and (3) maternal and child health care policies. Personal characteristics included maternal age, marital status, spousal relationship, number of living children, experience of pregnancy with HIV infection, the presence of HIV/AIDS symptoms, and availability of family support. Socio-cultural beliefs involved values and meanings on pregnancy and motherhood, perception on pregnancy while being infected with HIV, and beliefs in abortion. Maternal and child health care policies involved the Prevention of Mother-to-Child Transmission (PMTCT) program and abortion law related to pregnant women with HIV infection.

These factors influenced the women's decision within their decision-making contexts to continue with pregnancy, consider abortion, or terminate the pregnancy. The factors and conditions associated with the decision to continue with pregnancy were: (1) planned pregnancy, (2) the desire to have a child, (3) strong beliefs against abortion, (4) the reception of information about the advantages of using antiretroviral drugs and the low risk of mother-to-child transmission of HIV that they offer, (5) hope for an uninfected child, (6) accepting of the situation, (7) the ability to manage pregnancy while infected with HIV, (8) availability of family support, and (9) lack of access to abortion due to abortion law. The factors which influenced the consideration of an abortion were: (1) unplanned pregnancy, (2) little or no desire to have a child,

(3) high concern over the impacts of HIV infection on pregnancy and daily life, (4) an unmarried relationship, (5) a lack of spousal support, and (6) the presence of HIV/AIDS symptoms. There were six factors which influenced the decision to terminate a pregnancy: (1) no desire to have a child, (2) an unmarried relationship, (3) lack of spousal support, (4) a low ability to manage pregnancy while infected with HIV, (5) a gestational age of less than 12 weeks, and (6) access to abortion illegally.

Recommendations

Implications and recommendations for the nursing practice and future research are suggested as follows.

Implications for nursing practice

The findings and the emergent model explaining the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection can be used by health care providers to facilitate and support the HIV-infected women facing pregnancy, so as to help them more easily reach their best choice. The implications for nursing practice were suggested as the followings.

1. Health care providers should be alert to detect the feelings of emotional distress during the initial stage after becoming pregnant with HIV infection. Additionally, they should provide emotional support and guidance to adapt their minds to becoming pregnant while being infected with HIV in order to promote them to pass through the decision-making processes easily.

2. Health care providers should be aware of the women's feelings of ambivalence towards continuing with their pregnancies and assess their preferences to keep the child or consideration of abortion.

3. For the women who faced difficulty to make decisions or consideration of abortion, health care providers should provide information about the advancement of using antiretroviral drugs and the low risk of mother-to-child transmission of HIV. These informative decision-making advices would be useful to guide them to adapt their minds and choose instead to continue with pregnancy.

4. Their husbands and family members should be encouraged to participate and involve in the women's decision-making processes in order to support and help them to find out the best appropriate choice.

5. The model of the decision-making processes regarding pregnancy with HIV infection should be used to promote the women's ability to adapt their minds to accept their decisions and consequences. These strategies included: (1) accepting the situation, (2) considering the desire to have a child, (3) hoping for an uninfected child, (4) considering the ability to manage pregnancy with HIV infection, and (5) doing the best thing for the child, oneself, and the family.

Implications for nursing research

The conceptual model of the decision-making process, including concepts and hypotheses generated from this study can be used to guide further nursing research in several ways.

1. The conceptual model explaining the decision-making processes can be used to develop a conceptual framework for further studies on pregnancy with HIV infection.

2. The concepts and hypotheses generated from these findings can be used to design nursing research to test this decision-making model.

3. The findings of this study can be used to design effective nursing interventions in order to further test the effects of the situation on women's decision making. Early HIV screening and counseling for both pregnant women and their husbands is an example.

4. The conceptual model of the decision-making processes for this situation suggests constructs and empirical indicators which can be used to guide the development of research instruments to measure the factors influencing decision-making and the outcomes.

Limitations of the Study

This study focused on the decision-making processes used by pregnant women who were infected with HIV. Some of the women became pregnant before they had been diagnosed with HIV infection, while others knew of their infection before pregnancy began. Two limitations were found in this study.

1. The number of women who were diagnosed with HIV infection before becoming pregnant (8 cases) was less than the number of women who were diagnosed with HIV infection after becoming pregnant (30 cases). This was due to the prevalence of HIV infection among these pregnant women. Therefore, the application of the study's implications for nursing practice and research may be more appropriate for pregnant women who are diagnosed with HIV infection after becoming pregnant.

2. Most of the participants (30 of 38) sought antenatal care after 12 weeks of gestations. In addition, abortion is illegal in Thailand and HIV infection is not an acceptable medical situation for receiving an abortion. Therefore, the pregnant Thai women had limited decisional options. As a result, most of the women (36 out of 38)

made the decision to continue with pregnancy and only two women could terminate their pregnancies.

In summary, “Getting through the Constraint” was the decision-making processes regarding pregnancy of pregnant Thai women with HIV infection. It consisted of six stages: (1) experiencing emotional distress, (2) feeling ambivalence towards continuing with pregnancy, (3) exploring decisional options, (4) appraising the influencing conditions, (5) making the appropriate choice, and (6) accepting the decision and its consequences. Adapting of the mind was the strategy that the women used throughout the decision-making processes including six ways of thinking. They were: (1) accepting the situation, (2) considering the desire to have a child, (3) hoping for an uninfected child, (4) considering the ability to manage pregnancy with HIV infection, (5) weighing between the desire to have a child and perceived risk of mother-to-child transmission, and (6) doing the best thing for the child, oneself, and one’s family.

