PERSONAL FACTORS PREDICTING ANXIETY AND DEPRESSION OF PREGNANT AND POSTPARTUM WOMEN

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Maternity is a transitional state which is difficult for some women who may develop anxiety and depression during pregnancy and the postpartum period. This descriptive research was to study personal factors predicting anxiety and depression in pregnant and postpartum women. The sample was composed of 100 pregnant women and 100 postpartum women who attended the Antenatal Clinic or the Postpartum Clinic at the Family Planning Unit , from April to May 2000. A Demographic Data Questionnaire was used to collect the demographic characteristics of the sample. Anxiety and depression during pregnancy and the postpartum period were measured by the Hospital Anxiety and Depression Scale developed by Zigmond & Snaith (1983).

The incidence of abnormal anxiety and depression among pregnant women were 9% and 5% , respectively. Abnormal anxiety and depression among postpartum women were 4% and 2% , respectively. Number of preterm births and age could be statistically significant predictors of anxiety (R^2=.144 , F(2,197) =16.58 , p<.001). While anxiety and education could be statistically significant predictors of depression (R^2=.337 , F(2,197) =50.147 , p<.001).

The study suggests that nurses should assess anxiety and depression of mothers and provide mothers' classes to prevent any psychological complications, especially for the mothers who have had previous preterm births , who are young and who have low education.

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ปิ่นแก้ว โชติอำนวย : ปัจจัยส่วนบุคคล ที่สามารถทำนายอาการวิตกกังวลและอาการซึมเศร้า ของหญิงตั้งครรภ์และหลังคลอด (PERSONAL FACTORS PREDICTING ANXIETY AND DEPRESSION OF PREGNANT AND POSTPARTUM WOMEN) คณะกรรมการควบคุมวิทยานิพนธ์ : พรทิพย์ วงศ์วิเศษสิริกุล , พย.ด. วันทนา มณีศรีวงศ์กูล , D.N.Sc., 105 หน้า ISBN 974-04-0230-5

การเป็นมารดาเป็นสภาวะการปรับเปลี่ยน ซึ่งถือว่าเป็นเรื่องยากสำหรับผู้หญิงบางราย อาจทำให้เกิดอาการวิตกกังวลและอาการซึมเศร้า ในระยะตั้งครรภ์และหลังคลอดได้ การศึกษาครั้งนี้เป็นการวิจัยเชิงพรรณนา เพื่อศึกษาปัจจัยส่วนบุคคล ที่สามารถทำนายอาการวิตกกังวลและอาการซึมเศร้า ของหญิงตั้งครรภ์และหลังคลอด กลุ่มตัวอย่างประกอบด้วยหญิงตั้งครรภ์ 100 ราย และหญิงหลังคลอด 100 ราย ที่มารับบริการฝากครรภ์ หรือตรวจหลังคลอดที่หน่วยวางแผนครอบครัว ระหว่างเดือนเมษายนถึงพฤษภาคม พ.ศ. 2543 เครื่องมือในการรวบรวมข้อมูลคือ แบบสอบถามข้อมูลส่วนบุคคล แบบวัดอาการวิตกกังวลและอาการซึมเศร้า สร้างโดยซิกมอนด์และสแนท

ผลการวิจัยพบว่า หญิงตั้งครรภ์มีอาการวิตกกังวล และอาการซึมเศร้าที่ผิดปกติร้อยละ 9 และ ร้อยละ 5 ตามลำดับ หญิงหลังคลอดมีอาการวิตกกังวล และอาการซึมเศร้าที่ผิดปกติร้อยละ 4 และ ร้อยละ 2 ตามลำดับ จำนวนครั้งของการคลอดก่อนกำหนด และอายุ สามารถร่วมทำนายอาการวิตกกังวลได้อย่างมีนัยสำคัญทางสถิติ (R^2 =.144 , F(2,197) =16.58 , p <.001) อาการวิตกกังวล และการศึกษา สามารถร่วมทำนายอาการซึมเศร้าได้อย่างมีนัยสำคัญทางสถิติ (R^2 =.337 , F(2,197) =50.147 , p <.001)

ข้อเสนอแนะในการศึกษาครั้งนี้คือ พยาบาลควรประเมินอาการวิตกกังวล และอาการซึมเศร้าของมารดา ในระยะตั้งครรภ์และหลังคลอด มีการจัดห้องเรียนสอนมารดา เพื่อป้องกันการเกิดอาการวิตกกังวล และอาการซึมเศร้าที่ผิดปกติ โดยเฉพาะมารดาที่มีประวัติการคลอดก่อนกำหนด มารดาที่มีอายุน้อย และมารดาที่มีการศึกษาน้อย

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CHAPTER I

INTRODUCTION

Background and Rationale

Becoming a motherhood as it occurred during pregnancy and the postpartum period were both maturational crisis and developmental crisis (Kane, et al., 1968 : 99 ; Tilden , 1983 : 167 ; Saunders, 1999 : 206) and family developmental transitions (Meleis & Trangenstein , 1994 : 256). But Hobbs & Cole (1976 : 723) believed that beginning motherhood was a transition rather than a crisis. Eventhough motherhood was either a crisis or a transition , it was also a time of increased vulnerability to stress for women (Affonso & Sheptak , 1989: 148; Saks , et al., 1985 : 728). Stress undergone during this period included 1) endocrine changes , 2) activation of unconscious psychological conflicts pertaining to pregnancy and , 3) the intrapsychic reorganization of becoming a mother (Kane , et al., 1968 : 99).

Several studies showed that anxiety and depression occurred during pregnancy (Burstein , et al., 1974 : 195–199 ; Light & Fenster , 1974 : 46–50 ; Standley,.et al., 1979 : 22-26 ; Cox , et al., 1982 : 111-114 ; Cutrona , 1983 : 163–165; Atkinson & Rickel , 1984 : 115–116). As well as depression was found commonly during postpartum in American or Europian women (Cutrona , 1983 : 163–165 ; Kumar & Robson , 1984 : 35–38 ; O'Hara , et al., 1984 : 158–161 ; Cooper, et al., 1988 : 799–800 ; Beck , et al., 1992 : 291). In addition , several studies found that prenatal anxiety (Dalton , 1971 : 689–692 ; Hayworth , et al., 1980 : 164–165) or

prenatal depression (O'Hara , et al., 1984 : 165 ;Whiffen , 1988 : 467 ; Gotlib , et al., 1991 : 122; O'Hara , et al., 1991 : 67) was associated with postpartum depression.

Postpartum depression might be an acute disorder , however , one study indicated that it could be chronic by its nature. Pitt (1968 : 1332) stated that , "Despite the apparent mildness of the depression , 43% seem not have improved after one year. The implications of this disability for the mother , baby and indeed the whole family can be grave". Kumar and Robson (1984 : 35) found that depressed mothers were more likely to express negative or mixed feelings about their three–month–old babies. Many postpartum mothers who had become depressed for the first time in their life continued to experience psychological problems up to four years after childbirth.

Gaffney (1986 : 91) studied 100 third trimester pregnant women and found that prenatal anxiety might lower the attachment between a mother and her fetus. Blumberg (1980 : 139–150) studied anxiety among mothers of premature infants and found that high anxiety was associated with negative maternal attitude toward pregnancy and childbirth.

Characteristics of postpartum depression such as anxiety , concentration impairment , and depressive mood might exert an adverse affect on maternal–infant relationships. In a meta–analysis of 19 studies , postpartum depression was shown to have a moderate to large negative effect on maternal–infant interaction during the first year after delivery (Beck , 1995 : 298). Patterns of mutual responsiveness between mother and child that might be particularly relevant to the development of cognitive abilities , attention , and language development in the first two years of life (Cox , 1988 : 93). Three–year–old

children whose mother had been depressed after their birth had more disturbance behavior than children of mothers who were not depressed at that time (Wrate , et al., 1985 : 662). A comparative study of 25 diagnosed depressed and 25 nondepressed mothers and their 2 month–old infants found that the infants of the depressed mothers were less competent cognitively and expressed more negative emotions (Whiffen & Gotlib , 1989 ; 274). In a longitudinal study of maternal mental health during pregnancy and after delivery , Cogill and others (1986 : 1165) found that intellectual deficits were found in the children 4 years of age whose mothers had suffered with postpartum depression. In Thailand , Trangkasombat & Likanapichaikul (1996 : 162–173) studied in 1264 students aged 10–17 years in junior high school students and found that 40.8% of the sample had significant depressive symptoms. The majority of depressive symptoms in children were cognition especially self–perception and performance and physical symptoms at higher frequencies than direct expression of depressed mood. Depressive symptoms might show in other form such as anger , aggression and conduct disorder. Similarity , a survey of child psychiatric disorders was conducted in a community sample of 1698 Grade 4 students selected from 104 schools in Bangkok. The overall prevalence rate of among 8–11–year–old was estimated to be 37.58%. Prevalence rate of specific child psychiatric disorders are 10.77% , 7.11% , 5.5% and 5.01% for generalized anxiety , depressive , conduct and separation anxiety disorders (Panyayong & Wacharasindhu , 1998). The factors which were statistically significant associated with behavioral and emotional problems in two studies were low academic achievement , broken family , poor parent–child relationship , having other people

as caretaker , low educated primary caretaker , low income , unhappy family life and other mental health problems of their parents such as headache and sleeplessness , stress , anxiety ,depression and treatment (Trankasombat & Likanapichitkul , 1996 : 173 ; Panyayong & Wacharasindhu , 1998). The studies revealed that anxiety and depression were an important mental health problems in children and adolescents and induced delinquency. Two studies in children and adolescents delinquency at the Observation and Protection Centers found that most of crimes committed were violating addiction act , stealing , and violence (Sirithongthaworn , 1998 : 129; Sirivech , et al.,1998 : 225). Most of social behavioral problems were internalizing groups with withdrawn sign (70.7%) and anxious / depression sign (58.2%) (Sirithongthaworn , 1998 : 129).

Anxiety and depression in the women during pregnancy and postpartum could be devastating for the mother , the child , and the family. It could interfere the normal bonding and attachment process and the mother's learning of effective infant care–taking and parenting skills (Gotlib , et al., 1991 : 122).

There were several studies about anxiety and depression in Thai pregnant and postpartum women. The results showed that Thai pregnant women had anxiety, but there was no report of the prevalence of anxiety during pregnancy (Leelachaikul , 1985 ; Thongkrajai , et al., 1986 ; Kerdmongkol , 1988 : C ; Namtaweechaikul , 1998). In a study of 200 first time mothers , Wongvisetsirikul (1997) found that the prevalence rate of anxiety was 5% at 6 weeks postpartum. Estimated incidences of depression have also varied widely. These variations depend on instruments used to measure depression , criteria for diagnosis of depression. The instrument frequently used to measure depression ,

in several Thai studies was the Center for Epidemiologic Studies Depression Scale (CES–D). For example , Chanchai (1991) found the prevalence of depression in 161 first time mothers to be 38.5% during last trimester (36–40 weeks) and 37.2% at 4 weeks postpartum. Suppaudom (1999: 8-16) found the prevalence of depression in 91 mothers to be 36.3% during the last trimester (36–40 weeks) and 36.3% at 6 weeks postpartum. Gerdprasert (1999) found the prevalence of 15% for postpartum depression 6 weeks in 160 mothers. The prevalence for postpartum depression of Gerdprasert lower than other studies because she used a cut off point score equal 19 or higher generally considered as possible depression , whereas other studies used a score of 16 or higher. In a study with different measure and criteria , Wongvisetsirikul (1997) reported the prevalence of postpartum depression in 200 first time mothers was 6% by using the Hospital Anxiety and Depression Scale (HADS). The results score in Wongvisetsirikul'study were lower than Gerdprasert although both studied in Ramathibodi Hospital. This might be because of using different instruments. The HADS is an instrument which measured both anxiety and depression but CES–D measured only depression. Prevalence of anxiety and depression in pregnancy and postpartum was likely to be high because of the impact of socio–economic changes. Since Thailand faced with economic crisis in 1997, there were increasing unemployment that induced stress and virulence that lead to suicidal attempt and suicide. The trend of suicidal problems were increasing (Jamjaeng & Saosarn , 1997: 2–3). In era which socio-economic situation is changing , pregnancy and childbirth will be increasing burden on a family and may induce anxiety and depression.

