HEALTH MOTIVATION AND SELF-CARE BEHAVIORS IN PREGNANT ADOLESCENTS

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Appropriate self-care behaviors in pregnant adolescents entail the quality of health of mothers and their fetuses. This was a descriptive research aimed to: a) explore the health motivation and the self-care behaviors of pregnant adolescents, and b) predict self-care behaviors in pregnant adolescents using selective factors including family income, marital status, gestational age, gravidity, and planning of pregnancy. The subjects were 200 pregnant adolescents who were attended at the antenatal care clinic of Khonkaen hospital, Maternal and Child hospital, Kalasin hospital, and Mahasarakam hospital. Purposive sampling of subjects was used in this study. Data were obtained from questionnaires: Health motivation and Self-care behaviors. Data were analyzed using mean, standard deviation, Pearson's product moment correlation coefficient, and stepwise multiple regression.

The results of the study showed that pregnant adolescents reported the moderate level of self-care behaviors and the high level of health motivation. Health motivation and gestational age were significant predictors accounting for 31.9 % of variance in self-care behaviors.

The results from this study provide considerations for nursing practice: nurses should encourage health motivation and promote appropriate self-care behaviors in pregnant adolescents, particularly in pregnant adolescents with early gestational age, to insure maternal and fetal well being throughout pregnancy.

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อุมาภรณ์ น้อยศิริ : แรงจูงใจด้านสุขภาพและพฤติกรรมการดูแลตนเองในหญิงตั้งครรภ์วัยรุ่น (HEALTH MOTIVATION AND SELF-CARE BEHAVIORS IN PREGNANT ADOLESCENTS) คณะกรรมการควบคุมวิทยานิพนธ์ : สุปราณี อัทธเสรี, ค.ม., ยุพิน จันทรัคคะ, ค.ม., เยาวลักษณ์ เสรีเสถียร, พย.ด., 91 หน้า. ISBN 974-664-681-8.

หญิงตั้งครรภ์วัยรุ่นที่มีการดูแลตนเองอย่างถูกต้องจะทำให้มารดาและทารกในครรภ์มีภาวะสุขภาพที่ดี และแรงจูงใจด้านสุขภาพเป็นปัจจัยหนึ่งที่มีความสำคัญต่อพฤติกรรมการดูแลตนเอง การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการดูแลตนเอง แรงจูงใจด้านสุขภาพของหญิงตั้งครรภ์วัยรุ่นและศึกษาอำนาจการทำนายพฤติกรรมการดูแลตนเองของหญิงตั้งครรภ์วัยรุ่น โดยมีแรงจูงใจด้านสุขภาพ รายได้ของครอบครัว สถานภาพสมรส อายุครรภ์ ลำดับที่ของการตั้งครรภ์ และการวางแผนในการตั้งครรภ์เป็นตัวทำนาย สุ่มกลุ่มตัวอย่างแบบเจาะจงเป็นหญิงตั้งครรภ์วัยรุ่นที่มาฝากครรภ์ที่หน่วยฝากครรภ์ของ โรงพยาบาลศูนย์ขอนแก่น โรงพยาบาลแม่และเด็กขอนแก่น โรงพยาบาลกาฬสินธุ์ และโรงพยาบาลมหาสารคามจำนวน 200 ราย โดยใช้แบบสอบถามแรงจูงใจด้านสุขภาพ และแบบสอบถามพฤติกรรมการดูแลตนเองของหญิงตั้งครรภ์วัยรุ่น วิเคราะห์ข้อมูลโดยการคำนวณค่าร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน ค่าสัมประสิทธิ์สหสัมพันธ์พหุและวิเคราะห์การถดถอยพหุแบบขั้นตอน

ผลการวิจัยครั้งนี้ พบว่าหญิงตั้งครรภ์วัยรุ่นมีพฤติกรรมการดูแลตนเองอยู่ในระดับค่อนข้างดี และมีแรงจูงใจด้านสุขภาพอยู่ในระดับสูงและพบว่าแรงจูงใจด้านสุขภาพ และอายุครรภ์ร่วมกันทำนายพฤติกรรมการดูแลตนเองของหญิงตั้งครรภ์วัยรุ่นได้ร้อยละ 31.9

จากผลการวิจัยครั้งนี้ผู้วิจัยมีข้อเสนอแนะว่า พยาบาลควรส่งเสริมให้มารดาวัยรุ่นมีพฤติกรรมการดูแลตนเองที่ถูกต้อง โดยกระตุ้นให้หญิงตั้งครรภ์วัยรุ่นมีแรงจูงใจด้านสุขภาพในระยะแรกของการตั้งครรภ์หรือตั้งแต่อายุครรภ์น้อย ๆ เพื่อให้หญิงตั้งครรภ์วัยรุ่นมีพฤติกรรมการดูแลตนเองที่ถูกต้องและเหมาะสมเป็นผลดีต่อสุขภาพของมารดาและทารกต่อไป

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CHAPTER I

INTRODUCTION

Background and significance of the study

Currently, there are a large number of pregnant adolescents in Thailand. Pregnancy in adolescents have an impact on both the adolescents and their fetuses. Pregnancy in adolescents has a physical, psychological, and socio-economic impact. With respect to the physical impact, they have a greater risk of complications that may occur during antepartum, intrapartum, and postpartum period.Thepregnant adolescent has a higher risk of complications than those who are greater than 20 years ago and pregnant. Studies found that pregnant adolescents have a greater severity of iron deficiency anemia, pregnancy induced hypertension, and its regale to eclamsia. In addition, the mortality rate of this group is high. It is 3.5 times higher than those aged 20 years of age or more (Mclay, 1985; Suwachai Intharaprasert, 1996: 177).

Additionally, Bartel (1981: 44-46) found that the pregnants adolescents who are less than 20 years of age have prolonged labor resulting from pelvic disproportion and hemorrhage. Regarding emotional and psychological impacts, the adolescents can have emotional immaturity and poor problem solving skills. When they become pregnant, they can not adapt to their condition, which might develop into a pattern that disrupts their mental health such as frustration, disappointment, loss of temper, attempted suicide with some of them even committing suicide (Suwachai Intharaprasert, 1996: 178) In addition, pregnancy in adolescents is often not planed and the baby is illegitimate. As a consequence and the rejection response, the

oppressed feeling that their lives were disturbed by the unintentional pregnancy. They can also feel that their fetuses were aliened and troublesome (Clark & Affonso, 1997: 269). In regard to socio-economic impact, most of pregnant adolescents drop out of school or out of work, and reduce the quality of jobs available (Stevens, 1995; Suwachai Intharaprasert, 1996: 179). They may have inadequate self-support which places the burden on their families. With respect to the infants, they often have low birth weight. Sumalee Aree-aeu (1958: 80) reported that the mothers who were less than 20 years of age have a risk of bearing low birth weight infants of 1.9 times greater than those mothers aged between 21-34 years. In addition, the infants have a greater risk of disabilities and abnormalities such as mental retardation, sickness, and sudden death (Kumhang Jaturajinda, et al., 1987: 516-518).

Based on these impacts, mentioned. Pregnant adolescents can have unhealthy behaviors, including inadequate nutrition, relaxation, exercise, work, and possible use of drugs (Murphy, 1980: 102). This can lead to more complications for both mother and fetus. Therefore, the self-care behaviors of pregnant adolescents play a significant role in promoting the health of mothers and their fetuses; as the fetus's well being depends upon the mother's intrapartum health status.

Self-care behaviors represent the activities that individuals perform on their own behalf to maintain life, health and well being including avoidance of competency of self-care (Orem,1995: 187). Appropriate self-care behaviors result from the individuals's performance of the therapeutic self-care demand in order to the self-care requisites; these requisites comprise; universal, developmental and health deviation. Therefore, the therapeutic self-care demand of pregnant adolescents need to perform

activities to respond the three self-care requisites; universal, developmental, and health deviation self-care requisites.

According to the total self-care requisites which includes three parts as follows; the universal self-care requisite is common to all human beings during all stages their life cycle. It is adjusted to age, developmental stage, and the environment the other factors. They are associated with life processes that deal with the maintenance of the integrity of general well being (Orem, 1995: 217-220). Because pregnancy in adolescents influences physiologically, psychological, emotional and sociological changes that are higher than in these mothers. It recognizes life cycle stages with developmental tasks in pregnancy of adolescents (Pritchard and et. al., 1985: 142).

Thus, the pregnant adolescents can response to therapeutic self- care demand in the antenatal period. In addition, the pregnant adolescents could practice appropriate self–care behaviors as follows; the maintenance of a sufficient intake of air, water and food. When the mothers have malnutrition, they can have complications during pregnancy such as, preterm labor and anemia (Abel, 1979; Cranley, 1983: 14). Next is, the provision of care associated with elimination processes and excrements. Eating some fruits and vegetables foods that contain cellulose, and drinking sufficient water should produce stools every day. This maintain the balance between activities and rest. Pregnant mothers should sleep about 8-10 hours at night (Clark, et at., 1979: 101-105). The maintenance of a balance between solitude and social interaction is important. The pregnant adolescents should have time of solitude and time to interact with the other pregnant women this is to develop a relationship is of developmental tasks of pregnancy such as, take care of self, and being helpful to others. To prevent the hazards to human life, human functioning, and human well being, the pregnant

adolescents should observe for physical and psychological complications in herself. Prevention of diseases, being careful to prevent accident, and being careful about cleanliness is important (Pritchard and et. al., 1985: 258–259).

The sub scale of developmental self–care requisites are associated with human development processes with conditions and event occurring during various stages of the life cycle. And event threat can adversely affect development. Pregnancy is a processing which pregnant women change to a maternal role and developmental tasks. Also, pregnant women should complete the developmental tasks of pregnancy with growth, self-esteem and autonomy (Clark and Affonso, 1979: 269). The concept of developmental tasks of pregnancy from Clark and Affonso (1979: 269–273) states as follows; pregnancy validation, in which the pregnant adolescents should accept the reality of pregnancy and its implication for the role of mother and infant. If pregnant women accept pregnancy as a change in their physical, psychological and socio-economic well being they could then pass the completed tasks of pregnancy (Kunnika Kuntharuksa, 1988: 32). The pregnant adolescents should perceive to total embodiment, fetal distinction and role transition, in preparation for childbirth.

The health deviation self-care requisites are associated with genetic and constitutional defects, human structural and functional deviations. Health deviation self-care requisites, genetic defects, for pregnant adolescents has six categories as follows; seeking and securing complications and environmental conditions which are addicted with pathologic events and processes of pregnancy. Because of the pregnant adolescents to usually is inexperienced and has little knowledge about pregnancy. For example, nutrition, relaxation, sleep, exercise, work and use of drugs during the

prenatal period can severely effect the mother and infant (Fogel, 1984; Steinberg, 1993: 120)

Therefore, the pregnant adolescents should have appropriate self-care behaviors and should develop self-care activities in the prenatal period. The well being of mothers and infants depends on appropriate self-care behaviors in order to prevent the hazards of complications in pregnancy.

Orem defines self-care agency as the capability a person needs to carry out self-care actions for maintenance of health and well being. Examples, include motivation, decision making, knowledge, and physical energy (Orem, 1995: 145). The conceptualized takes form as human. A three dimension structure includes capabilities for self-care operations, human foundations of self-care agency and power components enabling for self-care operations. The structure human foundations of self-care agency is a basic structures of ten power components. Ten power components is in the middle of perception to link with a third of structures for capabilities for self-care operations.

Nevertheless, the structure of self-care agency depends on basic conditioning factors, which is differentiated to individuals. Also ten power components which includes as follows; 1. Ability to maintain attention and exercise requisite vigilance with respect to self as self-care agency. 2. Controlled use of available physical energy. 3. Ability to control the position of the body and its parts in the execution of the movements. 4. Ability to reason within a self-care frame of reference. 5. Ability to consistently perform self-care operations goal orientations for self-care. 6. Ability to make decisions about care of self. 7. Ability to acquire technical knowledge about self care. 8. A repertoire of cognitive and interpersonal skills adapted to the performance

of self-care operations. 9. Ability to order discrete self-care. 10. Motivation; health motivation of person is also one of ten power components which is referred to operations for self-care. The person who has goal orientations for self-care that are in accord with its characteristics and its meaning for life, health, and well being. It is essential that a person have health motivation for self-care (Orem, 1985; Uzt, 1990: 17).

Health motivation is one of the components of the power element to self-care agency this is an appropriate practice response to increase requisites of self-care during pregnancy of the adolescent. Health motivation as Becker and Maiman (1974: 22-23) states it differentiate emotional arousal in individuals caused by some given class of stimuli to health matters. It is a measure of the person's environmental knowledge. The components of health motivation are as follows; cconcern about health matters, which includes the pregnant adolescent concern about health matters which happen during pregnancy. For example, they should know about complications in the antenatal peroid and avoid hazards of health. They should receive antenatal care, eat adequate nutrition and stop using drugs which are hazardous to their health. They should be interested in appropriate practices during pregnancy and setting of goals for good health for themselves and their infant. They are willing to seek and accept care and advise from health personnel. They should intend to accept the doctor's or nurse's instruction. They can receive knowledge from books, sheet, radio and television to learn how to perform self-care in prenatal period for both mother and infant. Lastly, they have the positive health activities. Activities increase healthy behaviors and decrease complications to the pregnant adolescent. A study which is related to health motivation and self-care behaviors is the study of Yupin Painmongkol (1994: 72-74)

whit found health motivation to be a positive relationship which is significant with self-care behaviors in pregnant adolescents for the gestational age of 28 - 40 weeks.