Health care providers should be aware and alert to detect the women’s feelings of emotional distress, ambivalence towards continuing with pregnancy, difficulty to make decision, or consideration of abortion. Providing information about advancement of using antiretroviral drugs and the low risk of mother-to-child transmission was useful to facilitate the women’s decisions on their pregnancies. Their husbands and family members should be involved in the decision-making processes in order to share their concerns and guide the women to use the strategies of adapting their minds to reach and accept their decisions easily. This knowledge can be used to improve the quality of nursing care for pregnant Thai women with HIV infection. Moreover, the model describing the decision-making processes regarding

pregnancy can be used to guide further studies that focused on the development of a theoretical framework, research instruments, or nursing interventions. However, the limitations of this study should be considered when utilizing its findings-some of the women had limited decisional options due to abortion law and access to abortion.

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Appendices

Appendix A.

Demographic and health history Form

1. ID.....
2. Date of participant recruitment.....
3. Name.....Name quotation.....
4. Age.....
5. Religion.....
6. Education level.....
7. Occupation.....
8. Marital status.....
9. Gravidity
10. Parity.....
11. Number of living child.....
12. Abortion history () No () Yes
13. Being Diagnosed with HIV infection
 - () Before becoming pregnant Date/Year.....
 - () After becoming pregnant Date/Year.....
14. Gestational age when the participants attended antenatal care clinic and knew diagnosis of HIV infection.....weeks
15. HIV/AIDS symptom.....
16. Other related data.....

Appendix B.
Interview guides

This interview guides are designed to probe decision-making processes on pregnancy among Thai pregnant women with HIV infection.

Instruction: Please ask the participants after providing informed consent

1. Please tell me about your current pregnancy?
.....
2. How about your pregnancy planning?
.....
3. How about your feeling/reaction to your current pregnancy?
.....
4. How about your husband's feeling/reaction to your current pregnancy?
.....
5. When did you know about your HIV blood testing?
.....
6. How about your feeling/reaction to your positive blood test?
.....
7. How about your husband's feeling/reaction to your positive blood test?
.....
8. Who did you disclose about your HIV infection?
.....

9. How about your response or your thinking about your pregnancy with HIV infection?.....

.....

10. What is your decision making on your pregnancy with HIV infection?

11. How did you make a decision on your pregnancy with HIV infection?

12. Why did you make a decision in that way?

13. Who did influence your decision making?

14. What factors did influence your decision making?

15. What else are about your concerns or thinking about your pregnancy and HIV infection?.....

.....

Appendix C

Open-ended Questionnaire

Instructions: Please complete these open-ended questions by filling in the space or check in () that corresponding to your opinions or behaviors.

Your data	Your husband data
1. Age.....years	1. Age.....years
2. Religion.....	2. Religion.....
3. Level of education.....	3. Level of education.....
4. Employment status <input type="checkbox"/> no employment <input type="checkbox"/> employment, please identify your job.....	4. Employment status <input type="checkbox"/> no employment <input type="checkbox"/> employment, please identify your job.....
5. Income.....	5. Income.....

6. How long are your marriage life?.....years

7. What is your preganacy gravida?

1 2 3 others, please identify.....

8. When do you know your HIV diagnosis?

before getting pregnancy

after getting pregnancy, gestational age.....weeks or months

9. What about your feeling or response to pregnancy with HIV infection?

.....

10. How about your concerns after becoming pregnant with HIV infection?

.....

11. How do you make a decision regarding your pregnancy while infected with HIV?

.....

12. What is your husband respond to your pregnancy with HIV infection?

.....

.....

13. Who or what sources of information do you need to support your decision making?

.....

.....

14. How about your ideas relating to keep the child?

.....

15. How about your ideas relating to seek abortion?

.....

16. Why do you choose to keep on your pregnancy?

.....

.....

17. Please add your other concerns, opinions, or suggestions

.....

.....

Appendix D

Record form for non-participant observation

Instructions: This observation record will be used to record the setting and contexts of antenatal care units, action or interaction of participants with health care providers, family members or other related persons.

Participant's code.....		
Date.....		
Observed activity/action/interaction	Objective	Description/ Field note
1.		
2.		
3.		

Appendix E.

Informed-consent form

Research Title: Decision-making processes on pregnancy among Thai pregnant
women with HIV infection

Dear Participants

My name is Sununta Youngwanichsetha. I am a student in Doctor of Philosophy in Nursing Programme, Faculty of Nursing, Prince of Songkla University. I am conducting a research project entitled decision-making processes on pregnancy with HIV infection among Thai pregnant women with HIV infection. You are an important participant who had experiences on pregnancy decisions. These findings will be used to guide and design nursing interventions to improve caring for pregnant women with HIV infection.

I would like to ask you to complete open-ended questions and participate in interview. The interview will spend time approximately 30-45 minutes at least two times. All data will be analyzed by keeping confidential and used in only academic reports.

Agreement to participate in the study

I am invited to participate in this study. After receiving informed-consent, I understand the objective of the study and research procedures that I have to involve.

() I am willing to participate in this study.

() I am not willing to participate in this study.

Participant name.....Date.....

VITAE

Name Miss Sununta Youngwanichsetha

Student ID 4910430004

Educational Attainment

Degree	Name of Institution	Year of Graduation
Bachelor of Science (Nursing and Midwifery)	Prince of Songkla University	1984
Master of Nursing Science (Adult Nursing)	Prince of Songkla University	1995

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List of Publication and Proceedings

Youngwanichsetha, S., Isaramalai, S., Songwathana, P., & Wiroonpanich, W. (2009).

Decision-making Processes on Pregnancy among Pregnant Thai Women.

Proceedings of the Thailand Research Symposium, 183-184.

Youngwanichsetha, S., Isaramalai, S., Songwathana, P., & Wiroonpanich, W. (2009).

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