The literature revealed that anxiety and depression have not been studied simultaneously during pregnancy and postpartum. Therefore the investigator is interested in studying these symptoms in pregnancy and postpartum by using HADS. The results of the study will be useful information for nurses to intervene anxiety and depression of pregnant and postpartum women.

The theoretical framework

Transition theory of Chick & Meleis (Chick & Meleis , 1986 : 237–257) was used to guide the research to describe the characteristics of personal factors , anxiety and depression in pregnant and postpartum women , and to study the personal factors predicting anxiety and depression of pregnant and postpartum women. The transition theory was similar to the open system theory in terms of input , process , and patterns of response or output of process According to transition theory , input was called antecedent events , which had 5 types as follows : 1) individual developmental transitions , such as adolescence , becoming aware of sexual identity and going into midlife 2) family developmental transitions , such as mother–daughter relationship , parenthood , and childbearing family 3) situational transitions , such as educational transitions , changing professional roles , widowhood , relocation to nursing home , family caregiving , and immigration 4) health / illness transition , such as the recovery process , hospital discharge , and diagnosis of chronic illness 5) organizational transitions , such as changes in leadership , implementation of new policies or practices , implementation of a new curriculum , changes in nursing as a profession , and changes in communities (Meleis & Trangenstein , 1994 : 256–257).

It should be noted that transitions were complex processes and multiple transitions might occur simultaneously during a given period of time. Defining characteristics of transition include process , disconnectedness , perception , awareness, patterns of response , and dimensions were described as follows :

1. **Process.** Transition was a process that occurred over time. Further , the process involved development , flow , or movement from one state to another.

2. **Disconnectedness.** Disconnectedness was associated with disruption of the linkages on which the person ' s feelings of security depend. Characteristics allied to disconnectedness were loss of familiar reference points , incongruity between expectations base on past and perceptions dictated by the present, and discrepancy between needs and the availability , mean for their satisfaction.

3. **Perception.** Meanings attributed to transition events varied between persons, communities , and societies , and thus influenced the outcome. This characteristic suggests that difference in perception of transition events might influence reactions and responses to such events , so making them less predictable.

4. **Awareness.** In the event that the changes had not yet reached the level of awareness , or were being denied either totally or in terms of their implications (irrespective of whether the denial was conscious or unconscious) , then that person was not yet in transition.

5. **Patterns of response.** Patterns of response arised out of the observable and nonobservable behaviors during the process of transition that , however disturbed or dysfunctional they might appear , were not random

occurrences. Examples of patterns of response to transition events were disorientation , distress , irritability , anxiety , depression , changes in self–concept , and changes in self–esteem.

6. **Dimension.** Some of the possible dimensions by which transitions could be described were duration , scope , magnitude , reversibility , effect , and the extent to which the transition was anticipated and voluntary and had clear boundaries.

Process of transition composed of 3 phases as follows :

1. An ending phase. This phase a person found that the old life style was ending.

2. A neutral phase. This a period of confusion and distress , a person attempted to adaptation of emotional and physical in disequilibrium.

3. A new beginning phase. This phase was a new beginning , a self–meaning was changed , and displayed a new role.

In addition , Chick & Meleis explained that the all transition , there was a general structure consisting of at least three phase : entry , passage , and exit. The transition were not experienced uniformly by different people even when they encountered in the same circumstances. Although , the structures of transition were similar but time for transition of each person was quite different, which depended on the types of transition.

Thus the perception of transition of each person wold be accounted from the transition dimemsions. Some of the dimensions were as follow : 1) single transition or multiple transition 2) clear entry and exit or ambiguous entry and exit 3) impeded passage or unimpeded passage 4) minor disruption or major

disruption 5) particular disruption or pervasive disruption 6) brief duration or extended duration 7) temporary or permanent 8) positive value or negative value 9) pleasant or unpleasant 10) desired or undesired 11) planned / predicted or unplanned / unpredicted.

Individual and environmental factors were mediating factors which affacted the transition process. These factors were as transition condition include meanings , expectations , level of knowledge and skill , the environment , level of planning , and emotional and physical well–being.

The health outcomes which were the responses to the transition revealed 4 patterns as restoration , maintenance , protection , and promotion. Some of the domain concepts and their relationships to the transition process were depicted in Figure 1.

According to transition theory of Chick & Meleis , a giving birth was a family developmental transition which was antecedent events leading to disconnectedness of old life style from woman to motherhood as it occurred during pregnancy and postpartum period. Transition would not be experienced uniformly by different people even when the circumstances , such as first time parenting , were similar. As well as two pregnancies were not just alike for the same woman. After all , each time she was carrying a different child , under different circumstances. Because process of transition was dynamic that changes over time.

Chick & Meleis explained that the transition of person might be simple or difficult and might be early or late depended on mediating factors. Therefore, in motherhood , stages of maternity , gravida , number of term births ,

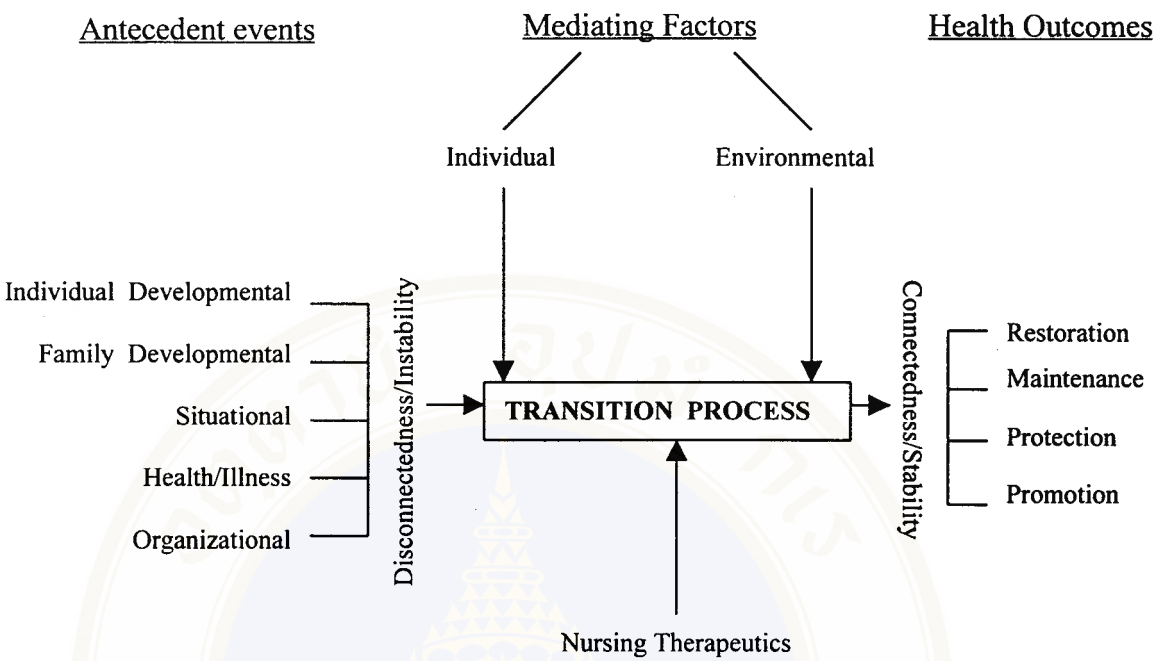

Figure 1 Relationships between antecedent events, mediating factors and health outcomes (Chick & Meleis, 1986 : 246)

number of preterm births, number of abortions, number of children, age, education, family income and environmental factors such as spouse support were as specific both personal and environmental factors. These mediating factors would facilitate the women transition to be a mother and made health outcomes good or bad. In addition, the subjective appraisal of an anticipated or experienced transition and evaluation of its, likely affected on one's life. Meanings attached to transitions might be positive, neutral, or negative. If a person perceived transition as a negative events the patterns of response to the transition were negative as well, such as depression, anxiety, low self–esteem, low self–confidence, inability of role mastery. In contrast, if a person perceived

transition as a positive events the patterns of response to the transition were positive as well , such as happiness , elation , and ability of role mastery. Factors related to response to transition to motherhood were depicted in Figure 2

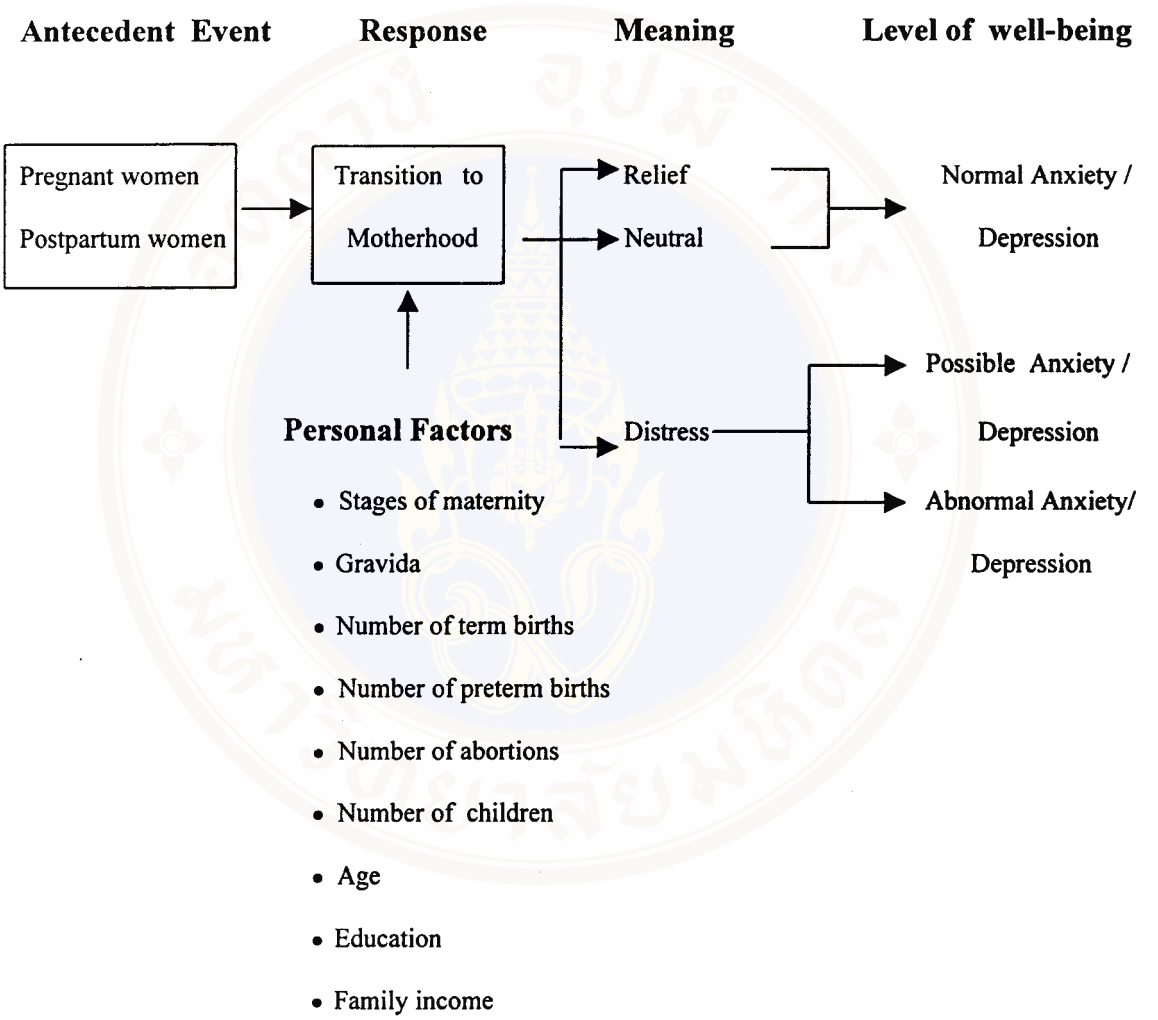

Figure 2 Factors related to response to transition event

The process of transition were continuity. Therefore the characteristic health outcomes might be found as varieties. Health outcomes which were selected to this study were anxiety and depression. In this research , the

investigator was interested to study the personal factors that affected the health outcomes. The relationships among these variables were depicted in Figure 3.