Therefore, the health motivation is important for pregnant adolescents to practice activities during pregnancy that are appropriate and effective in the life process. Self-care behaviors should be appropriate which depends on the others basic conditioning factors. Basic conditioning factors are defined as the internal and external influences on a person's ability to engage in self-care behaviors. This study used basic conditioning factors of family income, marital status, gestational age, gravidity and planning of pregnancy;

Family income; the family income of person is an important resource for personal basic needs; the person with high income will have better opportunity than low income people to seek facilities for healthy practices (Orem, 1885: 175). Similarly to the study of Supawadi Wayuhuerd (1993: 68) which found that family income has a significantly positive relationship with self-care behaviors in pregnant adolescents.

Marital status; the marital status of pregnant women show social support and responsibility of women or men and their emotional effect during pregnancy. If they are separated, the pregnant women may ignore health activities during pregnancy. From the study of Lowenstine and Rinehard (1987: 246-257) found that the pregnant women who married have better health practices than those who are not married.

Gravidity; the gravidity of pregnant women is the experience from pregnancy to the intrapratum period. Pregnant women, who has been pregnant and successfully delivered, could develop better self-care agency and receive data about antenatal care from many resources. Orem's (1995: 214) belief that self-care agency will be

variegating from individual experience. Similarly to Bash (1987: 176-177) stated that the primigravidar of pregnant women were interested in searching for data from many resources because it is their first experience of being pregnant in order to develop appropriate self- care agency.

Gestational age; the gestational age of pregnant women shows the difference of trimesters in pregnancy that tells therapeutic self-care demand for pregnant development even through 40 weeks of pregnancy. The pregnant adolescent changes physiologically and psychologically during pregnancy. The data change to differentiates in each trimester and increases to gestational age (Novak & Broom, 1995: 119). Similarly to the study of Rapeeporn Prakobsup (1999: 4) found that the gestational age was influenced to practice for the health status in every trimester as the interest in self-care behavior is also different.

Planning of pregnancy; planning of pregnancy shows that preparation and intention in planning for a child. If the women have a planned pregnancy, they should accept and adapt to good self-care behaviors during the antenatal period. Similarly to Punpilai Sriareporn (1994: 76–77) who said that pregnant women who have planned pregnancies may want a baby would accept the changes during pregnancy. Therefore, they have appropriate practices to self-care behaviors for pregnancy, unlike those who did not plan those who did not plan can not face the tension of pregnancy properly. The study of Rudee Pungbangkadee (1997: 71) found that planned pregnancies were statistic significantly with a positive relationship with self-care behaviors in pregnant adolescents.

The study of the pregnant adolescents is important because appropriate self-care behaviors during pregnancy depends on the many factors. The health motivation

is one of the ten power components in self-care agency to have appropriate self-care behaviors. Thus, in this study the researcher is interested in studying the power to predict health motivation and basic conditioning factors which included; family income, marital status, gestational age, gravidity, and planning of pregnancy with self-care behaviors in pregnant adolescents. The researcher hopes that the results of this study will be useful in making recommendations to encourage the pregnant adolescents to practice self- care behaviors appropriately.

Research Questions

1. What are the level of self-care behaviors and health motivation in pregnant adolescents ?

2. Are there factors of health motivation, family income, marital status, gestational age, gravidity, and planning of pregnancy can be able to predict self-care behaviors in pregnant adolescents ?

Purpose of the study

1. To study health motivation and self-care behaviors in pregnant adolescents.

2. To study the power of prediction in self-care behaviors in pregnant adolescents by these factors, health motivation, family income, marital status, gestational age, gravidity, and planning of pregnancy.

Conceptual Framework

Self-care behaviors are necessary in pregnant adolescents. It influences the health status for mothersand infants. Pregnant adolescents must have good self-care behaviors. In this study, the researcher used Orem's theory to assess self-care behaviors in pregnant adolescents. This includes three sub scale; universal self-care requisites, developmental self-care requisites, and health deviation self-care requisites. According to the effectiveness of self care behaviors, this depends on the self-care agency. This is composed of three structures basic conditioning factors and foundational capabilities and dispositions, ten power components, and self-care operations and operational capabilities. In this study, the researcher has selected the factor of health motivation as is one of ten power components of self-care agency.

The concept of Becker and Maiman (1974: 22-23) said that health motivation was the emotional arousal and feelings in individuals caused by some given class of stimuli (e.g., health matters). The health motivation may be the push factor in heath behaviors. It includes concern about health matters in general, willingness to seek and accept medical direction and intention to comply, and positive health activities.

The researcher has developed the conceptual framework of health motivation to assess pregnant adolescents. In addition, the basic condition factors that effect self-care agency, in which the researcher has selected; family income, marital status, gestational ages gravidity and planning of pregnancy. Orem's conceptual framework on self-care agency shows the relationship between factors of research as shown in figure 1.

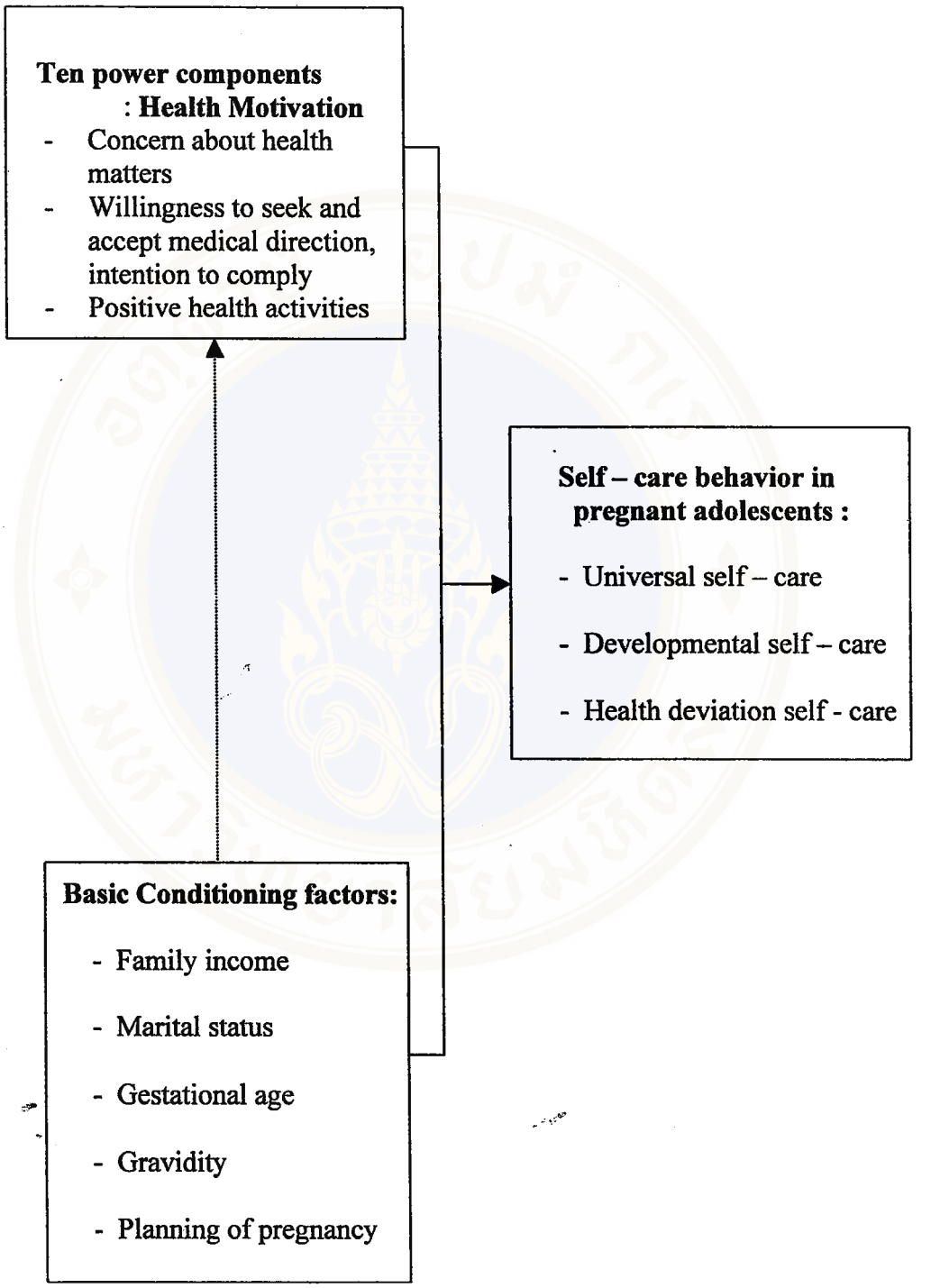

Figure 1: The relationship between health motivation and basic condition factors with self-care behaviors in pregnant adolescents which is developed from Orem's theory (Orem, 1995).

Hypotheses

Health motivation, family income, marital status, gestational age, gravidity, and planning of pregnancy are factors that could predict self-care behaviors in pregnant adolescents.

Scope of the study

This research studies the factors influencing to self-care behaviors in pregnant adolescents. The subjects in this study were pregnant adolescents who have attended an antenatal care clinic of Khonkaen hospital, Maternal and Child hospital, Kalasin hospital, and Mahasarakam hospital.

Definition of Terms

1. **Self- care behaviors:** means the every day practices of pregnant adolescents in, to prevent complications during pregnancy and to keep good health by self-care activities. The researcher based on this Orem's theory (Orem, 1995: 191–1102). It includes:

1.1 **Universal self care requisites:** means the practices of pregnant adolescents. It including having sufficient nutrition and air maintaining a balance between activity and rest, exercise, work, cleanliness, maintaining of a balance between solitude and social interaction and to prevent hazards of pregnancy on life, function and well being.

1.2 **Developmental self care requisites:** means the practices of

development in pregnancy. This includes; pregnancy validation to accept the reality of pregnancy, fetal embodiment to accept the fetus into the body as an individual being, and role transition, to release tension and stress during pregnancy.

1.3 **Health deviation self care requisites:** means seeking and obtaining appropriate medical assistance, perception and awareness of the effects and result of pathologic condition and learning to strive for living development.

2. **Health motivation:** means the emotional arousal. This includes; concerned, interested and intended practice activities which correlate to health matters during pregnancy. In this study, the researcher is based on Becker and Maiman (1974: 22-23) framework which includes; being concerned about health matters, seeking and accepting doctor's direction, practicing positive health activities during pregnancy.

2.1 Concern about health matters; such as being interested or concerned about their general health and to prevent complications and disease during pregnancy. Practicing appropriate behaviors in health matters to promote a well being for the mother and infant. For example, the pregnant adolescent is interested in follow up prenatal care and observes sign and symptom of complications during pregnancy.

2.2 Willingness to seek and accept medical direction and intention to comply; which includes; the intention of pregnant adolescents to seek knowledge to benefit the pregnancy from resources such as, text books, journals, television, radio or health education, with the intention to comply and accept medical direction and treatment from doctor and nurses.

2.3 Positive health activities: the activities of pregnant adolescence that are

benefit good health including; physical and psychological. This includes good food, exercise, cleanliness, and relaxation that the pregnant adolescents believe the result should have a positive effect for their health and their fetus.

3.**Family income:** means the average income per month of the pregnant adolescents and husband or only one person if the another has no job, or income from their parents.

4. **Marital status:** means the marital status of the pregnant adolescent which includes; married, divorced, and separated.

5. **Gestational age:** means the period of time from the date of their last menstruation period to the date of their antenatal care count by week.

6. **Gravidity:** means the number of pregnancy in the pregnant adolescent, which counts from the first pregnancy or abortion to the present pregnancy.

7. **Planning of pregnancy:** means intention to have a baby or to be pregnant by the pregnant adolescents which includes; planned and unplanned pregnancy.

Expected outcomes and Benefits

1. Guidance for nurses to bring health motivation and others factors to be components of assessment, planing to give knowledge, suggestion and assistance to promote ability of the self-care behaviors in pregnant adolescents.

2. Guidance for administrators of nursing and for management in teaching nursing student to be aware about the important of health motivation and other factors in relation with self-care behaviors in pregnant adolescents.

3. Guidance for future studies and research in nursing in other topics to develop self-care behaviors in other groups of population.

Limitations

One that continues to plague pregnant adolescents is the non random selection of subjects that may introduce a bias response and limit the generalize ability of the study outcomes.

CHAPTER II

LITERATURE REVIEW

This study examines at health motivation and self-care behaviors in pregnant adolescents. The researcher has searched relevant information and collected several study findings. The scope and steps is as follows;

- **Self-care behaviors of pregnant adolescents**
- **Influencing factors on self-care behaviors in pregnant adolescents**

Self-care behaviors of pregnant adolescents

Adolescent pregnancy

The World Health Organization (WHO) defines the adolescence in 3 distinct characteristics: physical development from change of reproductive organs to complete maturity, psychological development from childhood to adulthood, and socio economic changes especially from family dependent to the self-dependent by seeking employment of one's own (Jensen and Bobak, 1985: 1150). Pregnancy in adolescence interrupts work on identify formation and developmental tasks. Trying to accomplish the developmental tasks of pregnancy and the developmental of normal adolescence simultaneously may be overwhelming as the psychological of burden may lead to depression and to postponement in attaining an adult identify (Jensen and Bobak, 1985: 1022). Because of immature physical status, pregnant teenagers

particularly young adolescents below age 15, are considered to be high risk. Some facets of psychosocial immaturity have an impact on physical status (Dickason, 1990: 98). Often the young adolescent is ignorant about her own body and sometimes may not even realize that she is pregnant until the pregnancy is well advanced. Others may choose to deny that pregnancy exists to put off facing up to parental reaction. For whatever reason, prenatal care is often delayed past the early weeks that are so crucial to the developing infant. The adolescent is moody, unsure of herself, fearful, self-centered, and lacking in knowledge. In addition, pregnancy in adolescents is often not planed and the baby is illegitimate. As a consequence, the rejection response, the oppressed feeling that their lives were disturbed by the unintentional pregnancy, and the feeling that their fetuses were aliened and troublesome (Clark & Affonso, 1997: 269).

In regard to socio-economic impact, most of pregnant adolescents drop out of school or work, reduce the quality of jobs available (Stevens, 1995; Suwachai Intharaprasert, 1996: 179). They also may have inadequate self-support, and place the burden on their families. Recognizing her adolescent task of growing out of her childhood patterns will mean avoiding at all costs any approach that will seem authoritarian. A teenager needs to be respected, helped to make appropriate choices, and affirmed for doing so. The way in which she handles pregnancy and labor will have lasting effects on her later sexual adjustments and birth experiences (Dickason, 1990: 130). Therefore, the appropriate behaviors during pregnancy or self-care behaviors of pregnant adolescents have a significant role to promote health and well being of mothers and their fetuses.

Orem stated that pregnant women engage in two type of specialized self-care actions (Personal communication, 1992; Hart, 1996: 137). The first, labeled basic prenatal care actions, includes obtaining health supervision and education, maintaining nutrition, balancing rest and activity, abstaining from hazards, and maintaining social interaction. The second, foundations for dependent care agency, includes accepting the mothering role and forming a relationship with the fetus.

Self-care behaviors is a response of self-care requisites or demands for self-care that an individual experiences (Orem, 1995: 145). Pender's (1982: 150); self-care directed toward health protection and health promotion can be defined as activities initiated or performed by an individual, family or community to achieve, maintain or promote maximum health. Levine (1976: 155; Pender, 1996: 53); considered by many to be the father of self-care said, his / her own behaviors in health promotion and prevention in disease detection and treatment at the level of primary resource in the health care system is important. The central idea of the theory of self-care is that self-care is learned behaviors that purposely regulates human structural integrity, functioning, development and personal health and well being.

Thus, Orem's self-care theory is properly used as a conceptual framework for identifying the levels of self-care practices of pregnant adolescents with nursing. The theory of self-care is described as it is used as the framework of this study.

Concept of Orem's self-care in pregnant adolescents.

Orem (1995: 215) stated that self-care is the practice of activities that individuals perform on their own behalf in maintaining life, health and well being. Self-care is the practices of activities that perform on their own behalf in maintain life,

health and well being. Self-care has become a central concept of nursing with the publication of Orem' s concept (Orem , 1995: 125) which has developed the concept to a great extent. Self-care requisites are expressions of the kinds of purposive self-care that individuals require. The self-care behaviors of pregnant adolescents are nutrition, rest, activity, work pregnancy information, general hygiene, used of drug, prenatal care, observation of complications, and sexually active (Reeder, et al., 1992; Pupilai Sriareporn, 1994: 105). When an individual engages in self-care practices, it is necessary to meet three types of self-care requisites; universal, developmental, and health deviation (Orem, 1995: 191). Three self-care requisites from therapeutic self-care demand are universal self-care requisites, developmental self-care requisites, and health deviation self-care requisite. Thus, the pregnant adolescent should be concerned about self-care behaviors in their pregnancy as follows:

1. **Universal self-care demand** are common to human beings during all stages of the life cycle, adjusted to age, developmental state, environment and other factors (Orem,1995: 193). There are associated life process, with the maintenance and integrity of human structure and function as necessary for self-care behaviors in pregnant adolescents are as follows:

1.1 The maintenance of a sufficient intake of air, water and food.

1.1.1 It is important for pregnant adolescents to have a sufficient amount of pure air. Pregnant adolescents should avoid crowded, polluted and poor ventilated areas, for examples; the cinema ,market ,or riding on the bus for a long time. Drinking clean water, about 8 to 10 glasses a day is necessary. Sufficient amount of water can prevent signs of the hemoconcentrate and pre-ecamsia in pregnancy (Suwachai Intharaprasert, 1987: 29).

1.1.2 Eating sufficient nutrition necessary for mother and fetus development and to prevent malnutrition and reduce complications during pregnancy. Five categories of nutrition requirements in pregnancy are the same as in non adolescent pregnant women. An increase in protein for pregnant adolescent is about 76 gm per day as compared with 74 gm in non adolescent pregnancies. The pregnant adolescent should also eat food from all categories, with protein from meat, fish, peanut, milk etc.,.

1.2 The provision of care associated with elimination and excrement processes.

The pregnant adolescent should ensure these processes are completed everyday. They should eat a lot of fruits and vegetables, drink a lot of water, have appropriate exercise this will prevent constipation in pregnancy. Constipation leads to an increase of pressure in the abdominal cavity which causes blood circulation plus the pulling of circulation to the cecum and other organs in pelvic can be lead to hemorrhoids (Clark, et. al., 1979: 230).

1.3 The maintenance of balance between activity and rest.

1.3.1 The pregnant adolescents can do housework, maintain a job, and office work. They should avoid working hard physically and over working because this can lead to becoming too tried.

1.3.2 Rest between work and having sufficient rest at home, can promote physical and psychological health of pregnant adolescent.

1.3.3 Exercise during pregnancy is very useful for health, fitness, good sleep, and proper functioning of the gastrointestinal system (Payom Uesawad, 1987: 30).

1.3.4 General hygiene during pregnancy should include; two showers per

day, dental care, breast care, perineal care. It unproper may perineal care can urinary tract infections.

1.3.5 Sleeping increases the rate of blood circulation to the kidneys and placenta (Clark ,et al., 1979: 101-105). They should sleep during the day for about one hour and at night for about 8-10 hours.

1.3.6 The pregnant adolescent who has no complications are not forbidden to travel. They should change their positions during the trip, and should be careful in first trimester to prevent abortion and premature labor.

1.4 The maintenance of balance between solitude and social interaction.

The pregnant adolescent should have time for social interactions and certain occasions to participate with other people. Solitude and social interactions can increase security achieve fulfillment, have time to plan for the future, while promoting both individual autonomy and group membership.

1.5 Prevention of hazards to life, functioning, and well being.

The pregnant adolescent should be aware to types of hazards that are likely to occur such as accidents, and changing their physical position etc,. They should be careful when walking steps on wet areas to prevent slipping. They should also make a prenatal appointment often to inspect any hazardous areas in order to remedy them in time.

1.6 Promotion of well being

The pregnant adolescents should take action to maintain and promote the integrity of structure and functioning of any disorder that happens.

2. Developmental self-care demands; are associated with human developmental

processes and with conditions and events occurring during various stages in life. It is important to view pregnancy as developmental tasks to complete (Clark and Affonso, 1979: 269-273).The concept for developmental tasks in pregnancy are as follow;

Task 1 Pregnancy validation; The response of pregnant adolescents can be surprise at the possibility of pregnancy, with rejection may likely be the first response, and then followed by a conflict of wanting and not wanting. The optional task achievement to accept the reality of pregnancy and its implications will directs the patient toward this goal. Unpleasant symptoms of pregnancy may exaggerate the situation. Physiologic response of pregnancy, such as somnolence, nausea, vomiting, fatigue, stopping of menstruation will bring about decreased activity. Checking with their doctor will confirm the truth.

Task 2 Fetal embodiment; after passing the first task, the pregnant adolescent can begin to accept the of pregnancy. Showing concern over possible fetus loss through miscarriage, The pregnant adolescent tends to increase her intake of healthy for useful food for the sake her fetus and avoiding activity that may be harmful to pregnancy such as decreasing sexual relationship, and long travelling etc,. The anxiety of pregnant adolescent should reduce in this period. They will seek support from the other pregnant women and people whom they have a close relationship with.

Task 3 Fetal distinction; the pregnant adolescent seeks expression form other people that they are loved and to accept their fetuses and to view them as an individual being with an unique identity. Similarly to Moore (1987: 220) who stated that the pregnant adolescents will try to interest the husband to participate in the pregnancy events such as, feeling the fetal movement, attending classes, reading books, purchasing infant supplies, naming of the baby, etc,.

Task 4 Role Transition; this task is prepares the pregnant adolescents for childbirth in the final weeks. This can increase anxiety, that is caused by the approaching labor, fear of losing control, and concern about the arrival of the baby, etc,. They can dream about the baby's birth. These dreams can reflected reality in order to prepare for the coming of the event. Finally, the recognition of pregnant adolescents that they are growing out of their childhood patterns and will become authoritarian. Nurses can help the pregnant adolescents try these tasks and to make appropriate self-care behaviors.

3. Health Deviations of self-care behaviors

The pregnant adolescents are associated to health deviations with genetic and constitutional defects during pregnancies. Medical diagnosis and treatment measures are used to protect the mothers and fetuses from complications (Brisbane, 1980; Bulcholz and Gol, 1986; Smith and Maurer, 1985: 590). Thus, the pregnant adolescents will follow these self-care behaviors;

3.1 Seeking appropriate medical knowledge and assistance from specific physical personnel, listening to environmental conditions which are associated with complications and on preventing when there is evidence conditions of knowledge.

3.2 Being aware and attending to the effects and results of developmental pregnancy. If there are abnormal movements of the fetus, they should meet the doctor for examination as to reduce complications during pregnancy such as, bleeding per vagina , nausea / vomiting, fever, and chills (Grant and Elbourne, 1989: 444-447).

3.3 To act on the prescribed diagnostic, therapeutic, and rehabilitative

measures which is nursing prenatal care as appointed by the doctor. It will estimate complications and hazards that may happen to the mothers and fetuses. They should accept the plan of medical treatment.

3.4 Being aware of and attending to the discomforts to maintain one's own Personality. The deleterious effects of medical care measures performed or prescribed by the physician which includes effects on developmental tasks in pregnancies. Thus, the pregnant adolescent has an adequate diet and wears comfortable clothing and accepts the biologic reality of pregnancy.

3.5 Modifying self-concept is accepting of one-self state of health and in need of specific forms of health care, such as nutrition, elimination, working, relaxation, exercise ,and protection of hazards. The pregnancy period is a part of the life of adolescent who is a person in a family.

3.6 Learning to live with the effects of this pathologic condition and the effects of medical diagnostic and treatment measures to promote the development tasks of pregnancy.

In summary, the self-care behaviors of pregnant adolescents could detect complications during pregnancy. This can provide holistic perspectives for assessing of the pregnant adolescent. When they responses to therapeutic self-care demands in which self-care agency can succeed in the developmental tasks of pregnancy. Also, this should help to keep the mother and fetus healthy throughout pregnancy. Self-care requisite of pregnant adolescents is different from the non-adolescent pregnant woman, and then requisites for them are universal, developmental, and health deviation. They are associated with life processes and developmental states during all stages of pregnancy. Thus, the pregnant adolescence should be concerned about

preventing for complications during pregnancy and maintaining life, health, and well being.

Influencing factors on self-care behaviors of pregnant adolescents

Self-care agency conceptualized; people are subject to time sequential. They need to exercise their self-care agency as then they can estimate their capabilities and productive capabilities for self-care behaviors. Self-care agency is the complex acquired ability to meet one's continuing requirement for care and human development and to promote well being. As the same, the pregnant adolescents should have these factors to influence their self-care behaviors. These factors are referred to self-care agency as described by Orem. The structure of the concept was formalized as a three-part structure (Orem, 1995: 217-220).

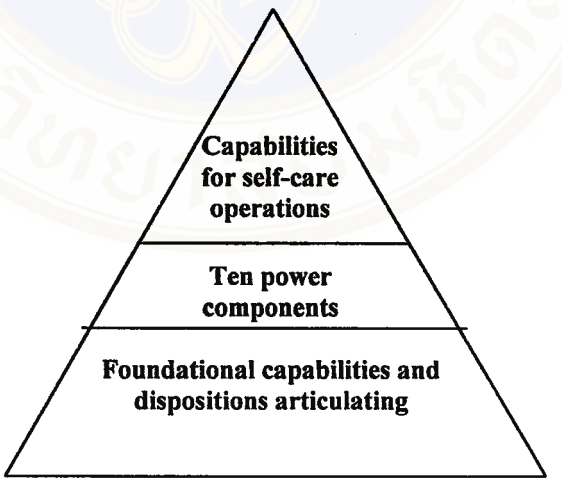

Figure 2 : The structure of self-care agency (Gast, Denyes and Cambell, 1989: 27).