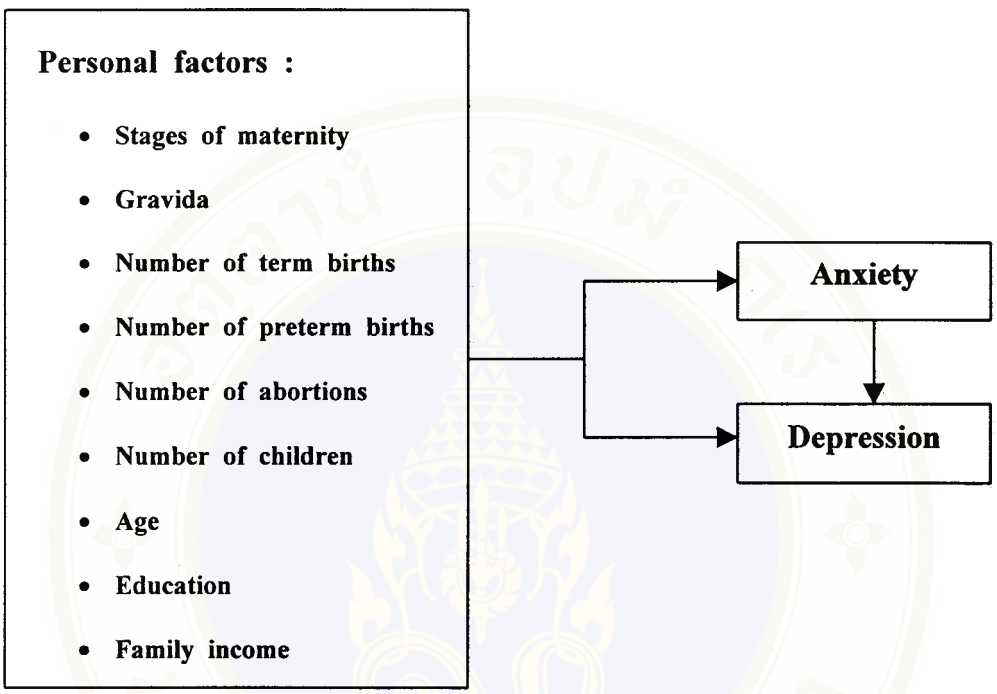

Figure 3 Research framework

Research questions

1. What are the characteristics of personal factors , anxiety and depression of pregnant and postpartum women?

2. Can personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age, education , and family income) predict anxiety in pregnant and postpartum women?

3. Can personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age,

education , and family income) and anxiety predict depression in pregnant and postpartum women?

Objectives

1. To describe the characteristic of personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age , education , and family income), anxiety and depression in pregnant and postpartum women.

2. To determine whether anxiety in pregnant and postpartum women could be predicted by personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children, age , education , and family income).

3. To determine whether depression in pregnant and postpartum women could be predicted by personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children, age , education , and family income) and anxiety.

Research hypotheses

1. Anxiety in pregnant and postpartum women can be predicted by personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age , education , and family income).

2. Depression in pregnant and postpartum women can be predicted by personal factors (stages of maternity , gravida , number of term births , number of

preterm births , number of abortions , number of children , age , education , and family income) and anxiety.

Scope of the study

This study was to investigate the relationships among personal factors , anxiety and depression and to identify the predictors of anxiety and depression. The research population was the pregnant and the postpartum women who attended the Antenatal Clinic or the Postpartum Clinic at the Family Planning Unit , Department of Obstetric and Gynecology , Sawanpracharak Hospital and Health Promotion Center Region 8 , Nakhonsawan , Thailand.

Expected outcome and benefits

The results of this study are likely to provide specific , helpful information about the anxiety and depression in specific group of Thai pregnant and postpartum women. Health care providers can use this information to plan appropriate and effective interventions to prevent and manage anxiety and depression of pregnant and postpartum women.

Definition of terms

Personal factors means the characteristics of the subjects regarding stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age , education , family income which might affect on anxiety and depression.

Stages of maternity means a stage of becoming a motherhood as classified to 4 stages , first trimester , second trimester , third trimester and postpartum period.

Gravida means the number of pregnancy divided into 2 categories as primigravida (first time pregnancy) and multigravida (second or more times pregnancy).

Number of term births means the number of previous giving birth during 38 to 42 weeks of gestation.

Number of preterm births means the number of previous giving birth during 28 to 37 weeks of gestation.

Number of abortions means the number of previous miscarriage before 28 weeks of gestation.

Number of children means the number of now living child and be living with their parents.

Age means the number of full year of birth until the year of data collection.

Education means the number of full year of education used from the beginning primary school to the year of graduation.

Family income means total Baht earned per month by the family.

Anxiety means feelings of uncertainty , uneasiness , apprehension , tension , worry and nervous. This anxiety can be assessed by Hospital Anxiety and Depression Scales which compose of 7 odd items (1 , 3 , 5 , 7 , 9 , 11 , 13) , its possible scores range from 0-21. The scores of normal anxiety range 0-7. The

possible anxiety scores range 8-10. The abnormal anxiety scores are equal or above 11.

Depression means feelings of sadness , lack of humor , discouragement , worthlessness , psychomotor retardation (slow down movement and speech) and degree of inability to care self. This depression can be assessed by Hospital Anxiety and Depression Scales which compose of 7 even items (2 , 4 , 6 , 8 , 10 , 12 , 14) , its possible scores range from 0-21. The scores of normal depression range 0-7. The possible depression scores range 8-10. The abnormal depression scores are equal or above 11.

CHAPTER II

LITERATURE REVIEW

This research aimed to describe the characteristics of personal factor , anxiety and depression in pregnant and postpartum women , and to predict anxiety and depression of pregnant and postpartum women by personal factors. Then the literature review would focus on these topics.

1. anxiety and depression
2. anxiety and depression during pregnancy and postpartum
3. factors affecting anxiety and depression during pregnancy and postpartum

Anxiety and depression

Anxiety

The concept of anxiety was first introduced to psychological theory by Freud. He referred to it as a danger signal when a person exhibited in response to the perception of physical pain or danger. The term anxiety is used to describe feelings of uncertainty , uneasiness , apprehension , or tension that a person experiences in response to an unknown objects or situation. A "fight" or "flight" decision is made by the person in an attempt to overcome conflict , stress , trauma , or frustration (Shives , 1986 : 233-234).

In psychoanalytic terms , anxiety is viewed as warning to the ego that it is in danger from an internal or external threat. Anxiety is involved in the development of personality functioning , and in the development and treatment of neuroses and psychoses (Molloy , 1996 : 230).

Speiberger (1972 cited in Wilson-Barnett , 1992 : 374) defined anxiety as 'a palpable but transitory emotional state or condition characterized by feeling of tension and apprehension and heightened autonomic nervous system activity'.

Anxiety is a commonly experienced feeling. It generally has an adaptive function that alerts us to real danger and motivates us to prepare for and succeed in various situation (O'Brien , 1999 : 317).

Anxiety is an unexplainable feeling of discomfort or apprehension related to experiencing a threat to the self or to significant relationships. The threat is usually vague or nonspecific. It may take the form of a threat to self-esteem or to one's well being. How the individual perceives the threat is highly significant. A threat may elicit only mild anxiety in one person , the same threat may elicit severe anxiety in another person (Bonds , 1987 : 183).

So anxiety are feeling of uncertainly , discomfort , apprehension , tension or helplessness. Feeling of these are also present as the person perceives the treat to self or significant relationships.

Level of anxiety

In the past , anxiety was known collectively simply as neuroses or psychoneuroses. If the person's behaviors were labeled neurotic , this could mean any number of things to different people. The only massage communicated by the word "neurotic" was that the person was not out of touch

with reality as he might be if he were psychotic. It also communicated that this person probably was experiencing a great deal of anxiety or nervousness. Many other behaviors and feeling states were included in the collective term "neuroses" (Stockard & Cullen , 1987 : 722).

Anxiety is present in our everyday lives. Feeling of anxiety are so common as to almost be considered universal in our society (Jimerson , 1982 : 435 ; Townsend , 1993 : 19). Anxiety is not necessarity bad. When it is experienced in small , controllable amounts , anxiety is a motivating force. It is the energy which motivates the individual to chance (Robinson , 1977 : 89). Anxiety becomes problematic when the individual is unable to prevent the anxiety from escalating to a level that interferes with the ability to meet basic need (Townsend , 1993 : 19).

Peplau (1963 cited in Auden , 1987 : 343-344 ; Jimerson , 1982 : 440-442 ; Stuart , 1995 : 328-329 ; Townsend , 1993 : 19) identified four levels of anxiety and described their effects on the individual as follows.

1. **Mild anxiety.** This is normal anxiety that is part of day-to-day living. During this stage the person is aleart and the perceptual field is increased. The person sees , hears , and grasps more of the stimuli around them. This kind of anxiety can motivate learning and can produce growth and creatively.

2. **Moderate anxiety.** As the level of anxiety increased , the extent of the perceptual field diminishes. The perceptual field becomes limited to perceptions about the immediate task at hand. When the perceptions field is limited by increasing anxiety the ability to think clearly diminished ; the person

is less able to mobilize a variety of responses for problem solving and effective resolution of anxious feelings.

3. **Severe anxiety.** Severe anxiety is marked by a significant reduction in the perceptual field. The person trends to focus on specific detail and not think about anything else. The person would have a great deal of difficulty completing a task. All behavior becomes directed toward reliving anxiety. Because the ability to solve problems is so limited , efforts to relive anxiety are quite likely to be random and / or ineffective.

4. **Panic.** In this most intense state of anxiety , the person in unable to focus on even one detail within the environment. Misperceptions are common and a loss of contact with reality may occur. The person may experience hallucinations or delusions. Behavior may be characterized by wild and desperate actions or extreme withdrawal. Human functioning and communication with other are ineffective.

Normal versus abnormal anxiety

There are three factors to consider when marking a distinction between normal and abnormal anxiety (Holmes , 1991 : 71-73; Manfreda , 1973 : 137-138). The first is the level of anxiety. Normal anxiety is not out of proportion to the treat perceived. The person is on the aleart , sees , hears , and grasps more than previously. In many situations , some level of anxiety is appropriate but if the anxiety goes above that level , it could be considered abnormal. Abnormal anxiety responses seen in the neuroses and psychoses are out of proportion to the actual threat perceived. The second factor to consider is the justification for the anxiety. Anxiety of any level will be considered abnormal if there is no

realistic justification for anxiety in the situation. An individual experiencing it dose not have to manage anxiety by using defenses (mechanism) which force it out of concious awareness. Instead , its existence is recognized , and faced realistically by attempting to alter or resolve the situational circumstances recognized as causative or motivating forces. Third , anxiety is abnormal if it leads to negative consequences. For example , anxiety that leads to poor performance on the job , social withdrawal , hypertension would be considered abnormal.

Although we must consider the level , justification , and consequence of anxiety in marking the distinction between normal and abnormal anxiety , in the final analysis , there is no simple rule or cut off point and eventually the decision concerning normality versus abnormality is a subjective one.

Anxiety is necessary for survival because it serves to motivate people toward making necessary changes in the events around them. The major motivating force behind anxiety is to rid the self of the discomfort it brings , the queasy stomach , the jitteriness , the hollow feeling in the chest , the feeling of threatened self-esteem , hopelessness , isolation , loneliness , insecurity , and overall lack of identify (Jimerson , 1982 : 436).

Anxiety is an unpleasant and uncomfortable experience that most people try to avoid. They frequently try to replace anxiety with more tolerable feeling. Pure anxiety is rarely seen. Anxiety is usually observed in combination with other emotions. Patients might describe feelings of anger , boredom , contempt , depression, irritation , worthlessness , jealousy , self-depreciation , suspiciousness sadness or helplessness (Stuart , 1995 : 330).

An axious client may describe the subjective experience of anxiety as involving vary feelings of vague discomfort , uncertainty , self-doubt , diffuse apprehension , dread , restlessness or jumpiness , jitteriness helplessness , powerlessness , and irrationality (Peplau , 1963 cited in Greene , 1997 : 454).

Anxiety can be assessed in the physiologic , cognitive , and emotion / behavioral dimension. This observation illustrates the relationship between the mind and the body. Anxiety is the multidimensional phenomenon in that the total person is involved in every aspect of it (Kneisl , 1992 : 87).

Physiologic dimension. Observation of the client's physiologic state are likely to indicate autonomic nervous system response , particularly sympathetic effects. Various organs may be affected , such as the adrenal medulla , heart , blood vessels , lung , stomach colon rectum , salivary glands , liver , pupil of the eyes , and sweet glands. Anxious clients may have an increased heart rate , increased blood pressure, difficulty breathing , sweaty palms , trembling dry mouth, "butterflies in the stomach" or a "lump in the throat", as well as other symptoms.