1. **Foundation capabilities and dispositions articulating.**

There are common human foundations for engagement in deliberate action including self-care. Two complementary models were structured to make explicit the physiologic and psychological factors of deliberate action and dispositions and

influenced factors of deliberate action. It contains the capabilities and learning skills such as, reading, writing, reasoning agency, and sensation. Properioception and exteroception perception include operational knowing, self-value, habits, attention, self- understanding, self-concern, self-acceptance, priority system or value hierarchy, and ability to self-manage and personal affairs.

2. Ten power components

The transition operations of perception and deliberate action for self-care behaviors (Orem, 1995: 211). Which include 10 items. 1.the ability to maintain attention and exercise requisite vigilance with respect to self-care agency for internal and external conditions and significant factors, 2. the controlled used of available physical energy that is sufficient for the initiation and continuation of self-care operations, 3. the ability to control the position of the body and its parts in the execution of the movements required for the initiation and completion of self-care operations, 4. the ability to reason within a self-care frame of reference, 5. the ability to make decisions about self-care and to operate these decisions, 6. the ability to acquire technical knowledge about self-care from authoritative sources, to retain, and operate it, 7. the ability of cognitive, perceptual, manipulative, communication, and interpersonal skills adapted to the performance of self-care operations, 8. the ability to organize self-care actions or action systems into relationships with prior and subsequent actions toward the final achievement of regulatory goals, 9. the ability to consistently perform self-care operations, integrating them with relevant aspects of personal, family, and community living. Lastly, 10. the motivation (i.e.) goal orientation for self-care that is in accord with its characteristics and its meaning for life, health and well being.

Orem (1995: 215) defines this as goal orientations for self-care that are in accord with its characteristics and it meaning for life, health and well being. The researcher has interest in the factor of motivation because is important for pregnant adolescents to achieve in self-care during pregnancy.

3. Capabilities for self-care operations

Capabilities for self-care operations is necessary capabilities in the self-care operations in order to know and meet their requirements for self-care within time and place frames of references. Orem proposes three phases of self-care operations as a conceptual structure (Orem, 1995: 217-221) Orem states estimation is used to estimate conditions and factors important to self care, mainly the need to adapt one's Orem self-care. Transitional is the ability to decide on a course of action or what to do, to maintain needed self care operation, and productive operation is the ability to prepare for actions and to perform specific self-care operations in need.

Besides 3 phases of characteristic for self care operations, there are stated factors. Basic conditioning factors that affect the abilities to self-care agency and self-care requirement include; age, gender, developmental state, health state, socio-cultural orientation, health care system factors, family system factors, pattern of living including activities regularly engaged in environmental factors, resource availability, and adequacy (Orem, 1995: 203-204).

Motivation is also described as one in ten of the components of these unique aspects of nursing practice. The assessment of health motivation in adolescent pregnancy is important for evaluation of appropriate self-care behavior in pregnancy. The theories of psychology may be seen only as a component that nurses should provide self-care and focus on health status. With motivation as an attribute, that

clients have assisted in self-care behaviors during pregnancy (Utz, 1990: 16-17). Therefore, the pregnant adolescents will have physiological, psychological, and socio-economic goals of to health of both mothers and infants.

Health motivation of pregnant adolescents

Motivation is also described as one of the components of power element of self care agency (Utz, 1990: 17). The ability to stimulate, promote, and support the pregnant adolescent for self-care is central to nursing practice and requires thoughtful analysis. Then, the pregnant adolescence has motivation to appropriate self-care behaviors about health status during pregnancy. According to health motivation, it is one of ten power components of element to self-care agency. It is an appropriate practice to increase requisites of self-care during pregnancy of the pregnant adolescents. Addition to the study of Chaunphit Meesawat (1996: 114) and Rudee Poongbangkadee (1998: 70) which found that health motivation had a significantly positive relationship with self-care behaviors in pregnant adolescents.

Therefore, motivation is defined as emotional arousal or feeling by health activities which is stimulated by an individual such as, interest in general health, information and professional advice to meet theirs needs. During pregnancy, the pregnant adolescent has many sub stages of adolescence change the normal developmental of physical and psychological in adolescence (Punpilai Sriareporn, 1994: 76). Consequently, pregnant adolescents have stress and anxiety that interrupt self-care behaviors and may lack motivation for appropriate practice during pregnancy. This is similarly to Becker and Maiman (1974: 22-23) who stated that health motivation is referred to differentiate emotional arousal in individuals caused

by some given class of stimuli to health matters. It is a measure of the person's environmental knowledge. The components of health motivation are concern about health matters, willingness to seek knowledge, and positive health activities. Thus, health motivation of pregnant adolescents is as follows;

1. Concern about health matters

Concerned about their general health during pregnancy, they could prevent complications by practicing appropriate self-care behaviors. Most of pregnant adolescents have unplanned pregnancies and are ignorant of prenatal care which can cause incorrect practices of self-care behaviors during pregnancy (Matha and Matha, 1990: 831).

Generally, prenatal care includes to medical screening, physical exams, education and counseling, with social services for pregnant adolescent. Many pregnant women are at great risk for delivering to low birth-weight babies or preterm babies (Andosex, 1990; 154). Adequate prenatal care has been shown to reduce the livelihood of pregnant adolescent during labor or complications during pregnancy. Therefore, pregnant adolescents should have antenatal care to discuss concerns about health matters that will happen during pregnancy to ensure a healthy mother and infant.

2. Willingness to seek and accept to medical direction

Intention of pregnant adolescents to seek knowledge from resources and to accept medical direction for appropriate practices throughout their pregnancy, promotes and prepares the adolescent for childbirth. The adolescent is moody, unsure of her-self, fearful, self-centered, and lacking in knowledge (Dickason, 1990: 137).

Nursing should help them accomplish their psychological and health care tasks as smoothly as possible.

3. Positive health activities

Pregnant adolescents should think about activities which promote physiological and psychological well being during pregnancy such as, eating healthy food, relaxation to reduce stress anxiety. Pregnant adolescents should be motivated to perform appropriate self-care behaviors to bring about well being of the mothers and infants.

According to appropriate self-care behaviors in pregnant adolescents are depended on self-care agency which included health motivation as one of ten power components in self-care agency. Health motivation is one of factors which the researcher studied in the pregnant adolescents in this research. Another factor is the influence of self-care agency, which is a basic conditioning factor of Orem (1995: 136). Orem said that factors influence to individuals that affect their abilities to engage in self-care behaviors or affect the kind and amount of self-care reguired are named basic conditioning factors. Basic conditioning factors are defined as the internal and external and external influences on a person's ability to engage in self-care. In this study, the researcher selected the factors: family income, marital status, gestational age, gravidity, and planning of pregnancy;

Family income; people who have a high family income have the opportunity to seek medical attention, have available resources, and knowledge better than a people who have a low income (Pender, 1987: 161-162). This opinion is the same as in the study by Chranphit Meesawat (1996: 104). The relationship between health perception, body image, anxiety and self–care behaviors in normal primigravidar

adolescents found that family income had a significantly positive relationship with self-care behaviors of primigravidar adolescents. The study of Supawadi Wayuhuerd (1993: 68) also found that family income was related between self-concept, social support, and self-care behaviors in adolescent pregnant women. The study of Suda Puthong (1986: 56) and Suree Opussiriwit (1988: 56) found that family income had a significantly positive relationship with self-care behaviors in pregnant women.

Marital status; the marital status of a person is defined as the social support. In general, the married adolescents should have self-care behaviors better than who are unmarried. In particularly, married pregnant adolescents should have greater support from their families. Moreover, a couple will have a good relationship in the family during pregnancy. Unmarried teenagers have ambiguous roles and may be considered minors and under more strict parent control (Smith, et al., 1984: 371). As the same, in the study of Supawadi Wayuhuerd (1993: 68) found that marital status was a significantly positive relationship with self-care behaviors in pregnant adolescents.

Gestational age; the gestational age of pregnant women is different with each trimester and each trimester has different developmental tasks. Acceptance of the pregnancy, Old and et. al., (1980: 228-229) found that the first trimester had many physiological changes, such as morning sickness which can make the pregnant women uncomfortable. In the second trimester, the uncomfortable feeling was decreases. They should accept the pregnancy, try to maintain an apporpriate weight, and wear appropriate clothing during pregnancy (Ladewing, et. al., 1994: 221). They view the fetus as an individual and begin to formulate a personal relationship (Clark and Affonso, 1979: 271). In the third trimester, they will think want their baby is like and is concerned about their fetus. Thus, the families should be supportive and helpful

to the pregnant women to have appropriate self-care behaviors and to continue to prepare to give birth to an infant. According to the pregnant adolescents, they should receive prenatal care at an early gestational age and should always attend their appointments by following the plan set by the Public health development (Public Health Minister Planing, 1997: 45) states that pregnant women should attend at least 4 prenatal appointments. This is to ensure they practice correct and appropriate self-care behaviors during pregnancy. Similarly to the study of Orathai Tumgunma (1997: 99) found that gestational age had a significantly positive relationship with health promoting behaviors in pregnant women. As pregnant women increase their gestational age, they should practice more appropriate self-care behaviors in response to the therapeutic self-care demands of their pregnancy.

Gravidity; the gravidity of pregnant women is referred to the experience of pregnancy, abortion, and delivery. Pregnant women who have multiple parities should have better skill than the mothers who have no experience during pregnancy (Crolpey, 1979: 14). The mothers who have babies with congenital abnormalities will change their practices during pregnancy. Also, most of the multiparities have low incomes, in which antenatal care may be ignored. Similarly to the study of Ubonwan Koonlasan (1999: 51) who found that the gravidity had a significantly positive relationship with self-care agency in pregnant women. On the other hand, the study of Suree Opassiriwit (1988: 63) who found that the gravidity of pregnant women had a non significantly relationship with self-care behaviors in pregnant women.

Planning of pregnancy; the planning of pregnancy is referred to as the intention and preparation for a child. An unplanned pregnancy can lead to an unaccepted pregnancy. Pregnant adolescents must change of their normal life style.

They should adapt to appropriate self-care behaviors in the prenatal period. When the pregnancy is unplanned, this could effect the mother and infant by causing too much stress, emotional distress, and change in their economic status. This situation can be too severe for mothers who have unplanned pregnancies ready mothers should be for physical, psychological, and socio-economic changes that can decrease complications (Yaowaluk Serisathein, 1987: 56).

However, pregnant adolescents who have planned pregnancies will accept the pregnancy and have appropriate self-care behaviors. From the study of Punpilai Sriarporn (1994: 76) who found that the pregnant adolescent who has intended to have a child will accept the pregnancy. On the other hand, the pregnant adolescents who has an unintended pregnancy will have a negative influence to self-care behaviors (Anmann and Baird, 1986; Clark and Affonso, 1979: 1121) Also, they can experience fear and confusion about the pregnancy. From the review of the literature; it was found that appropriate self-care behaviors depend on the stage of antenatal care.

In conclusion, the self-care behaviors in pregnant adolescents could be determined by factors such as, health motivation, family income, marital status, gravidity, gestational age, and planning of pregnancy. These factors can predict self-care behaviors in pregnant adolescents. Thus, the researcher hopes that the results of this study will be useful in making recommendations to promote appropriate self-care behaviors in pregnant adolescents.

CHAPTER III

METHODOLOGY

The purpose of this study was to describe self-care behaviors in pregnant adolescents; and determine whether self-care behaviors in pregnant adolescents could be predicted by some selected factors including, health motivation, family income, marital status, gestation age, gravidity, and planning of pregnant.

Research Design

A descriptive design was use to describe self-care behaviors in pregnant adolescents and factors influenced to self-care behaviors.

Population and Sampling

Population; the target population of this study were pregnant adolescents who attended antenatal care clinic at, Khonkaen hospital, Maternal and Child hospital, Kalasin hospital, and Mahasarakam hospital.

Sample; A purposive sampling of 200 pregnant adolescents were selected from the target population. The sample size was calculated by a formula of sampling for Multiple regression analysis (Kerlinger and Padhazer, 1973; Tawatchai Varapongsathorn, 1987: 60). as follows;

$$n \geq 30k$$

Where n = number of sample groups.

k = number of independent variables such as, 6 variables including family income, marital status, planning of pregnancy, gestational age, gravidity, and health motivation.

Then $n \geq 30x\ 6$

$n \geq 180$

According to the above calculation, the sample size should be at least 180 for this study research data is collected from 200 of pregnant adolescents. The criteria for selecting sample as follows;

1. Age lower than 20 years olds to the date of study.
2. Non complication during pregnancy.
3. Could be read and write Thai.

Setting

Setting for this study were Khonkaen hospital, Kalasin hospital, and Mahasarakam hospital, which is regional and general hospital in North-eastern part of Thailand. These three hospitals service all types of patients such as, medicine surgery, pediatrics, and gynecology, etc. Most services in these hospital emphasized in care during hospitalization.

Sample also recruited for Maternal and Child hospital is only caring for pediatrics, obstetrics, and gynecology. Besides, treating and caring the patients from an acute to recovery phase, and in community setting. The service schedules of the antenatal care clinic of those four hospital are as follows;

Hospital	Day	Time
Khonkaen	Wednesday	9.00-12.00 am.
Maternal and Child	Monday to Friday	9.00-12.00 am.
Kalasin	Wednesday	9.00-12.00 am.
Mahasarakam	Wednesday	9.00-12.00 am.

Instrumentation

The instruments of this study include three parts: the demographic data form, the health motivation of pregnant adolescents questionnaire, the self-care behaviors of pregnant adolescents questionnaires, The instruments were described as follows;

Part I: Demographic data

This part was composed of demographic and medical history of pregnant adolescents such as, age, occupational, marital status, gestational age, gravidity, etc,.

Part II: Self-care behaviors of pregnant adolescents questionnaire

This questionnaire was developed from Rudee Poongbangkadee (1997) by permission which were consisted of 43 items divided in three sub scales;

- Universal self-care (item 1-18)
- Developmental self-care (item 19-35)
- Health deviation self-care (item 36-43)

The questionnaire of 40 positive items and 3 negative items. Each item was designed in 4 rating scale as follows;

Always; Referred to behaviors which the subjects always perform

Often; Referred to behaviors which the subjects often perform but not every time

Sometime; Referred to behaviors which the subjects sometime perform but not often.

Never; Referred to behaviors which the subjects never perform.

Score of instrument ; score was given to each of positive item was as follows;

Always	response	4	points.
Often	response	3	points.
Sometime	response	2	points.
Never	response	1	point.

The score was given to each of positive item was as follows;

Always	response	1	point.
Often	response	2	points.
Sometime	response	3	points.
Never	response	4	points.

Interpretation for self-care behaviors; the level of self-care behaviors was judged as appropriate by the average rating scores ($\bar{X}$) range from 1.00 to 4.00.

$\bar{X}$ = 1.00 - 1.49; mean have poor self- care behavior.

$\bar{X}$ = 1.50 - 2.49; mean have fair self- care behavior.

$\bar{X}$ = 2.50 - 3.49; mean have moderate self-care behavior

$\bar{X}$ = 3.50 - 4.00; mean have good self- care behavior.

Part III : Health motivation of questionnaire

The health motivation of pregnant adolescents questionnaire was developed by the researcher to measure health motivation of pregnant adolescents base on Becker and Maiman's framework (1974). This instrument consisted of 23 times divided into 3 sub scales as follows;

- Concern about health matters for 9 items (items 1-9).
- Willingness to seek and accept medical direction for 6 items (items 10-15).
- Positive health activities for 8 items (items 16-23).

This answer was designed in 5 rating scale as follows;

Definitely true; Referred to the subject have strongly agree with the information.

Mostly true; Referred to the subject have an average agree with the information.

Fairy true; Referred to the subject have neutral agree with the information.

Mostly false; Referred to the subject have disagree a little with the information

False; Referred to the subject have strongly disagree with the information.

The score of instrument; the level of health motivation was rating as follows by;

Definitely true	response	5	points.
Mostly true	response	4	points.
Fairy true	response	3	points.
Mostly false	response	2	points.
False	response	1	point.

Interpretation for health motivation; the level of health motivation of the pregnant adolescence was determined by the average rating scores ($\overline{X}$) range from 1.00 to 5.00.

$\bar{X}$ = 1.00 - 1.99 mean; have low level of health motivation.

$\bar{X}$ = 2.00 - 2.99 mean; have rather low level of health motivation.

$\bar{X}$ = 3.00 - 3.99 mean; have rather high level of health motivation.

$\bar{X}$ = 4.00 - 5.00 mean; have high level of health motivation.

Validity and Reliability of Instruments

Content validity of self-care behaviors and health motivation in pregnant adolescents questionnaire were reviewed by a panel of experts name of experts as follows;

1. Obstetrictian
2. Professional in Behavioral science
3. Instructor of Maternal and Child nursing
4. Instructor of Public Health nursing
5. Instructor of Psychiatric and Mental health nursing

The questionnaire was revised according to recommendations of experts. The revised questionnaire was tried out with 30 of pregnant adolescents and tested for reliability by using Cronbach Alpha Coefficient (Polit and Hangler, 1991; Tawatchai Varapongsathorn, 1987: 65). The results obtained for reliability of the instrument as follows;

- Self- care behaviors scale = .8060
- Health motivation scale = .9125

Data Collection

Data collection was carried out by the researcher as the following steps:

1. Getting permission from the director of 4 hospitals as follows; Khonkaen hospital, Maternal and Child hospital, Kalasin hospital, and Mahasarakam hospital.

2. Contacting the hospital administrators, physician and nurse of antenatal care unit of each hospital to give information and get cooperation for data collection: their permission and help.

3. Sample were selected follow the criteria from client record and prenatal care cards.

4. Researcher explained the purpose of the research, the procedure of data collection, and the right of sample as details in University.

5. Researcher prepared a place to act the subjects completing the questionnaire.

6. Interviewing the pregnant adolescents to complete the demographic data form and asked the pregnant adolescents of 200 cases to answer for self-care behaviors and health motivation questionnaire.

7. Researcher checked data from the questionnaires were collected.

8. When the sample groups were collected from 200 of pregnant adolescents, the questionnaires were prepared for data analysis.

Protection of human subjects

The data collection procedure in this study certainly encompassed the protection of human subjects.

1. The researcher explained the purpose of this study to the subjects and asked for their permission to collect data and used an informed consent form to ensure that the subjects had willingly volunteered.

2. The subjects were assured the data from the record would remain confidential that effect to their

3. Potential participant would be informed about the purpose of this study and their right to refuse participant or to withdraw from this study at any time.

Data Analysis

Statistical Package for Social Science for Windows (SPPSS / FW) was used for data analysis. The Procedures were carried out according to the objectives and the hypothesis. The data analysis procedures were divided into four parts.

1. Demographic data were analyzed using frequency and percentage.

2. Scores of the self-care behaviors in pregnant adolescents, health motivation were analyzed using mean and standard deviation.

3. Multiple correlation coefficient was applied to examine the prediction of self-care behaviors in pregnant adolescents by selected factors including health motivation, family income, marital status, gestational age, gravidity and planning of pregnancy.

The analysis to examination a predictor using a stepwise multiple regression technique is also performance. Since the proposed assumption in calculating the multiple correlation coefficient requires that the variables to be used must be at least in the interval scale.

Therefore, appropriate adjustments of the measure variables in the nominal scale and series to the variable in interval scale must be made (Suchart Prasitratasint and Laddawan Rodmanee, 1984: 27).

Adjusted the measured variable in the nominal scale to the dummy variables as follows;

marital status, define as; married with spouse = 0

divorced /separated = 1

planning of pregnancy, define as; planned = 0

unplanned = 1

CHAPTER IV

RESULTS

This descriptive research is to study self-care behaviors in pregnant adolescents and to determine whether self-care behaviors could be predicted by selected factors including health motivation, family income, marital status, gestational age, gravidity, and planning of pregnancy.

Data were analyzed and presented as follows:

Part I Demographic data of pregnant adolescents is presented in Table1-2.

Part II Self-care behaviors in pregnant adolescents are presented in Table 3-6.

Part III Health motivations in pregnant adolescents are presented in Table7-8.

Part IV The relationship between selected factors including health motivation, family income, marital status, gestational age, gravidity and planning of pregnancy with self-care behaviors in pregnant adolescents are presented in Table 9.

Part V Prediction of self-care behaviors in pregnant adolescents are presented in Table10-11.

Part I Demographic data of pregnant adolescents

Table 1 Frequency and percentage of pregnant adolescents classified by age, education level, occupation, and average family income (n = 200).

Characteristic of variables	Frequency	Percentage
Age of pregnant adolescents (years)		
13-14	1	0.5
15-17	63	31.5
18-19	136	68
$\bar{X}$ = 17.92 SD = 1.27	Max = 19	Min = 14
Age of spouse (years)		
Lower than 20	30	15
20-30	151	75.5
Upper than 30	19	9.5
$\bar{X}$ = 24.14 SD = 5.30	Max = 60	Min = 17
Educational level		
Primary level	85	42.5
Junior high school	80	40.0
Vocational certificate or higher	31	15.5
Vocational diploma or higher	4	2.0
Education level of spouse		
Primary level	99	49.5
Junior high school	48	24.0
Vocation certificate or higher	39	19.5
Vocation diploma or higher	14	7.0
Occupation of pregnant adolescents		
Farmer / Agriculture	58	29.0
Employee	36	18.0
Commerce / Business Person	11	5.5
Student	5	2.5
House keeper	90	45.0

Table 1 Frequency and percentage of pregnant adolescents classified by age, education level, occupation, and average family income (n = 200) (Continued).

Characteristic of variables	Frequency	Percentage(%)
Occupation of spouse		
Farmer / Agriculture	56	28.0
Employee	117	58.5
Commerce / Business Person	16	8.0
Government / Semigovernment service	1	0.5
Non occupation	3	1.5
Student	7	3.5
Average family income / month (baths)		
Less than 4,000	99	49.5
4,000 – 8,000	85	42.5
8,001 – 12,000	10	5.0
More than 12,000	6	3.0
$\bar{X}$ = 4,375.50 SD = 3,144.65	**Max = 20,000**	**Min = 1,000**

Table 1; shows the majority of samples (68.0%) aged range from 18 to 19 years. Approximately 42.5% of sample finished the primary school and 40.0% finished the junior high school while 49.5% of spouse finished the primary school and 24.0% finished the junior high school. Most of sample (45.0%) were house keeper followed by farmer and agriculture (29.0%). Occupation of spouse, 58.5% were employee, 28.0% were farmer and agriculture. The average family income, 49.5% earned less than 4,000 bath / month, 42.5% have 4,000 to 8,000 bath / month.

Table 2 Frequency and percentage of pregnant adolescents classified by marital status, family characteristic, planning of pregnancy, gravidity, parity, abortion, gestational age, and gestational age of first visit to the antenatal care (n = 200).

Characteristic of variable	Frequency	Percentage(%)
Marital status		
Marriage	197	98.5
Divorced / separated	3	1.5
Family characteristic		
Nuclear family	36	18.0
Extended family	164	82.0
Planning of pregnancy		
Planned	126	63.0
Unplanned	74	37.0
Gravidity		
1	159	79.5
2	36	18.0
3	4	2.0
4	1	0.5
Parity		
0	170	85.0
1	26	13.0
2	4	2.0
Abortion		
0	183	91.5
1	16	8.0
2	1	.5
Gestational age		
First trimester	19	9.5
Second trimester	96	48.0
Third trimester	85	42.0

Table 2 Frequency and percentage of pregnant adolescents classified by marital status, family characteristic, planning of pregnancy, gravidity, parity gestational age, and gestational age with first visit to the antenatal care (n = 200) (Continued).

Characteristic of variables	Frequency	Percentage(%)
Gestational age of first visit to the antenatal care		
First trimester	97	48.5
Second trimester	92	46
Third trimester	11	6.0

Table 2 shows the majority of samples 98.5% were married, 82.0% were from extended family, 63.0% were planned pregnancy, 79.5% were primigravidar, 85.0% had no previous delivery, 91.5% had no previous abortion. The majority of gestational ages were third trimester. Gestational age of first visit to the antenatal care were mostly first trimester (48.5%).

Part II Self-care behaviors in pregnant adolescents

Table 3. Percentage, mean, standard deviation, and meaning of self-care behaviors classified by total and sub scale in pregnant adolescents.

Behaviors	Percentage (%)				$\bar{X}$	SD	Meaning
	Good	Moderate	fair	Poor			
Total self – care	**9.5**	**86.0**	**4.5**	**0**	**3.05**	**0.34**	**Moderate**
- Universal self-care	17.0	80.0	3.0	0	3.13	0.33	Moderate
- Developmental self-care	13.5	74.0	12.5	0	2.97	0.45	Moderate
- Health deviation self-care	24.5	56.5	18.0	6.0	3.05	0.61	Moderate

Table 3 shows that both total and sub scales of self-care behaviors were at moderate level. Greater than 80.0% of self-care behaviors were at a good level and moderate level. The sub scale of self-care requisite was highest on universal self-care, following were health deviation self-care, and developmental self-care respectively.

Table 4. Percentage, mean, standard deviation, and meaning of self-care behaviors classified by the items of universal self-care requisites (n = 200).