Laboratory tests are not routinely done to evaluate anxiety because observation is faster and more accurate , but anxiety affects the results of laboratory test. Blood studies may show increased adrenal function , elevated levels of glucose and lactic acid , and decreased parathyroid function and oxygen and calcium levels. Urinary studies may indicate increased levels of epinephrine and norepinephrine.

Cognitive dimension. Assessment of cognitive function may indicate difficulty in logical thinking , narrowed or distorted perceptual field , selective

inattention or dissociation , lack of attention to details , difficulty in concentrating, or difficulty in focusing. The level of anxiety determines the extent to which cognitive function is affected.

Emotional / Behavioral dimension. In the emotional / behavioral dimension , clients may be irritable , angry , withdrawn and restless , or they may cry. The affective response can often be assessed through the client's subjective description. Client may describe themselves as "on edge", "uptight", "jittery", "nervous", "worried", or "tense". They may feel dizzy or faint and may experience a feeling of impending doom as if sometime terrible were about happen (Kneisl , 1992 :87).

Depression

Depression has been defined as "an emotional state , ranging in severity from mild to severe , characterized by discouragement , sadness , worthlessness , psychomotor retardation or agitation , and degree of inability to care self" (McFarland , et al., 1992 cited in Scholler-Jaquish ,1996 : 688).

Depression has been defined as an emotional of long or short-term duration, as a significant mood state sustained over a long period of time , and as a syndrome characterized by a series of psychomotor retardation symptoms (Van Servellen & Nicholson , 1989 : 284).

So depression as an emotional of long or short-term duration , as ranging in severity from mild to severe , characterized by series of psychomotor retardation system.

Normal versus abnormal depression

Feelings of sadness , disappointment , grief , and depression are part of the human condition and are experienced by everyone of some time. The question arises then , what distinguishes normal depression from abnormal depression? The boundary is not clear but two factors that should be considered in making the distinction are the depth of the depression and the duration. With regard to depth , it is normal to occasionally feel somewhat "down", "blue", or mildly depression. There is reason for concern , when the depression is so deep that the individual cannot function adequately. Regardless of the depth of the depression , there is cause for concern if the duration of the depression is prolonged and the individual dose not "snap of it"(Holmes , 1991 : 149-150).

Depression can be assessed in terms of appearance , physical symptoms , behavior and feelings (Murray & Huelskoetter , 1987 : 457-459).

Appearance. In generally the depressed person's clothing and hair appear disheveled , as if they have received little attention. Posture is stooped ; movement is usually heavy and slow. Facial appearance is sad ; dull expression , furrowed brow , worried frown , turned-down corners of the mouth , reddened eyes from crying. Weight loss , poor muscle tone , dry skin , weakness and general malaise may be apparent.

Physical symptoms. The depressed person may have dry mouth , headache , hypotension , weight loss , sleep disturbances , fatigue and lowered libido. The person may have hypochondriacal complaints that have no organic basis but mimic a specific illness.

Behavior. The depressed person has little interest in the surroundings and neglects usual interests and responsibilities. The person may be uninterested in grooming and habits of body care that once made him/her a great deal of pleasure in the past. Some changes may be caused by the inability to concentrate or to make a decision.

Feelings. The depressed person's mood is very sad and dejected , as evidenced by appearance and behavior : irritability ; lack of humor ; apathy ; exhaustion ; disappointment in self ; sense of shame ; lack of self-confidence and self-respect ; statements about being worthless , empty and a burden to everyone ; and blaming self for anything that go wrong. The depressed person loses caring behaviors for the spouse , relatives , friends , pets and home. The person may say "I don't care about anything anymore" and feels no joy as he/ she thinks of previous pleasures. He/she feels there is no future for self and that the world has no future either.

Relationship between anxiety and depression

Both anxiety and depression are common correlates of other disorder behavior , such as somatization , conversation and drug abuse disorder (Lahey & Ciminero , 1980 : 238).

Not only do these affective patterns overlap by frequently occurring together in the same individuals , but they also have many common characteristics. In general , individuals experiencing maladaptive degrees of both anxiety and depression have negative views of themselves and the world , feel unable to control positive or negative events are unhappy with their lives , have

experienced high levels of stress , and are likely to have interpersonal difficulties (Lahey & Ciminero , 1980 : 238).

Anxiety is the major symptom or the cause of other symptom. It should be noted that anxiety is also symptom in a variety of other disorder. Anxiety is the primary symptom or the primary cause of other symptoms , whereas in the other disorder , anxiety is the result of other problem. For example , a woman who is suffering from depression may be anxious because she believes that she is useless , failure and doomed to a life of mistery (Holmes , 1991: 63).

An individual suffering from anxiety has the feeling of impending doom and diaster from specific or unknown source. The anxiety cause significant distress and impairment in interpersonal , social , and / or occupational functioning. Feeling of depression can also be experienced by these patients because of the sense of helplessness that results from the anxiety (Bostrom & Schwecke , 1999 : 423).

Other mood and symptoms associated with anxiety often include depression and irritability. The depression can stem from the fact that the individual may not see a solution for his or her problems and is ready to give up and "throw in the towel". Loss of sleep due to anxiety can lead to irritability. Both depression and irritability are considered secondary symptoms because the stem from the anxiety that is primary symptom (Holmes , 1991 : 63).

Research indicates that prevalence of anxiety states with accompanying depression has remained constant over the years despite positive or negative social changes. The person who demonstrates a disordered pattern of behavior due to severe anxiety often is not considered as severe ill as client with an

affective disorder. Frequently , she is not admitted to psychiatric facility , but attempts to cope with chronic , painful feeling of anxiety that constrict and narrow her emotional life and prevent or imperil close interpersonal relationships ad the subsequent meeting of basic emotional need. As a direct result , persons who experience an anxiety disorder often suffer much psychic pain and depression (Stockard & Cullen , 1987 : 722).

Clinical differentiation between anxiety and depression is rendered difficult by the degree of overlap between them. And decisions as to whether a diagnosis of anxiety neurosis or neurotic depression is applicable , or whether some other form of neurosis , personality disorder , or more than one of these conditions is present , are based largely on criteria that are variable , subjective and unvalidated (Roth , et al., 1972 : 147). In a study of 145 patients suffering from a primary mood change of anxiety and / or depression , Roth and others (1972 : 147-161) found that the symptomatology of the two group , both marked differences and areas as overlap were found, other psychoanalytic writers have referred to special qualitative features of the anxiety associated with depression which has been described as a state of paralytic helplessness and inability to escape danger , in contrast to neurosis anxiety which reflects the ego's drive to surmount and survive the threat (Kolb , 1965 cited in Roth , et al., 1972 : 148).

Anxiety and depression during pregnancy and postpartum

There is rare women who adjust pregnancy with stress (Stone , 1965 : 88) Pregnancy is a developmental crisis. Even in a "normal" pregnancy , the women, her partner , and her family had many fears that influence their needs and

therefore their response. Pregnancy marks a period of transition. It is a time when woman's life space changes in response to myriad of physical , psychological and social inducements (Richardson ,1981 : 159). As in any crisis , prior coping behaviors are disturbed , and stress is created as the individual struggles to adapt to new and unfamiliar situation (Dickason , et al. , 1994 : 706). Mental health disorder have implications for the mother , the newborn and the entire family. Such conditions can interfere with attachment to the newborn and family integration , and some may threaten the safety and well- being of the mother , newborn , and other children. Because birth is usually thought to be a happy event , a new mother's emotional distress may puzzle and immobilize family and friends. At a time when she most needs the caring attention of love ones , they may either criticize or withdraw because of their own anxiety (Lowdermilk & Fishel , 1999 : 760) Physiologically, many metabolic and endocrine changes occur in pregnancy such as increased levels of ovarian hormones that can effect a woman' s emotional state (Burton 1983 : 95–96 ; Clark 1979 : 261). Body change occurres at various points in pregnancy and can effect a woman's mood and self–image. In a study of 40 women in a varying stages of pregnancy and immediate postpartum period , Carty (1970 : 40-43) found that none of the women were completely satisfied , 9 were somewhat satisfied , 10 were neutral , 17 were somewhat dissatisfied , and 4 were completely dissatisfied with the changes in her pregnant figure. Certainly the pregnant woman has many feelings : positive and negative , negative feelings about pregnancy might express as dissatisfaction with the figure's change that affects both the husband-wife relationship , and the mother-child relationship

(Carty , 1970 : 42). Social and culture factors influence a woman's attitude toward her pregnancy. Whether or not the pregnancy is planed and / or desired , cultural background , age , career / work orientation , marital status , and the attitude of the woman's partner toward the pregnancy will all be contributing factors in the woman's adjustment to pregnancy (Burton 1983 : 96).

Stages of maternity

The stages of maternity in this study were divided to 4 stages : 1^{st} , 2^{nd} , 3^{rd} trimester and postpartum period.

First trimester

During the first trimester of pregnancy , many of the rapid physical and emotional changes that occurred , though normal , could cause great anxiety for the expectant parents (David & Doyle , 1976 : 1945). For many women the initial physical symptoms of pregnancy could be unpleasant. Some of the earliest symptoms -- nausea and vomiting , fatigue , and breast tenderness -- could make a woman feel uncomfortable , ill , and depressed (Burton , 1983 : 96). However , many people knew less about the emotional changes than the physical changes (Broadribb & Corliss , 1973 : 75).

At the outset many woman experienced ambivalent feelings about pregnant. A women who was pregnant for the first time might wonder if she was really ready for a child. A frequently heard question , asked by both parents , was "What kind of parent will I be?" "How will I be able to cope with the total responsibility—24 hours a day , seven days a week?". For a women who had other children and had already made the transition to parenthood , doubts might exist as to whether the spacing between that the child

and the expected child was suitable. At the same time that she was struggling with her doubts , she might also be experiencing joy and excitement a well as happiness and anticipation. The point was that in all likelihood her feelings would fluctuate between doubts and joys , and she might need to be reassured that what she was feeling as not unnatural and that she need not feel guilty about her ambivalence. Feelings ranged from positive to negative during the early weeks , these mixed feelings , might dominate since the women might be anxious about the following , 1) the timing of the pregnancy , 2) the need to rework personal relationships and / or career plans , 3) taking on new parenting responsibility , 4) meeting additional financial obligations , 5) coping with the discomforts of pregnancy , labor , and birth , and 6) adaptnig to lifestyle changes (Gilbert & Broom , 1999 : 131).

Another emotional change which might manifest itself in the first trimester was a tendency on the part of the expectant mother to become introverted and passive (Broadribb & Corliss , 1973 : 76). Introversion was influenced by certain physiologic change. The large amounts of circulating progesterone had a depressant effect on the woman 's central nervous system (David & Doyle , 1976 : 1948). By introverted was meant that she spended more time thinking about herself than others. By passive was meant that in stead of being more active and aggressive, making her own decisions , doing for others , she sat back and let others make a decisions and do things for her. This change became more pronounced pregnancy advances into the second and third trimesters (Broadribb & Corliss , 1973 : 76). The expectant mother might have mood swings , feeling happy one minute and sad or depressed that next

(Broadribb & Corliss , 1973 :75). Rapid and dramatic mood swings might be a result of hormonal fluctuation , or might simply reflect elevated anxiety levels.

Second trimester

The second trimester had been referred to as the " happy trimester " because the unpleasant symptoms of early pregnancy had usually faded and the discomforts of late pregnancy had not yet begun (Burton , 1983 : 97).

It was during the second trimester that mother had been described as becoming narcissistic , passive , and introverted as she concentrates on her own needs and the need of fetus growing inside her (Reeder , et al., 1983 : 315). Increased introversion and passively constituted one of the most characteristic changes of pregnancy and increased gradually until it reached a peak about the seventh or eighth month. As a result the expectant mother had and increased need for love and affection ; she wished to receive instead of to give. The mood swings were evidence by an increase in emotional lability , irritability , and sensitivity (Broadribb & Corliss , 1973 : 89). Emotion lability and anxiety continued through the second trimester. Women also often began to worry during this period about the health and normalness of developing baby (Burton , 1983 : 99). Fantasies and dreams were as one outlet for anxiety during pregnancy. Women often reported having strange , sometimes bizarre fantasies and dreamed about the baby , and birth process , or highly erotic encountered. These might reflect processing of unconscious fears and conflicts , and were regarded as a normal side–effect of the mother's emotion adaptation to pregnancy (May & Mahlmeister , 1990 : 291). Pregnant women saw themselves as more ugly than beautiful and considered their bodies as more annoying than

pleasing and more dirty than clean. They also viewed themselves as fatter , older , and slower than nonpregnant women (Burton, 1983 :98). Many factors might influence a woman's reaction to her body. If she feeled that her husband married her because of her attractive physical appearance , this could be very upsetting (Broadribb & Corliss , 1973 : 89).