Behaviors	Percentage (%)				$\bar{X}$	SD	Meaning
	Always	Often	Sometime	Never			
Universal self care					**3.13**	**0.33**	**Moderate**
-drink tea.. coffee	2.5	1.0	13.0	83.5	3.78	0.59	Good
- clean..external genitalia …	81.5	12.0	6.0	0.5	3.75	0.58	Good
- take a bath..	78.5	12.0	8.5	1.0	3.68	0.67	Good
- brush teeth..	68.5	16.0	15.0	0.5	3.53	0.76	Good
- clean… breast	70.0	10.0	17.0	3.0	3.47	0.88	Moderate
- sleep…night..	65.5	14.5	18.5	1.5	3.44	0.84	Moderate
- avoid…crowed..	47.5	25.5	22.0	5.5	3.16	0.94	Moderate
- rest….lunch..	48.5	19.5	31.0	1.0	3.16	0.90	Moderate
- drink…water	51.0	14.0	33.5	1.5	3.15	0.94	Moderate
- distend…urine	4.0	9.0	63.5	23.5	3.07	0.70	Moderate
-eat…fruit	38.5	22.0	39.0	0.5	2.99	0.89	Moderate
-eat…carborhydate	41.0	18.0	38.0	3.0	2.97	0.96	Moderate
-eat….vegetable	33.5	24.0	41.5	1.0	2.90	0.89	Moderate
-drink…milk	38.0	12.0	46.0	4.0	2.84	0.99	Moderate
-eat…egg	31.5	16.0	50.0	2.5	2.77	0.93	Moderate
-eat…meat	27.5	18.5	53.0	1.0	2.73	0.88	Moderate
-exercise…walk	27.0	16.5	47.0	9.5	2.61	0.99	Moderate
-avoid travel…by motorcycle	15.0	13.0	63.0	8.5	2.36	0.84	Fair

Table 4 shows that the over all universal self-care behaviors of pregnant adolescents was in a moderate level. Those behaviors which are in good level include drinking of tea and coffee, cleaning of breast with soap, take a bath less than twice a day, and brushing of teeth less than twice a day. The only behavior which is in a fair level is travel by motorcycle during pregnancy.

Table 5. Percentage, mean, standard deviation, and meaning of self-care behaviors classified by items of developmental self-care requisites.

Behaviors	Percentage (%)				$\bar{X}$	SD	Meaning
	Always	Often	Sometime	Never			
Developmental self-care					**2.97**	**0.45**	**Moderate**
-practice.. maternal role	64.0	24.5	11.0	0.5	3.52	0.71	Good
-activities.... Entertainment	64.5	17.0	18.5	0	3.46	0.79	Moderate
-observe..... quickening...fetus	65.5	19.0	11.5	4.0	3.45	0.85	Moderate
-observe develop... ....fetus	59.5	21.0	18.0	1.5	3.39	0.83	Moderate
-consult..problem.. spouse	48.5	21.5	25.5	4.5	3.14	0.95	Moderate
-plan care...baby	44.5	24.0	24.5	7.0	3.06	0.99	Moderate
-appreciate.... Pregnancy	40.0	26.0	31.0	3.0	3.03	0.91	Moderate
prepare...the maternal role	43.0	21.0	31.0	5.0	3.02	0.97	Moderate
-talk..your mother.. pregnancy	38.5	26.5	31.5	3.5	3.00	0.92	Moderate
-fantasy....baby	42.0	19.5	34.0	4.5	2.99	0.97	Moderate
..hurt...consult.. spouse	42.0	20.0	33.0	5.0	2.99	0.98	Moderate
-..anxiety..make be.. well..	37.5	17.0	40.5	5.0	2.87	0.98	Moderate
-talk ..other.. pregnancy	31.0	16.0	48.5	4.5	2.74	0.95	Moderate

Table 5. Percentage, mean, standard deviation, and meaning of self-care behaviors classified by items of developmental self-care requisites (Continued).

Behaviors	Percentage (%)				X	SD	Meaning
	Always	Often	Sometime	Never			
-participate….. neighbor	29.0	15.0	53.0	3.0	2.70	0.92	Moderate
-asking…doctor	31.5	15.0	43.0	10.5	2.68	1.03	Moderate
-to seek.... knowledge	25.5	21.0	48.5	5.0	2.67	0.91	Moderate
-ask…child birth	28.0	11.5	43.0	17.5	2.50	1.08	Moderate
-prepare…baby's things	19.5	19.5	27.0	34.0	2.25	1.12	Fair

Table 5 shows the over all developmental self-care behaviors of pregnant adolescents was in a moderate level. Those behaviors which are in good level include, practicing for maternal role as well as food care, clothes care, cleaning house were always and often practice at 88.5%. The only behavior which is in a fair level is preparation for baby's thing was found at always level only 19.5%.

Table 6. Percentage, mean, standard deviation, and meaning of self-care behaviors classified by items of health deviation self-care requisites (n = 200).

Behaviors	Percentage (%)				$\overline{X}$	SD	Meaning
	Always	Often	Sometime	Never			
Health deviation self-care					**3.05**	**0.61**	**Moderate**
-come on… appointment	83.5	8.0	4.0	4.5	3.71	0.75	Good
-eat…drug	72.0	10.0	12.0	6.0	3.48	0.92	Moderate
-..buy… drug.. common illness	9.0	8.5	20.5	62.0	3.36	0.97	Moderate
-observe… complicate..	35.5	19.5	29.5	15.5	2.75	1.10	Moderate
-..fever..illness.. check ..doctor	36.5	19.0	24.5	20.0	2.75	1.16	Moderate
-ask…abnormal during pregnancy	29.0	20.5	32.5	18.0	2.61	1.09	Moderate
-quickly meet… doctor…abnormal	46.0	9.5	13.5	31.0	2.71	1.33	Moderate

Table 6 shows that the over all health deviation self-care behaviors of pregnant adolescents was in a moderate level. Those behavior which is in good level that attending to antenatal care on appointment. The behaviors which is lowest is quickly to meet the doctor for symptom abnormal during pregnancy.

Part III Health motivation in pregnant adolescents

Table 7 Percentage, mean, standard deviation, and meaning of health motivation in pregnant adolescents classified by total and sub scale.

Motivation	Percentage (%)				$\overline{X}$	SD	Meaning
	High	Rather high	Rather low	Low			
Total health motivation	**78.5**	**19.0**	**2.5**	**0**	**4.32**	**0.56**	**High**
- Concern about health matters	85.0	12.0	2.5	0.5	4.45	0.58	High
- Willingness to seek and accept medical direction	75.5	20.5	4.0	0	4.26	0.63	High
- Positive health activities	70.5	25.5	4.0	0	4.24	0.61	High

Table 7 shows that health motivation in pregnant adolescents was in a high level both total and sub scale. Greater than 80.0% of health motivation in pregnant adolescents was in a high and rather high level. Each of the sub scale of health motivation was highest at sub scale of concern about health matter then willingness to seeking and accepting medical direction, and positive health activities respectively.

Table 8 Percentage, mean, standard deviation, and meaning of health motivation classified by the items (n = 200).

Motivation	Percentage (%)					$\bar{X}$	SD	Meaning
	Definite True	Mostly True	fairy true	Mostly false	False			
Concern about health matters						**4.45**	**0.58**	**High**
-wish..safety.. baby	74.5	21.0	2.5	2.0	0	4.68	0.62	High
-concern..antenatal care..prevent ..	70.5	22.5	4.5	2.0	0.5	4.61	0.72	High
-want…fetus..well being…	67.0	18.0	12.5	1.5	1.0	4.49	0.84	High
-concern.use.drug.. substance..	70.0	19.5	4.0	2.5	4.0	4.49	0.98	High
-concern.. health during pregnancy	56.0	34.0	7.5	2.0	0	4.45	0.72	High
-interested… complicate	55.0	32.5	7.5	3.0	1.5	4.38	0.86	High
-concern… pregnancy	57.5	27.0	11.0	3.5	1.0	4.37	0.89	High
-intend..prevent accidental	55.5	30.5	9.0	3.0	2.0	4.35	0.91	High
-interested… interprete..check to.. gestation	51.0	29.0	12.5	6.5	1.0	4.22	0.97	High

Table 8 Percentage, mean, standard deviation, and meaning of health motivation classified by the items (n = 200) (continued).

Motivation	Percentage (%)					$\overline{X}$	SD	Meaning
	Definite True	Mostly true	Fairy true	Mostly false	False			
Willingness to seek and accept						4.26	0.63	High
-intend…follow.. doctor's advice	69.0	24.5	4.5	2.0	0	4.61	0.67	High
-intend..practice … direction	67.0	26.0	6.0	1.0	0	4.59	0.65	High
-accept…take care	52.5	35.5	10.5	0.5	1.0	4.38	0.77	High
-friend's direction..	42.0	34.0	18.0	5.5	0.5	4.12	0.93	High
-intend…talk…other pregnant	35.0	35.0	21.5	6.5	2.0	3.95	1.00	Rather high
-intend…seek ..knowledge	33.5	35.0	21.0	8.5	2.0	3.90	1.03	Rather high
Positive health activities						4.26	0.63	High
-provide..clean…body..	59.0	31.5	6.5	2.0	1.0	4.46	0.79	High
-opinion.. check ..on appointment	55.5	32.5	10.5	2.0	0	4.41	0.76	High
-provide eat.good food	54.0	34.5	9.5	1.0	1.0	4.39	0.78	High
-provide..clean.. house..	50.0	34.0	15.0	0.5	0.5	4.33	0.78	High
-appropriate.. rest..well being fetus	51.0	32.5	12.5	3.5	0.5	4.30	0.86	High
-..Listening radio.	43.0	31.0	19.0	6.5	0.5	4.10	0.96	High
-feel well.. can.. burden	36.0	38.0	18.5	6.0	1.5	4.01	0.96	High
-..drinking milk 2 glasses	38.0	30.5	20.5	8.5	2.5	3.93	1.07	Rather high

Table 8 shows that the pregnant adolescents sub scale of health motivation as follows;

The most items of concern about health matter are in high level. Except, the asking for interpretation of physical examination by doctor which are lowest of items.

The most items of willingness to seek and accept doctor treatment are in high level except, intention to seek knowledge during pregnancy and intention to talk with the other pregnant women are in a rather high level.

The most items of positive health activities are in high level except, drinking 2 glasses of milk which is in a rather high level.

Part IV The relationship between selected factors including health motivation, family income, marital status, gestational age, gravidity, and planning of pregnancy with self-care behaviors in pregnant adolescents.

Table 9. Coefficients metrix between independent variables with self-care behaviors in pregnant adolescents.

Variables	1	2	3	4	5	6	7
1. Family income	1.000						
2. Marital status	-.048	1.000					
3. Gestational age	-.031	-.138	1.000				
4. Gravidity	.014	-.067	.093	1.000			
5. Planning of pregnancy	.045	-.109	.016	.070	1.000		
6. Health motivation	.108	.065	.017	-.016	.095	1.000	
7. Self-care behaviors	.010	.000	.210**	.086	.063	.528**	1.000

** $P < .01$

Table 9 shows that self-care behaviors of pregnant adolescents are significantly positive correlate with gestational age ($r = .210$) and health motivation ($r = .528$) ($P < .05$).

Part V Predictive power of self-care behaviors in pregnant adolescents

Table 10 Multiple regression between predicting factor of self-care behaviors in pregnant adolescents.

Predictors	B	Beta	SE	t
Family income	-4.635E-06	- .043	.186	- .716
Marital status	-6.719E-03	- .006	.000	- .100
Gestational age	7.354E-03	.192	.002	3.200**
Gravidity	5.174E-02	.076	.041	1.273
Planning of pregnancy	4.335E-03	.076	.042	.103
Health motivation	.326	.530	.037	8.864***
Constant (a) = 1.403				
Multiple R = .572, R^2 = .327, R^2 adjust = .306, SEE. = .2846, F = 15.606				

** P < .01, *** P < .001

Table 10 shows that all predicted variables are accounted for 32.0% of variance in explaining self-care behaviors in pregnant adolescents.

Table 11 Stepwise multiple regression between the predictor and self-care behaviors in pregnant adolescents.

Step	Independent variable	Multiple R	R^2	R^2 adj	F change	B	Beta	t
1	-Health motivation	.528	.279	.275	76.492***	.352	.528	8.746***
2	-Health motivation					.323	.524	8.999***
	-Gestational age	.565	.319	.312	46.175***	7.715E-03	.201	3.423***
	Constant (a) = 1.449			**SE = .2833**			**Over all F = 46.174**	

*** P < .001

Table 11 shows that health motivation and gestational age are accounted for 31.9% in explaining self-care behaviors of pregnant adolescents.

We are able to create an equation to predict the self-care behaviors in pregnant adolescence by these mean score as follow:

$$Y(SC) = 1.449 + .323\ (HM) + 7.715E-03\ (GA)$$

It can be explained that when recognize the mean score of the health motivation and gestational age of the pregnant adolescents and would show the starting point at 1.449 plus .323 of health motivation plus 7.715E – 03 of gestational age. This formula can be use to predict for 31.9% and the best standard equation is as follows:

$$Z(SC) = .524\ (HM) + .201\ (GA)$$

The explanation that the standard means score of the self-care behavior in pregnant adolescents would be equal to .524 of the health motivation plus .201 of the gestational age.

CHAPTER V

DISCUSSION

This study focuses on health motivation and self-care behaviors in pregnant adolescents. The research group consisted of 200 cases who attended the at antenatal care clinic of Khonkaen hospital, Maternal and Child hospital, Kalasin hospital, and Mahasarakam hospital. Score of health motivation and self-care behaviors in pregnant adolescents were analyzed by mean and standard deviation, Pearson's product moment correlation coefficient and stepwise multiple regression analysis which was used to predicted self-care behaviors. The results of this study will be discuss according to the objectives and hypothesis of the research.

Objective 1. To study health motivation and self-care behaviors in pregnant adolescents.

Self-care behaviors in pregnant adolescents.

From the study that the self-care behaviors in pregnant adolescents is at a moderate level (Table 3). Considering the mean of the scores the total self-care behaviors are at a good and moderate level at 9.5% and 86.0% respectively. Greater than 80.0% have at a good and moderate level. On the other hand, 6.0% had a poor level on health deviation self-care. When considering each sub scale, it was found that the highest score is universal self-care, follow by health deviation self-care and developmental self-care respectively. The explanations that the total of pregnant adolescents who attended an antenatal care clinic showed interest in health states of

the mothers and fetuses. Furthermore, 63.0 % of the pregnancies were planned, 98.5% were married, 48.5% first attended the antenatal care during their first trimester, and 68% of pregnant adolescents were elderly adolescents Thus, the pregnant adolescence is responsible to perform their self-care behaviors during pregnancy. They received information during pregnancy which was given by the doctor and nurses at the antenatal care clinics. This study found that 79.5% of pregnant adolescents had a great interest and intend to do good self-care behaviors.

For this reason, there was a moderate level of self-care behaviors in pregnant adolescents. Similarly to the study of Kunnika Kuntharuksa (1984: 129) which found that the primigravidar have better self-care behaviors and attitude better than the multi-parity women. The sub scale measures found in the sample groups is as follows;

Universal self-care; the self-care behaviors in this sub scale is at a moderate level (Table 3). However, the mean of the scores of self-care behaviors are at a good and moderate level at 17.0% and 80.0% respectively. When considering each item, we found that greater than 80.0% of pregnant adolescents always or often practiced no drinking of tea and coffee during pregnancy. This can be explained in that is not the habit of pregnant women who live in urban areas. They do not like to drink tea and coffee. They also practiced cleaning external genitalia organ after elimination and voiding, taking a bath at least twice a day, brushing their teeth at least twice a day and washing month after meals. These are correct self-care behaviors and it is the general hygiene for self-care of a person.

Therefore, they could practice the same. However, considering each item, we found that most were at a moderate level. On the other hand, some women had some incorrect practices such as, eating 1 egg a day. It was found that are 50.0% sometime

and 2.5% never practiced this. For this reason, they stated that it is not necessary to eat every day, only 2-3 times per week is enough. Some of them did not like to eat egg even before pregnancy. For eating animal meat, the sample group is 53.0% sometime and 1.0% never practiced this. For this reason, the sample group who live in the North - Eastern part of Thailand do not like meat and it is too expensive to eat every week. Greater than 80.0% had a family income of lower than 8,000 bath / month. Plus the local way of preparing meat, they could not eat too much such as, Lab, Num-Tok, etc. For this reason, then had an insufficient intake of meat. Plus, their culture and tradition believes that pregnant women should not eat eggs because the fetus will have vernix caceosa during delivery.

Moreover, they will be dystocia from the reason of over weight baby (Keauwon Hutanuwat, et. al., 1988: 255). Drinking milk for 2 glasses a day, it was found that the sample group showed 46.0% sometime and 4.0% never practiced this. In general, drinking milk is not a habit in Thailand. So the pregnant adolescents never drinks milk during pregnancy. Voiding of urine during work or travel, the pregnant adolescents have incorrect practice at 13.0% of always or often practiced. The result of not voiding urine for longer than 3 to 4 hours can cause urinary tract infections (Clark, et. al., 1979: 230). They should also clean their external genitalia after urinating every time. Exercise by walking on the morning or evening for 30 minutes, the sample group was at 47.0% sometime and 9.5% never practice this. Their reason states that they did not the time for exercise. Some pregnant adolescents believe that activities during the day were the same as exercise. This is incorrect thinking to ignore exercising. It results in an uncomfortable feeling and lack muscle preparation for childbirth (Payom Euesawas, 1992: 51). This can cause prolonged labor. Travel by motorcycle, the

sample group was at 13.0% always and 15.0% often practiced this (Table 4). Travel by motorcycle can cause an accident during pregnancy. For this reason, it is convenience of traveling, because they do not have a personal car and they lack a bus system.

Developmental self-care; found that pregnant adolescents have self-care behaviors in this sub scale at the moderate level (Table 2). When considering the mean of scores self-care behaviors are at a good and moderate level of 13.5% and 74.0% respectively. However, considering each item, the pregnant adolescents practice are at a good level in the maternal role or household they take care of cleaning the clothes and managing the house. It was found that they were at 64.0% always and 24.05% often practiced this. The explanation for this is that pregnant adolescents of 45.0% did not have an occupation. They were housewives who could keep a good house and practice the maternal role. They were at a moderate level of self-care behaviors in most items.

However, in some items incorrect behaviors was practiced; these includes asking the doctor and nurse for information about practices for preparation for childbirth. Of the group, 43.0% sometime and 17.5% never practiced this. For this reason, they were afraid that the health team did not have enough time for them, because there were many patients at the antenatal care clinic. Some pregnant adolescents gave the reason that they were at an early gestational age so that they did not think it was necessary to ask about preparation for childbirth. Seeking knowledge for practice during pregnancy from reading, they were at 48.5% sometime and 5.0% never practiced this. For this reason, they have received information from the health team already and they did not know resources for knowledge. The explanation is that

the sample group only had a 42.5% primary level of education. They lacked the skill to seek knowledge and they lived in an urban location which gave them a limitation for those resources. In preparation for baby's arrival such as, preparing the babies diapers, the babies clothes, etc., the pregnant adolescents is 61.0% of sometime or never practiced this. The reason was they believed that preparation for baby's arrival may cause a hazard for the baby as dystocia for mothers is an old tradition and culture. This is according to those who live in North - Eastern part of Thailand (Theamsorn Thongsawas, 1988: 231). Some pregnant adolescents gave the reason that they could buy baby's arrival in the market at any time.

Health deviation self-care; found that self-care behaviors in this sub scale were at a moderate level (Table 3). However, considering the mean of the scores of self-care behaviors, it was at good to moderate level at 24.5% and 56.5% respectively. When considering each item, pregnant adolescents were at good level which included prenatal care by a doctor's appointment. The scores were at 91.5 % by always and often practiced on taking medication to promote a healthy baby during pregnancy and they followed doctor's treatment 82.0% of the time, they (82.5%) did not buy medication at the local shops for common illness such as, common cold. The explanation for this is that they were performing correct practices of self-care behaviors after they received prenatal care at the hospital.

When considering each item, it was found that most of the items were at a moderate level. With exception, when they had an abnormal symptom or complication, they were quick to meet the doctor. They were at 46.0% sometime and 31.0% never practiced this. The reason for this is that their health was normal during

pregnancy, so it was not necessary to meet the doctor. On the other hand, if they had complications during pregnancy, that they immediately went to the doctor.

Health motivation in pregnant adolescents

From this study, we found that the health motivation in pregnant adolescents was at a high level of both the total and the sub scale (Table 7). Considering the mean of the scores, the total health motivation was at a high and rather high level at 78.5% and 19.0% respectively. When considering each sub scale, it was found that the highest score was the part concerning health matters. Secondly was the part of seeking knowledge and accepting the doctor's treatment and the part about positive health activities. 79.5% of primigravidar and 63.0% of were planned pregnancies attended the antenatal care clinic or the hospital.

Therefore, they accepted the pregnancy and had motivation and interest to practice good self-care behaviors during pregnancy. Similar to the study of Rudee Poongbangkadee (1997: 86) who found that pregnant adolescents who intended to have a baby had a significantly positive relationship with self-care behaviors in pregnant adolescents. Moreover, 48.5% attended prenatal care during the first trimester of gestational age. According to the majority, 83.5% attended on appointment. This high level of health motivation showed that they were interested and intended to perform self-care behaviors for the well being of both mothers and infants. The health motivation indicates that self-care behavior influences the social environment. People's perceptions show they want to be healthy, thus they intend to comply with medical directions (Becker, et. al., 1977: 348). Moreover, 98.5% of pregnant adolescents at were married, 82.0% stayed with extended family, and 77.5% were lived with the female's mother or father in which they received for good social

support. The reasons for a high level of health motivation during pregnancy was they were motivate to have appropriate practice. When considering sub scale, it was found:

Concern about health matters; the health motivation in this sub scale was at a high level (Table 7). When considering the mean of scores, health motivation was at high and rather high level at 85.0% and 12.0% respectively. Considering each item, the pregnant adolescents had definitely true and mostly true judgement greater than 90.0% of the time. This includes the wish for safety for mother and infant during labor, interest in prenatal care to prevent complications in pregnancy, wanting well being and safety for mother and fetus. Therefore, they attended prenatal care immediately then they recognized they were pregnant. The explanations that the total of pregnant adolescents have attended prenatal care shows they were interested and concerned about their pregnancy. They wanted to make sure both mother and infant were well. 79.5% of the primigravidar showed interest and concern about pregnancy better than the multiple parity. Similar to the study of Hart (1996: 142) who found that the primigravidar were needed to safety during antepartum and intrapartum period more than the multi-parity. Moreover, the lowest percentage showed that they did not ask the to doctor and nurse for interpretation of their prenatal care which they have judged at 7.5% of mostly false and false. The explanation is that the sample group were from North - Eastern part of Thailand who usually do not ask the doctor or nurse questions and the majority of subject finished primary education level. They may have lacked the skill to ask doctor and nurse.

Willingness to seek and accept medical direction; the health motivation in this sub scale was at a high level (Table 7). Considering the mean of scores health motivation was at high and rather high level at 75.5% and 20.5% respectively.

However, considering each item, they have judged definitely true and mostly true greater than 90.0 %. This includes interest in following medical directions to have maternal and fetal well being, and intention to accept the doctor and nurse's direction to practice healthy behaviors during pregnancy. Mostly, they attended the prenatal care at the hospital to get care from the doctors and nurses during pregnancy for the health of mother and fetus. Therefore, they were at high level on health motivation. However, it was found that 10.5% have judged mostly false and false. When considering the lowest item which was intend to seek knowledge about practice during pregnancy from text book, television, etc. The explanation is that the majority of subjects were of primary education level at 42.5%. According to their low education they lacked the skill to seek knowledge, in contrast to pregnant women who are highly educated. Similar to Pender (1987: 65) who stated that highly educated people would seek the benefits or things that will facilitate their health promoting behaviors and experience self- care behaviors better than those person who had low education.

Positive health activities; the health motivation in this sub scale was at a high level (Table 7). When considering the mean of scores of health motivation were at a high and rather high level at 70.5% and 25.5% respectively. However, considering each item, the pregnant adolescents judged definitely true and mostly true greater than 80.0%. This includes cleaning clothes and general hygiene care that should promote good health, keeping doctor's appointment, and eating health food for the benefit of mother and infant. Most of pregnant adolescents had attended prenatal care at the hospital. According to this study of 92.5% always and often came to their appointment in practicing self-care behaviors. Moreover, they also had clean clothes and they had good hygiene care. However, considering the lowest item of drinking 2 glasses of milk

per day for benefit of strong bones and teeth, pregnant adolescents put only 11.0% at mostly false and false for this information. The majority of subjects were lived in an urban area, they did not like to drink milk and did not know the benefits of drinking milk during pregnancy for their health and fetuses.

Objective 2: To study the predictive power of self-care behaviors in pregnant adolescents from the predictive variables of family income, marital status, gestational age, gravidity, planning of pregnancy, and health motivation which are predictors of self-care behaviors in pregnant adolescents.

The result of this study showed that the health motivation and gestational age could predict self-care behavior in the pregnant adolescence. These two factors had the predictive power of 31.9% and was significant (P <. 001). Therefore, the result of this research has partly supported the objectives. Especially, the health motivation was the first factor that could predict the self-care behaviors in pregnant adolescents and the gestational age of pregnant adolescents has a positive relationship with the self-care behaviors greater than the other variables at the statistically significant level.

Health motivation; it was found that health motivation had a positive relationship with the self-care behavior at the statistically significant level (r = .528, P <. 01) (Table 9), and could predict the self-care behavior for 27.9%. This is an indication that health motivation can motivate the pregnant adolescents to practice self-care behaviors for their well being during pregnancy. The result of this study was congruent with the concept of Orem (1995: 225) which stated that health motivation is one of the ten power components to self-care agency. An appropriate practice responds to increase requisites of therapeutic self-care demand, as well as the person

who has good orientations for health and well being. Similarly with concept of Becker and Maiman (1974: 17) found that the health motivation is an emotional aerosol in persons caused by some given class of stimuli to health activities, interest and concern about health matters, willingness to seek knowledge and resources of health to practice appropriate self-care behaviors in normal or illness status.

Therefore, the pregnant adolescents who has a high level of health motivation will be motivated to be concerned about their health to practice appropriate self-care behavior for well-being of mother and infant throughout pregnancy. Similarly to the study of Pawinee Pokasinjumroon (1995: 66) who found that health motivation had a positive relationship with self-care behaviors in Thai-Muslim of pregnant women with induced hypertension, at a statistically significant level. Similarly to the study of Chuanphit Meesawat (1996: 114) and Rudee Poongbangkadee (1998: 70) who found that the health motivation had a positive relationship with self-care behaviors in pregnant adolescents at a statistically significant. Thus, health motivation was the first factor that could predict self-care behaviors in pregnant adolescents.