Third trimester

During the third trimester , especially in the last month or two , the pregnancy might cause varying degrees of the physical discomfort and difficulty with ambulation. The pregnant woman might again experience nausea , fatigue , and urinary frequency , and fetal movement might now be painful. Usually , women could physically cope with these changes ; however , the changes often had some effect on their emotional outlook. Emotional lability continueed to be a problem for many women , and it was not unusual for a woman to feel depressed at times during the final weeks of pregnancy as she waited impatiently for labor to begin (Burton , 1983 : 100).

The third trimester was a time of heightened introversion marked by periods of thinking back on her own childhood and projecting forward in thoughts of her yet–to–be–born child. New fears arised at this time concerning the health and well being of the baby , as well as her own health and well being as she contemplated the approach of labor (Reeder , et al., 1983 : 315).

Anxiety levels might be quite high , with fear of pain , physical damage , and an abnormal baby being the most prominent causes (Burton , 1983 : 100). In a study of 73 primigravid women during the last month of pregnancy , Standley and others (1979 : 22–24) found that pregnant women expressed the most anxiety

about the well being of the unborn child and about the approaching labor and delivery.

Most pregnancy women had fear the pain of labor , although preparation for the event reduced this fear and the operative procedures (episiotomy , forceps delivery , cesarean section) that accompanied the experience. Some the pregnant women had fear the administration of anesthesia (Clark , 1979 : 264). It was not unusual for the pregnant women to have fear that she might die from the analgesics or anesthetics which might be administered during labor and delivery. Then too , even though she knew that childbirth was much safer than it used to be, she was aware that there were still some women who died during giving birth (Broadribb & Corliss , 1973 : 101). The majority of women had fear the possibility of being alone during labor or of experiencing labor without a supporting person who was significant to them (Clark , 1979 : 264). Women also often had strong fears regarding their performance. They often felt that they would " not do well " in labor such as would not be able to cope with the pain , and might lack confidence in the relaxation and breathing techniques she had learned. Some women had come to feel that any use of medication and any loss of control would be a failure , and therefore , they were very worried that they would " fail " (Broadribb & Corliss , 1973 : 101 ; Burton , 1983 : 100). It was also normal for the expectant mother to have fears for her child. There were justified uncertainties about what the baby would look like and whether it would have any abnormalities. The most frequent fears were fear of the baby loss and fear of having a malformed or abnormal baby (Broadribb & Corliss , 1973 : 102).

Postpartum period

The puerperium is the immediately postpartum. It begin as soon as delivery is complete and lasts approximately six weeks. There are three major physiological changes that occur in the mother during this period : regressive as well progressive changes take place ; the reproductive system gradually reverts to nonpregnant state ; and if the mother is going to breast feed , changes occur to prepare for nourishing the baby (Broadribb & Corliss , 1973 : 201). This period is sometimes referred to as the fourth trimester of pregnancy (Cashion , 1995 : 439).

In generally postpartum period is regarded as maturational crisis (Kane , et al., 1968 : 99). It is a time of transition , readjustment , reappraisal of roles , added responsibility , excitement , fatigue , and recovery from pregnancy , labor , and delivery. Relationships are strained. It rarely is a time of peace and tranquility because the new family attempts to establish boundaries , functions , schedules , and roles (Dickason , et al. ,1994 : 403). Emotional reaction that is frequently seen following childbirth is the postpartum depression. Investigators and theorists in this area suggest that it is important to distinguish among three types of postpartum depression states : maternity blues , postpartum psychoses and postpartum depression (Gotlib , et al., 1991 : 122).

Types of postpartum depression

Postpartum blues. This type of depression commonly known variously as maternal blues , baby blues , postpartum blues syndrome (Harris , 1980 : 233) , mother's blues , third , fourth or tenth day blues , or transition syndrome (Pitt , 1973 : 431) occurs between the third and tenth day following childbirth (Harris ,

1980 : 233 ; Landy , et al., 1989 : 4). Postpartum blues is a transitory phenomenon of mood change that beings within the first few days after delivery and can last 1 to 10 days or longer. It is characterized by depression , tearfulness , anxiety , emotional lability , mild confusion (Nott , et al., 1976 : 379) , clouding of consciousness , irritability , headache (Beck , et al., 1992 : 288) , poor concentration , and low spirits (Kennerley & Gath , 1989 : 357–358). It was found that symptoms reached a peak on the fourth or fifth postpartum day , and then declined steadily in the tenth day (Kennerley & Gath , 1989 : 361 ; Iles , et al., 1989 : 364 ; Kendell , et al., 1984 : 620). Postnatal mood changes or postpartum blues were characteristic of early puerperium , as the pattern of daily mood change was not found following elective gynaecological surgery (Iles , et al., 1989 : 363–366) but was found following elective caesarian section (Kendell , et al., 1984 : 620).

Postpartum blues was reported as having an incidence of between 50 % to 70 % (Yalom , et al. , 1968 : 16 ; Pitt , 1968 : 1327 ; 1973 : 431 ; Harris , 1980 : 235 ; Saks , et al., 1985 : 730 ; Beck , et al., 1992 : 291). Postpartum blues was not a serious problem in clinical practice. Nevertheless , the researchers were interested in this kind of depression because it might be throw light on the aetiology of mood disorder (Kennerley & Gath , 1989 : 356) and might be an important predictor of women at risk for a depressive illness later during the puerperium (Beck , et al.,1992 : 292). Cox and others (1982 : 111) reported that women with severe postpartum blues were at risk of persistent depressive symptom 3 and 5 months after delivery. Paykel and others (1980 : 339) found that postpartum blues was associated with postpartum depression. Beck and others (1992 : 291) also found that the mean maternal blues scores for the first

day after delivery were significantly correlated with the Beck Depression Inventory score at 1 , 6 and 12 weeks postpartum. However , Kennerley & Gath (1989 : 372) found that postpartum blues was not associated with postpartum depression. Moreover, postpartum blues was associated with the mood during the index pregnancy, notable with anxiety and depression mood (Davidson , 1972 : 662 ; Nott , et al., 1976 : 380 ; Handley , et al., 1980 : 500–501 ; Harris , 1980 : 233–235 ; Kennerley & Gath , 1989 : 369).

Postpartum psychoses or postpartum psychotic depression or puerperal psychoses. The severe form of postpartum depression was postpartum psychoses. Its occurred in approximately one or two of every thousand mothers (Dickason , et al., 1994 : 403–404). Categories of the puerperal psychoses were affective , schizophrenia and organic psychoses , which had always been different reported incidence of the various states comprising this group. Organic psychoses were now rarely seen , and found the ratio of affective to schizophrenia 2.5 : 1 respectively (Protheroe , 1969 : 26–27). The nature of the puerperal psychoses and their relationships to childbirth were still matters of controversy. Although the admission rate to psychiatric hospital with a psychotic illness was highest in the first 30 days after childbirth , it was still higher between 60 and 90 days than any time during the years before childbirth and any time in the subsequent 21 months (Kendell , et al., 1987 : 666). The same order as that found puerperal psychoses most occur within the first 2 to 3 weeks following labour (Protheroe , 1969 : 12) , and that such psychotic illness commoner in women with a previous history of psychiatric illness (Protheroe , 1969 : 25 ; Kendell , et al., 1987 : 662) , and commoner primipara than

in multipara (Protheroe , 1969 : 11 ; Kendell , et al., 1987 : 662). Whether a psychoses occurred in a particular in puerperium might , therefore , depend on a change hormonal imbalance and degree of susceptibility of women at the time (Protheroe ,1969 : 27). In addition , the birth of child was , of course , often associated with other important changes in a woman's life. These might involve the loss of the job , of financial independence , of social contacts and of freedom , and changed marital relationship , and any or all of these might be important stress (Kendell , et al., 1987 : 671).

The symptoms and signs of puerperal psychoses were similar to those seen in the functional psychoses. The effective psychoses rapidly alternated in mood between depressive and mania , sometime within the same day , giving and impression of incongruity , since delusional thinking seemed to lag behind the change of affect. Delusions and hallucinations were commonplace in all states. In depression of affective state , common morbid delusions were of the patient having venereal disease and inflecting the child , of having been unfaithful , lacking in love for baby or husband , the baby being dead or deformed , or inability to care for the child. Hallucinations were common in affective and schizophrenic illnesses. Hallucinations in puerperal illnesses frequently consisted of several voices frequently contradicting each other. Visual hallucinations or illusions were common in cases of very acute onset and particularly in those where clouding of consciousness was present such as saw dead husband , shadowy figures , stealing into the ward intent on harming the baby , etc. (Protheroe , 1969 : 12).

Postpartum depression. Postpartum depression was more serious and longer lasting than postpartum blues. It was less serious than postpartum psychoses , which was characterized by extremely altered perception of reality (Martell , 1990 : 90). Postpartum depression was a diagnosis related to neurotic or non–psychotic depression (absent delusions and hallucinations) usually unipolar, which occurred later in the puerperium than postpartum psychoses (Cox, 1992 : 571). Pitt (1968 : 1331) described postpartum depression as the 'atypical depression' because prominence of neurotic symptoms , such as anxiety , irritability and phobia , overshadowing the depression , or because same feature were opposite to those of depression , e.g. worsening at the end rather than beginning of the day , early rather than late insomnia. Postpartum depression might be experienced within a few days after birth , or it might take months before the mother acknowledges the feelings. A deep sense of loss and sadness persists and deepens, accompanied by severe anxiety , phobias , irritability , sleep disturbance , guilt , hypochondriasis , and anorexia (Landy , et al., 1989 : 5).

Depression symptom was always most evident , chiefly as tearfulness , despondency , feelings of inadequacy and inability to cope particularly with the baby. Mood was often labile , and any diurnal variation took the form of greater distress in the evenings. Guilt was mainly confined to self–reproach over not loving or caring enough for the baby. Depression was almost invariable accompanied and sometime overshadowed , by anxiety over the baby. Anxiety was also often manifest in hypochondriasis. Unusual irritability was common , and undue fatigue and ready exhaustion were frequent. A few

patients complained of impaired concentration and memory , and feelings of actual hopelessness were not frequent. (Pitt , 1968 : 1327).

Estimates of incidence of postpartum depression had also varied widely. For example , the prevalence for depression was 6-10% during early pregnancy (Kumar & Robson , 1984 : 35-38 ; Watson , et al., 1984 : 453-455) , 9% during the second trimester (O'Hara , et al., 1984 : 158-161) , 3.5-47.6% in the last trimester (Atkinson & Rickel , 1984 : 115-116 ; Chanchai , 1991 : 75 ; Cooper , et al., 1988 : 799-800 ; Cutrona , 1983 : 163-165 ; Gerdprasert , 1999 ; Logsdon , et al., 1994 : 449 ; Suppaudom , et al., 1999 : 9) , 4.9-32.4% 4 weeks postpartum (Gotlib , et al., 1991 : 122-125 ; Logsdon , et al., 1994 : 449) , 6-20% 6 weeks postpartum (Beck , et al., 1992 : 291 ; Paykel , et al., 1980 : 339-340 ; Watson , et al., 1984 : 453-455 ; Wongvisetsirikul , 1997) , 3.5-26% 8 weeks postpartum (Atkinson & Rickel , 1984 : 115-116 ; Campbell & Cohn , 1991 : 594-599 ; Cutrona , 1983 : 163-165 ; Whiffen , 1988 : 467-471) , 8.7-16.2% 3 months postpartum (Beck , et al., 1992 : 291 ; Cooper, et al., 1988 : 799-800 ; Kumar & Robson , 1984 : 35-38). These variations depended, in part , on the instruments were used to measure depression , included criteria for diagnoses of depression , samples and timing period.