Moreover, gestational age was the second factor that could predict the variance of the self-care behavior in pregnant adolescents. From this study, it was found that gestational age had a positive relationship with self-care behaviors at a statistically significant level (R =. 210, P<. 01), and could increase the prediction by 31.9%. This is explained that pregnant adolescents with a greater gestational age would have better self-care behavior and would accept pregnancy better than those who were early in gestational age. Similarly to the study of Hart (1996: 137) who stated that increasing weeks of gestation established a prenatal care routine which changed the self-care behaviors and would have a direct positive influence with the self-care agency, by

increasing motivation and seeking good practice of self- care during pregnancy. The study of Olds (1980: 228-229) who found that the greater the gestational age of pregnant women increased their acceptance of the pregnancy. Pregnant women will be successful in developmental stages of pregnancy which includes; the first trimester pregnant women were concerned a lot about their pregnancy and were unconvinced about they were pregnant, so they did not really care about their health.

On the other hand, on the second trimester when their discomfort was reduced, they began to accept the pregnancy. They began to take care of their fetuses and started preparing for the maternal role by seeking knowledge about practice in pregnancy. In the third trimester, they clearly have physical changes, with enlargement of their abdomen and quickening of the fetus. They will try to take care of their health for the well being of both mother and infant to ensure safety during delivery.

According to the pregnant adolescents who should receive prenatal care at an early stage of gestation and should always keep their appointments following the plan of the public health development (Public Health Minister Planning, 1997). Pregnant women should attend at least 4 visits of prenatal care, so they could practice correct and appropriate self-care behaviors during pregnancy. Similarly to the study of Orathai Tumaunma (1997: 99) who stated that the gestational age had a relationship with health promoting behaviors in pregnant women at a significant level ($P < .001$) and study of Unnchit Bunsom (1997: 55) found that pregnant women who are at different gestational ages, practice different of health responsibilities at a significant level ($P < .05$). The sample group was on second and third trimester and they practiced better health promoting behaviors than the sample group from the first trimester. Thus,

pregnant adolescents with increasing gestational age have more appropriate self-care behaviors during pregnancy.

Other factors such as, family income, gravidity, and planning of pregnancy, have a non-significant relationship the self-care behaviors. They can not predict self-care behaviors in this sample group, and this is congruent with the study of Pawinee Pokasinjum (1995: 78) who stated that family income has a non-significant relationship with self-care behaviors in Thai Muslim pregnant women with pregnancy induce hypertension ($P < 0.5$). The study of Kanjana Boonthub (1991: 57) found that gravidity has a non-significant, non-relationship and can not explain the variable of self-care agency in pregnant women. They received information and knowledge about practice during pregnancy when they have attended prenatal care at hospital. The study of Unnchit Boonsom (1997: 56) who found that pregnant women who have planned and unplanned pregnancies receive knowledge and suggestion about health practice from doctors and nurses when they went to the hospital. Thus, the self-care behaviors among the group of subjects is indifferent. From the study of Rudee Boongbangkadee (1997: 86) found that the intention to have a baby has a relationship with self-care behaviors in pregnant adolescents they can not predict self-care behaviors.

Marital status; found that the marital status does not correlate with the self-care behaviors in pregnant adolescents. It is not able to predict self-care behaviors in pregnant adolescents. This can be explained that even though they were not married, they have still have support from their family. The majority of subjects had an extended family at 82.0% (Table 2). Thus, the pregnant adolescents who have different marital statuses have indifferent self-care behaviors. Similarly to the study of

Sumitta Swangtook (1996: 76) who found that pregnant women with inadequate prenatal care resulted in indifferent self-care behaviors among the group of subjects. .

As mentioned, the result of this study found that health motivation and gestational age can be accounted for the prediction of self-care behaviors in pregnant adolescents 31.9% of the time. The remaining 68.1% of the self-care behaviors can not be explained in this study which included family income, marital status, gravidity, and planning of pregnancy. This might be due to other factors which influences self-care behaviors which the researcher did not study. The remainder of the ten power components in self-care agency from Orem's theory (1995) suggested they have the ability to make decisions of self-care and other basic conditioning factors.

CHAPTER VI

CONCLUSION

Summary of the Study

This is a descriptive research which studies study health motivation and self-care behaviors in pregnant adolescents. It also studies the predictive power of self-care behaviors from the predictive variables of family income, marital status, gestational age, gravidity, planning of pregnancy, and health motivation. The subjects were pregnancy adolescents who attend the at antenatal care clinic at Khonkaen hospital, Maternal and Child hospital, Kalasin hospital, and Mahasarakam hospital. They were selected for subjects by purpose sampling of 200 cases. Data collection was by questionnaire of self-care behaviors and health motivation. The data was analyzed by SPSS for Windows. Mean, standard deviation, Pearson's product moment correlation coefficients analyzed data and stepwise multiple regression analysis that predict to self-care behaviors in pregnant adolescents was also used.

The finding of this study can be summarized as follows:

1. The majority of subject (68.0%) were pregnant adolescents between age 18 to 19 years old, 42.5% finished primary education and 40.0% finished junior high school education. Most subjects (45.0%) were not employed , 29.0% had an income of lower than 4,000 baths. The majority of the sample (63.0%) were married , 79.5% were primigravidar, 85.0% were first parity, 91.5% had no previous abortion, 48.0%

attended antenatal care during their first trimester and 46.0% during their second trimester.

2. The total mean score on health motivation in pregnant adolescents was at a high level of 78.5%. The sub scale mean scores were also at a high level including concern about health matters, willingness seek to knowledge and accept medical directions, and had positive health activities as follows 85.0%, 75.5%, and 70.5% respectively.

3. The total mean score of self-care behaviors in pregnant adolescents was at moderate level of 78.5%. The sub scale mean scores were moderate level including universal self-care, developmental self-care, and health deviation self-care as follows 80.0% ,74.0%, and 56.5% respectively.

4. The health motivation (HM) and gestational age (GA) were able to predict the self-care behaviors (SC) in pregnant adolescents for 31.9% as significant of statistic ($P < .001$). The formula to form the mean of scores is as follows:

$$Y (SC) = 1.449 + .323 (HM) + 7.515\text{-}03 (GA)$$

Implications and Recommendations

From this study, health motivation and gestational age can predict the self-care behaviors in pregnant adolescents 31.9% of the time. The result of this research shows that health motivation and gestational age can influence the self-care behaviors in pregnant adolescents. Thus, nurse should promote pregnant adolescents to have appropriate self-care behaviors. The researcher suggests the following.

For nursing practice

From the results mentioned, nurses should promote self-care behaviors and health motivation in pregnant adolescents who attend the antenatal care. The result of this study shoes that self-care behaviors in pregnant adolescents were at a moderate level. It was also found that some subjects have incorrect practice during pregnancy such as, eating non-healthy food, in proper exercise, and asking the doctor for diagnosis in pregnancy, etc,. Nurses should assess health motivation and self-care behaviors to evaluate of the pregnant adolescents to find out the problems of their performance of health motivation and self-care behaviors by taking special care to this group and the early gestational group.

This study stresses the importance of planing for health education in pregnant adolescents. Nurses should promote health motivation and self-care behaviors of the pregnant adolescents group as follows:

1. Nurse should arrange the group in order to provide knowledge which relate to tradition of the local community. Nurse can also make suggestions about proper practices during pregnancy such as, a brochure about correct practices during pregnancy to encourage attendance in the antenatal care clinic.

2. Nurse should arrange self-help groups to contribute knowledge and information, which can benefit the pregnant adolescent during the prenatal period. The class can be arranged by the gestational age group of self-care behaviors.

3. Nurse should provide knowledge and advice to the correct practice during pregnancy. Also, pregnant adolescents should be take appropriate self-care behaviors. Moreover, nurse should have the opportunity to ask and to talk with the pregnant adolescents to discuss their problems that can happen during pregnancy.

Nursing Education

The instruction for student nurse should evaluate the health motivation and the self-care behaviors in pregnant adolescents by taking special care to the group of early gestational age who has attended the first time. In particularly with gestational age of the first trimester. A student nurse should pay attention to this group.

Future Research

1. Conduct intervention studies with pregnant women using the finding from this study as baseline information.

2. Study other factors which influence and predict self-care behaviors such as, health perception, caring satisfaction, life style of health status, etc.

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APPENDICES

APPENDIX A **Consent Form**

APPENDIX B **Instruments Research**

APPENDIX C **List of Experts**

APPENDIX A

Consent Form

Pregnancy has will change of health status which included physical, psychological, and socio-logical. You also a pregnant adolescents who have experienced about prenatal period that followed above information. According to, your data should be benefit of guidance to studies and improve for promote ability of you and each other of the pregnant women. Data forms were including demographic data, self-care behaviors data and health motivation that you will answer them.

Therefore, you are very important person that will be give data to the researcher in this study. Also, the study procedures involve no foreseeable risks or harm to you. Your participation in this study is voluntary and you have the right to withdraw at any time and the health care team will not be effected. The study data will be coded so they will not be linked to your name. You identify will not be revealed while the study is being conducted or when the study is reported and published. Thank you for your cooperation.

Umaporn Noisiri

Researcher

For volunteer

I have received to your information that explained above. I also understand to and I agree with you to participate and cooperate in this study.

Signature.....

APPENDIX B

Instruments of Research

Part I Demographic data of pregnant adolescents.

1. Age (year) ; Pregnant adolescents....., Spouse.....
2. Education level ; Pregnant adolescents....., Spouse.....
3. Occupation ; Pregnant adolescents....., Spouse.....
4. Average family income / month (bath).....
5. Marital status ; ( ) married, lived with spouse ( ) divorced / separate
6. Family characteristic; ( ) nuclear family ( ) extended family
7. Planning of pregnancy ; ( ) planned ( ) unplanned

Data from medical history or book of antenatal care.

8. G.....P.....A.....L.....
9. Gestational age.....weeks.
10. Gestational age of first attended the prenatal care.....weeks.
11. Number of attend the prenatal care.....times

Part II Self care behaviors of pregnant adolescents questionnaire.

Explanation for doing this questionnaire.

The purpose of this questionnaire to ask for your practices during pregnancy. You have to carefully consider each statement corresponding with frequency for self- care behaviors. And you can mark (√) in the answer blocks which related to the real situation of your practice. Your answer will not be affected. All statement must be done. Each frequency can be defined as follows:

Always means; referred to behaviors which you always perform.

Often means; referred to behaviors which you often perform but not every time.

Sometime means; referred to behaviors which you sometime perform but not often.

Never means; referred to behaviors which you never perform.

(Please, give for reason).

Behaviors	Always	Often	Sometime	Never	Reason
1. You provide to drink of water 8 to 10 glasses a day.					
2. You provide to eat meat, pork, chicken, fish or some peanut about 3 spoons per meal a day.					
.....					
43. You have attended on doctor's appointment.					

Part II Questionnaire of Health motivation in pregnant adolescents.

Explanation for doing this questionnaire.

The purpose of this questionnaire; want to ask you about your opinion and feeling concern with practices in pregnancy. Also your answers are not right or fail. But the answer of yours. And your answer are not effected to you that they should be have benefit to promote of service for the pregnant women.

Please, carefully for reading information as the items. You can choose one of them by marking the symbol of (√) related to your opinion and your agree with item. Each option can be defined as follows:

Definitely true means; the subject have strongly agree with the information.

Mostly true means; the subject have an average agree with the information.

Fairy true mean; the subject have neutral agree with the information.

Mostly false mean; the subject have disagree a little with the information

False means; the subject have strongly disagree with the information.

Health motivation	Definitely true	Mostly true	Fairy true	Mostly false	False	For researcher
1. You want to have fetus well being that you should meet to doctor.						
……..						
23. You always clean house and environment that should well being of yourself and fetus.						

APPENDIX C

List of Experts

In this study of health motivation and self-care behavios in pregnant adolescents. The involved study tools were tested for their validity. Following is the list of experts:

1. Associate Professor Weerasak Wongtiraporn, M.D.
   Department of Obstetrics and Grynaecology
   Faculty of Medical, Siriraj Hospital, Mahidol University.
2. Associate Professor Doctor Roongrote Poomriew
   Department of Health education and Behavioral science
   Faculty of Public Health, Mahidol University.
3. Assistant Professor Siriratana Sugeetorn
   Department of Obstetric and Gynaecologic Nursing
   Faculty of Nursing, Mahidol University
4. Assistant Professor Doctor Nuntawon Suwonnaroop
   Department of Public Health Nursing
   Faculty of Nursing, Mahidol University
5. Assistant Professor Doctor Chomchuen Somprasert
   Department of Psychiatric and Mental Health Nursing
   Faculty of Nursing, Mahidol University

BIOGRAPHY

NAME	Miss Umaporn Noisiri
DATE OF BIRTH	3 August, 1972.
PLACE OF BIRTH	Kalasin, Thailand.
INSTITUTIONS ATTENDED	Sri-mahasarakam Nursing College, Diploma of Nursing Science, (1990 – 1994). Sukothai-Thammathirat Open University, Bachelor of Public Health Science (Public Health Administration), (1995 – 1997). Mahidol University Master of Nursing Science (Maternal and Child Nursing), (1998 - 2000).
RESEARCH GRANT	The Princess of Muntharob - Gummarat Foundation, The Nurse's Association of Thailand
POSITION & OFFICE	1994 - Present Nongkungsri hospital, Kalasin, Thailand Position : Staff Nurse