The literature thus revealed that depression was found to be common in the prepartum and postpartum. There was a possible relationship between anxiety or depression in pregnancy and puerperal depression. Although several investigators had found that the relationship between prenatal anxiety and postpartum depression, the point in pregnancy at which anxiety had been measured had varied in different studies (Dalton , 1971 : 689–692 ; Hayworth , et

al., 1980 : 164-165). Other researchs found no such relationship (Pitt , 1968 : 1332; Cox , et al., 1982 : 116). Several studies measured depression during pregnancy and puerperium. Chanchai (1991 : 75) found that depression in pregnancy was statistical significantly related to postpartum ($p<.001$) and postpartum depression could be predicted by prepartum depression (Gotlib , et al., 1991 : 122 ; O'Hara , et al., 1984 : 165 ; O'Hara , et al., 1991 : 67 ; Whiffen, 1988 : 467). However , women with depression during pregnancy were not the ones who were depressed after delivery, so that prepartum and postpartum depression appeared to be independent (O'Hara , 1986 : 572). This suggestion was supported by study of Gotlib and others (1991 : 125–126).

The etiology of postpartum depression varied on the theories explained , such as the psychoanalytic theories believed that postpartum depression was caused of loosing the unresolved castration complex (Zilboorg , 1929 , 1931 cited in Landy , et al., 1989 :15) and mother's developmental arrest (Bibring , 1959 cited in Landy , et al., 1989 : 15). Biological theories believed that the hormonal changes such as progesterone , estrogen (Nott , et al., 1976 : 379-383 ; Pitt , 1973 : 432-433) , cortisal (Handley , et al., 1980 : 501) , and placenta steroids (Dalton , 1971: 691) as the probable factors of etiology of postpartum emotional disturbance. Treadway and others (1969 : 1383) found that the significant correlation between reduced norepinephrine (NE) levels and increase depression in pregnant subjects. Handley and others (1980 : 502) found a correlation between low free tryptophan from 38 weeks of gestation to day 3 postpartum and the blue but it was not supportd by study of Harris (1980 : 233-235). Social and environmental theories believed that childbirth and introduction of infant to

his home were as an "acute social event". (Atkinson & Rickel , 1984 : 115). Support for this theory had come from a variety of researchers who found the postpartum depression was significantly related to the childcare stress (O'Hara , et al., 1984 : 158 ; O'Hara , 1986 : 571) or infant temperamental difficulty (Cutrona & Troutman , 1986 : 1507 ; Whiffen , 1988 : 467 ; Whiffen & Gotlib , 1989 : 274). Several studies report that poor marital relationship were very commonly associated with postpartum depression (Braverman & Roux , 1978 : 731 ; Cox , et al., 1982 : 111 ; Paykel, et al., 1980 : 339 ; Watson , et al., 1984 : 453). Social support as one resource that had been shown effective in helping women to cope with a range of stressors prenatal and following childbirth (Cutrona & Troutman , 1986 : 1515 ; O'Hara , 1986 : 571-572 ; Hall , et al., 1991 : 214). Hall and others (1991 : 214) found that higher depressive symptoms were associated with greater everyday stressor , fewer social resource , and greater everyday stressor , fewer social resource , and greater use of avoidance coping among low-income , single mothers. Moreover , it was reported that postpartum depression had its origins in social and economic difficulties of various sources such as housing problems , unemployment , financial pressure , problems with husband / partner and, principally , in the experience of motherhood itself (McIntosh 1993 : 183). Anxiety and depression during pregnancy decreased as function of decreasing life stress and increasing social support (Tilden , 1983 : 167). Transition theories Chick & Melies (1986 : 237–257) believed that the person who encountered events leading to a process of transition would have an maladaptive outcome. Anxiety and depression during pregnancy and postpartum were family developmental transitions. Health outcomes of response to becoming a parent were anxiety

and depression during pregnancy and postpartum. However , Chick & Melies said that transitions were not experienced uniformly by different people even when they encountered in the same circumstances. Therefore as some pregnant and some postnatal women might have anxiety and depression or not.

Factors affecting anxiety and depression during pregnancy and postpartum

Age. Personality integration and flexibility increased significantly with age and correlated significantly with maternal age. In the older group , self–concept , flexibility , approach / withdrawal , adaptability , intensity , and mood quality correlated significantly with maternal behavior (Mercer , 1986 : 25). Although it is biological possible for the adolescent female to become a parent, her ego centricity and concreat thinking interfere with her ability to parent effectively. The vary young adolescent mother is inexperienced and unprepared to recognize the early sings of illness , potential danger , or household hazards.

The transition to parenthood may be difficult for adolescent parents. Coping with the developmental tasks of parenthood is often complicated by the unmet developmental needs and tasks of adolescence. These young parents may experience difficulty accepting a changing self-image and adjusting to new roles related to the responsibilities of infant care. They may feel "different" from their peer , be excluded from "fun" activities and prematurely forced to enter an adult social role. The conflict between their own desires and the infant's demands , in

addition the low tolerance for frustration that typical of adolescent , further contribute to the normal psychosocial stress of childbirth (Edward , 1999 : 466).

Older mothers have unique needs related to increased biological risk. Higher rates of gestational diabetes , pregnancy induced hypertension , gestational bleeding , abruptio placenta , and intrapartal fetal distress have been reported (Berkowitz , et al., 1990 cited in Edwards , 1999 : 468). Many of these mothers , because they are less physically resilient than younger women , may need to stay in the hospital longer rather than forced into an early discharge (Edwards , 1999 : 468).

Hayworth and others (1980 : 164) and Paykel (1980 : 342) found a significant association between yong mother and depression. This finding was different to that of Kumar & Robson (1984 : 42) who found postnatal depression occurred significantly more often in older women who seemed to have serene pregnancies and independently in women who gave a history of trying to conceive for two or more years. Several studies revealed that maternal age was not associated with postpartum depression (Braverman & Roux , 1978 : 732 ; Gotlib, et al., 1991 : 125 ; Hall, 1985 : 519 ; Pitt , 1968 : 1332). Standley and others (1979 : 22–24) found that younger women and less education women were related anxiety about pregnancy and childbirth. Moreover , age could predict the levels of anxiety of pregnant women in the second trimester (Kerdmongkol, 1988 : D).

Education. Educational level was significantly associated with postpartum depression (Campbell & Cohn , 1991 :597 ; Gotlib , 1991 : 125 ; Whiffen & Gotlib ,

1989 : 276) and postpartum anxiety (Wongvisetsirikul , 1997 : 142). On the contraly , there were two studies that maternal education was not related to postpartum depression (O'Hara , et al., 1982 :457 ; Hall , et al., 1985 : 519). Whiffen & Gotlib (1989 : 276) described women in the depression group were less well–education than women in the nondepression group. Campbell & Cohn (1991 : 598) suggested that better education women had an easier time adapting to the demands of being a new parent and more education women might have greater insight into the need for preparation for motherhood on many different level : emotional , relational , and informational (Gottesman , 1992 : 108). Otherwise , years of education was significantly correlated with parenting self–efficacy (Cutrona & Troutman , 1986 : 1512). Perceived self–efficacy was concerned with judgment of well one expects to cope with uncoming situation (Cutrona & Troutman , 1986 : 1508). Being better educated enabled one to recognize associations among factors more readily , which facilitates transference of knowledge and utilization of previously learned and successful behavior (Jalowiec & Powers , 1981 : 14) Accordingly , Jenkins (1978 , 96 cited in Jalowiec & Powers , 1981 : 14) said that because poorly educated persons "are less able to use the feedback that they receive to prevent recurrence of difficulties", they might be limited in "resolving potential problems before they grow to distressing proportions", thereby leading to reduced coping capacity.

In a study of maternal concerns during pregnancy in 202 women , Light & Fenster (1974 : 47) found that women with more than 12-years of education had a significantly higher anxiety during pregnancy about to being exposed to x–ray before knowing of your pregnancy and their effect on the child and birth

defects , to any medication they used than women with lower than high school or less education. Conversely , low educated women had a significantly higher frequency of expressed concerns related to the pain in childbirth , baby 's condition at birth , being able to buy the things for their children at home , and getting pregnant again than well educated women.

Family income. Economic stress was another important factor , which in turn leaded to ambivalence and anxiety in early pregnancy and might be along standing maladaption to motherhood (Davidson , 1972 : 662). The couples who worked outside their home and earned more money seem easier managed their expenses after child birth than the family whose the husband worked as a breadwinner. Medical expenses , maternity clothing , and equipment for the infant's care can be a heavy burden on a family having their first baby and an increasing burden as each new child is added. Young parents , particularly the father , became anxious about managing and worried about the future. This anxiety had impact on the expectant mother and other family members (Clark 1979 : 260). Gotlib and others (1991 , 125) found evidence that prepartum non depression were more employed outside the home and unemployment in after childbirth. In addition , inability to pay bill during hospitalization and family income were significantly correlated with postpartum depression and could predict postpartum depression (Gerdprasert ,1999 : E). But the level of income could not predict postpartum depression (O'Hara , et al., 1982 : 457).

In a study of 111 predominately low – income mothers of young children, Hall and others (1985 : 518–522) found that unemployment and inadequate income were associated with depressive symptoms and unemployed

women with a poor social network had a substantially greater risk of high depressive symptoms than employed women with low network support.

Gravida and parity. The associations between the blues and parity is confliction. The blues has been reported to be more common in primiparous women (Nott , et al., 1976 : 381-382 ; Yalom , 1968 : 25) , more common in multiparous women (Davidson , 1972 : 662) , and not related to parity at all (Handley, et al., 1980 : 500 ; Kennerley & Gath , 1989 : 369 ; Pitt , 1973 : 432). Several studies found the lack of association of postnatal depression with parity (Hayworth , et al., 1980 : 161 ; O'Hara , et al., 1982 : 457 ; Watson , et al., 1984 ; 460; Whiffen & Gotlib , 1989 : 276). Conversely , the multiparous women in Jarrahi-Zadeh and others' study (1969 :797) revealed significantly more depression during both the pregnancy and postpartum. Thongkrajai and others (1986 : C) found that maternal anxiety level increased regarding time factor from prenatal , intrapartum to postpartum period respectively and number of pregnancy could be use as an indicator for prenatal and prior to labor anxiety , i.e., multipara group had a significantly higher prenatal anxiety level than primiparous group. Light & Fenster (1974 : 48) found that multiparas had a significantly higher frequency of concerns related to family , and subsequent pregnancies than primiparas. Conversely , primiparous had frequency of concerns related to baby , self, childbirth , birth defects, finances , medication , and doctor than multipara.

Term birth and preterm birth. Pregnancy was a developmental crisis. Even in a "normal" pregnancy (Dickason , et al., 1994 :706). To adapt effectively to stressors and meet the needs evoked by crisis such as preterm labor , the pregnant woman must develop adequate coping strategies. The literature

suggested that preterm labor and the subsequent birth of premature neonate made double taxes the woman's coping ability. Resolution of the developmental tasks of pregnancy was generally 'preempted , often precluding a successful transition to motherhood. For many women in preterm labor , the primary concern was to hold on until term (Lynam & Miller , 1991 : 126).

Preterm labor is a multifactorial phenomenon (Jones & Collins , 1996 : 569). Psychological factor is one of the cause of preterm labor and preterm birth. Among the stressors affecting these women are their absence from home and family , physical discomfort , side effects of medication , feeling of helplessness and loss of control , loneliness , worry about finances , lack of privacy , and concern for healthy newborn (Loss & Julius , 1989 ; Waldron & Asayama , 1985 cited in Lynam & Miller , 1991 : 126).

Hedegaard and other (1993 cited in Jones & Collins , 1996 : 570) found that psychological distress later in pregnancy was associated more closely with preterm delivery. Other reports had shown that various maternal psychosocial characteristics such as stress , depression , anxiety , low self-esteem and poor social support increase a woman's risk of low birth weight (Hedegaard , et al., 1993 ; Wadhwa , et al., 1993 ; Newtan Hunt , 1984 cited in Copper , et al., 1996 : 1289).

In a study of the psychosocial factors such as stress , anxiety , depression, mastery , and self-esteem , Copper and others (1996 : 1286) found that stress was significantly associated with spontaneous preterm birth and with low birth weigh. On the contrary , Peacock and others (1995 : 532) found that there was

no evidence of relation between anxiety score and preterm birth , nor was there any trend in early delivery with level of depression.

Abortion. The women with miscarriage felt a sense of loss after the miscarriage. They had a subsequent dysfunction such as difficulty sleeping , anorexia , disruption in daily activities and impaired ability to work (Zaccardi , et al., 1993 : 802). Women who terminate pregnancies for fetal anomalies experienced grief as intense as those who experience spontaneous perinatal loss and they might require similar clinical management. Diagnosis of a fetal anomaly and subsequent termination might be associated with depression (Zeanah , et al., 1993 : 270). Several women who had prior elective abortions expressed guilt , feeling that their miscarriage caused or related to their elective abortion. In general , women believed that friend , including husbands or boyfriends , did not understand their feelings and emotional intensity after miscarriage (Zaccardi et al., 1993 : 802). Neugebauer and others (1992 , 1332-1339) found that depressive symptom levels were higher in women who had miscarrige than pregnant women and women in the community who had not been pregnant in the preceding year. Miscarriage was an unanticipated and physically traumatic event signaling and abrupt disruption of reproductive plans. It might also prompt doubts about reproductive competence and thereby provoke a loss of self-esteem (Neugebauer , et al., 1992 : 1332). Therefore miscarriage might be associated with significant sense of loss and frequent phychosocial dysfunction which might be caused to anxiety and depression.

Number of children. Gotlib and others (1991 : 125) reported that no difference was obtained between the characteristics of women depressed and not

depressed during pregnancy with the number of the children in the home. The level of depression was not related to total number of children under 7 years of age (Hall , et al., 1985 : 519). Nevertheless , Hall & Farel (1988 : 159) reported that 57% of the mother with a 5-or 6 year-old children had high depressive score of the CES-D and maternal everyday stressors also were positively associated with maternal depressive symptoms , whereas life event were not. Similarly , Moss & Plewis (1977 : 641-642) reported that 52% of the mother with a child under 5 year-old had a moderate or severe distress problem , distress was the feelings about of worry , anxiety and depression.

Therefore depression was not conclusively associated with number of children because the evidence associations between depression and number of children is confliction. The same anxiety was not conclusively associated with number of children because there were rare support studies.

The literatures revealed that pregnant and postpartum women who had different personal factors (gravida , number of term births , number of preterm births , number of abortions , number of children , age, education , and family income) had varied results of study. In addition most of the researches were studied in foreigner subjects. Therefore, the investigator was interested in testing this knowledge in Thai subjects.

CHAPTER III

MATERIALS AND METHODS

This descriptive research was conducted to describe the characteristics of personal factors , anxiety and depression in pregnant and postpartum women , and to predict anxiety and depression of pregnant and postpartum women by personal factors.

Population and sample

Population

The population of this study was the pregnant and postpartum women who attended the Antenatal Clinic or the Postpartum Clinic at the Family Planning Unit , Department of Obstetric and Gynecology , Sawanpracharak Hospital and Health Promotion Center Region 8. The sample was selected by the following inclusion criteria :

1. Normal pregnant women and 4-6 weeks postpartum women without medical complications during pregnancy and postpartum period.

2. Ability to read and write Thai.

3. Willing to participate in this study.

Sample size

A convenience sampling was used by selecting 100 pregnant and 100 postpartum women which met those criteria.

Setting

Data were collected at the Antenatal Clinic and the Postpartum Clinic at the Family Planning Unit , Department of Obstetric and Gynecology from two settings ; the Out–patient clinic , Department of Antenatal Clinic and Family Planing Unit of Sawanpracharak Hospital and Health Promotion Center Region 8, Nakhonsawan , Thailand , from April to May 2000.

Instrumentation

Collected data instrument included :

1. Demographic Data Questionnaire. It was constructed by the investigator which was used to obtain some basic personal information such as gravida , number of term birth , number of preterm birth , number of abortion , number of living child , week of gestation or the number of day after delivery, age , educational level , family income (Appendix B).

2. Hospital Anxiety and Depression Scale (HADS). HADS was developed by Zigmond & Snaith (1983 : 361–370). It was translated into Thai and tested with a sample of 60 cancer inpatients by Tana Nilchaikovit and others (Nilchaikovit , et al., 1996 : 18–30).

This questionnaire was a 14–item , self–assessment scale and composed of two subscales of Anxiety and Depression (Appendix B). Anxiety subscale composed of the odd items (1 , 3 , 5 , 7 , 9, 11 , 13) assessing physiologic dimension (item "feeling of butterflies in my stomach") and emotional / behavioral dimension (i.e. nervous , worry , tension , a feeling of impending doom and

apprehension). Total scores ranged from 0-21 : 0-7 represented normal anxiety , 8-10 represented possible anxiety and 11-21 represented abnormal anxiety.

Depression subscale composed of the even items (2 ,3 , 4 , 6 , 8 , 10 , 12 , 14) assessing feelings and behaviors (i.e. sad , lack of humor , burden to everything , neglect of personal hygiene and dress , feeling of unhappy and slow down movement). Total scores also ranged from 0-21 : 0-7 represented normal depression , 8-10 represented possible depression and 11-21 represented abnormal depression.

Validity and reliability testing

The concurrent validity of Thai version of HADS was tested by Tana Nilchaikovit and others (Nilchaikovit , et al., 1996) intrarater reliability which revealed the correlation coefficiency (r) equally .78 , .68 for anxiety and depression subscale respectively.

Construct validity was tested by using factor analysis with varimax rotation method. It was found that 14–item of questionnaire was divided into 2 factors as Anxiety subscale and Depression subscale.

The internal reliability was tested and showed good internal consistencies with Cronbach's alpha coefficient of .8551 for Anxiety subscale and .8295 for Depression subscale.

The sensitivity and specificity of HADS was compared with semistructured clinical psychiatric interview found that the cut–off of point of ≥ 11 was the best which sensitivity of Anxiety and Depression subscales of HADS were 100% and 85.71% respectively , while the specificity were 86% for

Anxiety and 91.3 % for depression. Thus , this study classified that subjects with score of 11 or more of each subscale was abnormal anxiety and depression.

HADS which modified into Thai version by Tana Nilchaikovit and others (1996 : 18-30) , was used in many studies and revealed good internal consistency between .77 to .78 for overall scale (Thongsawan , 2000 ; Wongvisetsirikul , 1997). The internal consistency of HADS was tested with the 20 women who were as similar as the subjects. The Cronbach's coefficient alpha was .76 for Anxiety subscale , .80 for Depression subscale , and .87 for the overall scale. The Cronbach's coefficient alpha was .73 for Anxiety subscale , .69 for Depression , and .80 for overall scale when tested with 200 women of this study.

Data collection

This study had 3 research assistants for helping in data collection. The investigator explained about using questionnaire and steps of data collection to the research assistants prior to actual data collection.

Data collection was collected by investigator or research assistant step by step as follows :

1. Asking for permission and collaboration to collect data by submitting the documents from the Faculty of Graduate Studies , Mahidol University to the Director of the Sawanpracharak Hospital and Health Promotion Center Region 8, and Nurse Director of the Sawanpracharak Hospital and Health Promotion Center Region 8.

2. The investigator would meet the Head Nurse of Antenatal Clinic and Family Planning Unit of both hospitals for introduction and permission in collecting data.

3. All data were collected from 8.00–12.00 a.m. from Monday through Friday. The subjects were selected accordingly to inclusion criteria.

4. To protect the rights of human subjects , the investigator or assistants contacted all the potential subjects to ask for participation , and describe the objectives of this research including expected research outcome to the subjects before agreement to participate (Appendix A).

5. The subjects received questionnaires. If they did not understand the questionnaires they could ask the investigator or assistants any time. The subjects completed the questionnaires individually about 10-15 minutes.

6. Finally , the subjects returned the questionnaires , the investigator or assistants check the completion of questionnaires before data analysis.

Data analysis

All data were analyzed by using SPSS for Windows version 9.0 , according to the following steps :

1. Descriptive statistical analysis were done for personal data , anxiety and depression.

2. Prevalence of anxiety and depression in pregnancy and postpartum were be calculated.

3. Pearson's product moment correlation was used to identify the relationships among stages of maternity , gravida , number of term births , number

of preterm births , number of abortions , number of children , age , education , family income , anxiety and depression.

4. Stepwise multiple regression was used to analyzed the predictability of independent variables to anxiety.

5. Stepwise multiple regression was used to analyzed the predictability of independent variables to depression.

CHAPTER IV

RESULTS

The findings of the study would be presented in this chapter. The results of this study were subjects' characteristics , anxiety scores , depression scores , relationships among variables and two multiple regression models predicting anxiety and depression.

Characteristics of the sample

A total sample for this study consisted of 200 mothers at different stages of maternity. Half of them (50%) were pregnant women with a gestational age ranged from 34 to 290 days (mean 166.48 , SD 77.96) : 25 (12.5%) pregnant women were in the first trimester ; 33 (16.5%) pregnant women were in the second trimester ; and 42 (21%) pregnant women were in the third trimester. The rest were postpartum women ranged from 32 to 57 days after childbirth (mean 42.15 , SD 3.51). One hundred and nine (54.5%) mothers were primigravida and 91 mothers (45.5%) were multigravidas with number of pregnancies ranged from 2 to 6. One hundred and forty two (71%) mothers were previous term births with number of term births ranged from 1 to 4 and number of children ranged from 1 to 3. Two mothers (1%) were previous preterm births with number of preterm births ranged from 1 to 2 and 26

mothers (13%) were previous abortions with number of abortions ranged from 1 to 3. Their age ranged from 15 to 42 years (mean 26.50 , SD 5.49) years.

Table 1 Personal characteristics of sample , number and percentage (n = 200)

Characteristics	Number	Percent	Range	Mean	SD
Stages of maternity					
Pregnancy	100	50.0	34-290 days	166.48	77.96
1st trimester	25	12.5			
2nd trimester	33	16.5			
3rd trimester	42	21.0			
Postpartum	100	50.0	32-57 days	42.15	3.51
Gravida			1-6 beats	1.61	.82
Primigravida	109	54.5			
Multigravida	91	45.5			
No. of term births			0-4 beats	.95	.76
No. of Preterm births			0-2 beats	.02	.16
No. of abortions			0-3 beats	.15	.42
No. of children			0-3 beats	.94	.74
Age (Year)			15-42	26.50	5.49
< 20	19	9.5			
20 – 30	129	64.5			
31 – 35	42	21.0			
> 35	10	5.0			
Education (Year)			3-18	9.76	3.91
primary school	77	38.5			
second school	38	19.0			
high school	38	19.0			
diploma	19	9.5			
bachelor and higher level	28	14.0			
Family income (Baht / month)			500-30000	9218.38	6288.87
< 3000	8	4.0			
3001 – 5000	67	33.5			
5001 – 10000	66	33.0			
> 10000	59	29.5			
Economical status					
Insufficiency	30	15.0			
Sufficiency	170	85.0			

The majority of mothers (64.5%) were 20–30 years. About one–thirds of them (38%) had finished their study at primary school level , 19% completed second education as well as completed high education. About one-thirds (33%-33.5% had an average family income with ranged from 5001–10000 and 3001-5000 Bahts per month respectively. Most of the mother (85%) perceived their income were sufficient. These personal characteristic of the sample were shown in Table 1.

Anxiety and depression

Scores of anxiety among 100 pregnant women ranged from 1 to 19 (possible scores = 0–21) with a mean and standard deviation of 5.9 and 3.43 respectively. Similary , scores of anxiety among 100 postpartum women ranged from 0 to 14 (possible scores = 0–21) with a mean and standard deviation of 4.92 and 2.68 respectively. The data revealed that the majority of the subjects had normal anxiety level.

Scores of depression among 100 pregnant women ranged from 0 to 17 (possible scores = 0–21) with a mean and standard deviation of 4.83 and 3.45 respectively. Similary , scores of depression among 100 postpartum women ranged from 0 to 13 (possible scores = 0–21) with a mean and standard deviation of 3.79 and 2.85 respectively. The data shown that the majority of mothers had normal depression level. The possible scores , range , mean and standard deviation of anxiety and depression score were shown in Table 2.

Table 2 Possible scores , range , mean , and standard deviation of anxiety and depression scores (n = 200)

Anxiety and Depression	Possible Score	Range	Mean	SD
Anxiety in pregnancy (n =100)	0-21	1-19	5.90	3.43
Anxiety in postpartum (n =100)	0-21	0-14	4.92	2.68
Depression in pregnancy (n =100)	0-21	0-17	4.83	3.45
Depression in postpartum (n =100)	0-21	0-13	3.97	2.85

Of all pregnant women , 73% had normal anxiety , 18% had possible anxiety , and 9% had abnormal anxiety. Similary in depression , it was found that 80% of them had normal depression , 15% had possible depression , and 5% had abnormal depression. Additionally , two first-trimester pregnant women and one second-trimester pregnant womam had both abnormal anxiety and depression during pregnancy. The data were shown in Table 3.

Of all postpartum women , 83% had normal anxiety , 13% had possible anxiety and 4% had abnormal anxiety. Similary in depressed group , 88% of them had normal depression , 10% had possible depression and 2% had abnormal depression. The data were presented in Table 3.

Table 3 Number and percentage of sample , by total scores of anxiety and depression (n = 200)

Total score	Pregnancy								Postpartum	
	1st trimester		2nd trimester		3rd trimester		Total			
	Number	%	Number	%	Number	%	Number	%	Number	%
Scores of anxiety										
0 – 7	16	16	26	26	31	31	73	73	83	83
8 – 10	5	5	5	5	8	8	18	18	13	13
11 – 21*	4	4	2	2	3	3	9	9	4	4
Scores of depression										
0 –7	18	18	26	26	36	36	80	80	88	88
8 – 10	5	5	4	4	6	6	15	15	10	10
11 –21*	2	2	3	3	0	0	5	5	2	2

*** abnormal anxiety or depression**

Pearson's product moment correlation were used to analyze the relationships among stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age education , family income , anxiety , and depression. There were statistically significant positive correlation between first trimester (r = .184 , p< .01) and number of preterm births (r=.335 , p< .01) with anxiety. The other variables such as second trimester , third trimester , gravida , number of term births , number of abortions , number of children , age , and family income were not significantly correlated with anxiety , as shown in Table 4.

There were statistically significant positive correlation between first trimester (r=.162 , p< .05) , gravida (r=.176 , p< .05) , number of preterm births (r=.288 , p< .01) , and anxiety (r=.548 , p< .01) with depression. However , education had significant negative relationship to depression (r= - .168 , p< .05). The other variables such as second trimester , third trimester , number of term

births , number of abortions , number of children , age , and family income were not significantly correlated with depression , as shown in Table 4.

In addition to these , there were mild to moderate correlations among some independent variables (.168-.601) , except only on strongly significant correlation detected between number of children and number of term births. Therefore , only number of children will be used with independent variable to predict anxiety as well as to predict depression , as literature review found that number of children was as a influential anxiety and depression rather than number of term births.

Hypotheses Testing

Hypothesis 1 Anxiety in pregnant and postpartum women could be predicted by personal factors (stages of maternity , gravida , number of term births, number of preterm births , number of abortions , number of children , age, education , and family income).

Independent variables were stages of maternity , gravida , number of preterm births , number of abortions , number of children , age, education , and family income to predict anxiety. Stepwise multiple regression analysis was used to test the prediction of anxiety. The results of the analysis found that there were only two variables incorporatedly able to predict anxiety : number of preterm births and age. Number of preterm births was the first variable entered the model explained 11.3% of variance of the total anxiety ($p < .001$). The last variable entered the model was age additionally explained 3.2% of variance of

Table 4 Pearson's product moment correlation between variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1 First trimester	1.000												
2 Second trimester	-.168*	1.000											
3 Third trimester	-.195**	-.229**	1.000										
4 Gravida	.106	.080	-.039	1.000									
5 Number of term births	-.191**	-.233**	-.349**	.607**	1.000								
6 Number of preterm births	.252**	-.042	-.049	.395**	.090	1.000							
7 Number of abortions	.009	.066	-.038	.591**	.057	.117	1.000						
8 Number of children	-.171*	-.233**	-.352**	.601**	.974**	.180*	.031	1.000					
9 Age	-.035	-.161*	-.095	.390**	.473**	.148*	.130	.449**	1.000				
10 Education	.062	-.122	-.114	-.291**	-.154*	-.011	-.128	-.138	-.001	1.000			
11 Family income	-.008	-.019	-.104	-.039	.036	-.021	-.018	.047	.168*	.466**	1.000		
12 Anxiety	.184**	.041	.007	.136	-.060	.335**	.060	-.034	-.126	.042	-.043	1.000	
13 Depression	.162*	.063	-.022	.176*	-.005	.288**	.090	.030	-.018	-.168*	-.099	.548**	1.000

*p< .05 , **p< .01 Note : First trimester 0= No , 1= Yes ; Second Trimester 0= No , 1= Yes ; Third trimester 0= No , 1= Yes

the total anxiety ($p < .01$). The final model could explain 14.4% of variance of the total anxiety {$F(2, 197) = 16.58$, $p < .001$}, as presented in Table 5.

Table 5 Stepwise multiple regression to predict anxiety (n = 200)

Order	Variable	R square	R^2change	b	t	p
1	Number of preterm births	.113	.113	7.137	5.431	.000
	Age	.144	.032	-.102	-2.696	..008

Constant 7.999 , Overall $F(2, 197) = 16.58$, $p < .001$

In order to test autocorrelations , Durbin-Watson test was performed. This regression model revealed Durbin-Watson test statistics of 1.841 which indicated no autocorrelations. To test multicollinearity among dependent variables , collinearity statistics was calculated. It was shown that tolerance values of number of preterm birth and age were .978 and .978 respectively. When tolerance values closed to one , multicollinearity was not a problem in this multiple regression analysis.

Hypothesis 2 Depression in pregnant and postpartum women could be predicted by personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age, education , and family income) , and anxety.

Independent variables were stages of maternity , gravida , number of preterm births , number of abortions , number of living child , age, education , family income and anxiety to predict depression. Stepwise multiple regression analysis was used to test the prediction of depression. The results of the analysis found that there were two variables could incorporatedly explain 33.7%

{F(2 , 197) = 50.147 , p< .001} of variances of depression. They were anxiety and education. Anxiety was the first predictor entering the model. It could explain 30.1% of variance of the total depression scores (p<.001). Education was the last predictor which could additionally explain 3.7% of the variance of the total depression scores (p< .01) , as shown in Table 6.

Table 6 Stepwise multiple regression to predict depression (n = 200)

Order	Variable	R square	R^2change	b	t	p
1	Anxiety	.301	.301	.569	9.585	.001
2	Education	.337	.037	- .156	-3.301	.001

Constant 2.843 , Overall F (2 , 197) =50.147 , p< .001

In order to test autocorrelations , Durbin-Watson test was performed. This regression model revealed Durbin-Watson test statistics of 2.073 which indicated no autocorrelations. To test multicollinearity among dependent variables , collinearity statistics was calculated. It was shown that tolerance values of anxiety and education were .998 and .998 respectively. When tolerance values closed to one , multicollinearity was not problem in this multiple regression analysis.

CHAPTER V

DISCUSSION

This research had been carried out by applying the transition theory of Chick & Meleis to describe the characteristics of personal factors , anxiety and depression , and to study the personal factors predicting anxiety and depression of 100 pregnant and 100 postpartum women at Sawanpracharak Hospital and Health Promotion Center Region 8 , Nakhonsawan , Thailand. The discussion of the characteristics of samples and hypotheses testing were as follows.

Characteristics of the sample

The sample in this research consisted of 100 pregnant and 100 postpartum women who were at 15-42 years of age , and at the average age of 26.50 years which was the period of young adulthood. Young adulthood covered age 20 to 40 (Franks & Olson , 1989 : 127). Their education level was mostly secondary school , and average year of education was 9.67 years , which was good level of Thai-educational standard. Their average family income was 9218.38 Bahts per month and most of family income were sufficient. The characteristics of the samples were similar to those studies by Gerdprasert (1999) , Thongsawan (2000) and Wongvisetsirikul (1997). In general they were found to be at the average age of 26.91-28.18 years which was the period of young adulthood. Their education level was mostly secondary school and most

of family income were sufficient. Three the studies had been carried out in postpartum women who attended the postpartum clinic at Ramathibodi Hospital, which was different place from this study.

Anxiety and depression in pregnant and postpartum women

This study revealed that pregnant women with abnormal anxiety were 9% (4% , 2% and 3% during the first , second and third trimester , respectively) and abnormal depression were 5% (2% and 3% during the first and second trimester , respectively). Postpartum women with abnormal anxiety 4% and abnormal depression 2%. This results were similar to the study of wongvisetsirikul (1997). She found that among 200 first time postpartum women there were abnormal anxiety 5% and abnormal depression 6% because both studies used the same instrument or HADS. The characteristics of the sample of both studies were also similar. Prevalence of depression in this study was lower than the study of Chanchai (1991 : 75) , Gerdprasert (1999) , Suppaudom and others (1999 : 9) because they used CES-D. These studies found that the pregnant women had depression 36.3-38.5% during last trimester (36-40 weeks) and 15-36.5% during postpartum period.

This study revealed that mean score of anxiety in pregnant (mean = 5.90 , SD 3.43) and postpartum women (mean = 4.92 , SD 2.68) were normal like as mean score of depression in pregnant (mean = 4.83 , SD 3.45) and postpartum women (mean = 3.97 , SD 2.85) were normal. Because the samples had no complication and the average age of 26.50 years which was the period of young adulthood. Personality were integration and flexibility correlated

significantly with maternal age (Mercer , 1986 : 25). Gottesman (1992 : 93) suggested that young adult women 20-24 years old might experience more difficulty in prenatal adjustment to the maternal role than those 25 and older. Like as , Standley and others (1979 : 22-24) found that younger women and poor education were related to anxiety about pregnancy and childbirth. Older mothers (pregnancy after age 35) had unique needs related to increased biologic risk such as gestational diabetes , pregnancy induce hypertension , gestational bleeding, abruptio placenta and intrapartal fetal distress (Berkowize , et al. cited in Edwards , 1999 : 468). These causes might effect longer hospitalization than forced into an early discharge (Berkowitz , et al. cited in Edwards , 1999 : 468) and might induce anxiety and depression consequence. In addition , the most of mothers who had normal anxiety and depression , might have other personal factors which affected to anxiety and depression as presented in this chapter.

Relationships between personal factors , anxiety and depression

The study showed that the variables were related to anxiety and depression of the during pregnancy and postpartum as follows :

First trimester : This factor had statistically significant correlation with anxiety ($r = .184$, $p < .01$) and with depression ($r = .162$, $p < .05$). It could be explained that during the first trimester of pregnancy , many of the rapid physical and emotional changes that occurred , though normal , could cause great anxiety (David & Doyle , 1976 : 1945). For many women the initial physical symptoms of pregnancy could be unpleasant and could make a women feel uncomfortable , ill , and depressed (Burton , 1983 :96). The expectant mothers

might have mood swings , feeling happy one minute and sad or depressed that next (Broadribb & Corliss , 1973 : 75). Additionally , this study found that 2 mothers in the first trimester of pregnancy had both abnormal anxiety and depression. Because the anxiety caused significant distress and impairment in interpersonal , social and / or occupational functioning. Feeling of depression could also be experience by this mothers because of helplessness that resulted from the anxiety (Bostrom & Schwecke , 423).

Gravida : This factors had statistically significant positive correlation with depression ($r = .176$, $p < .05$). This showed that multiparous women had a higher depression than primiparous women. It could be explained by the fact that multiparous women had been experience term births , preterm births , abortions and other physical complications. Additionally , this study found that gravida had statistically significant positive correlation with number of preterm births , number of abortions and number of living child. But gravida had statistically significant negative correlation with education , as present in Table 4. Repeat pregnancies were often unplaned , particularly for those who lacked contraceptive knowledge and were poor (Jones & Forrest , 1989 cited in Malnory & Broom , 1999 : 217). They might face additional financial burden , had concerned about their ability to be a parent as they got older children and felt awkward with friends who had older children. If there were other children in the family , they concerned about their reaction to pregnancy (Malnory & Broom , 1999 : 217-218). Some pregnant women had conceiving problems or previous abortion and preterm birth. Several mothers who had prior elective abortions expressed guilt , feeling that their miscarriage caused or related to their elective

abortion (Zaccardi , et al.,1993 : 802). If there were previous spontaneous abortion, the couple might put off emotional investment in the pregnancy until they convinced that the danger of miscarriage was past or tested to confirm a normal fetus (Malnory & Broom , 1999 : 217-218). These factors which related to gravida and affected to psychosocial consequence i.e., depression. The results of this study was consistent with the study of Jarrahi-Zadeh and others (1969 : 779), who found that multiparous women had significantly association with depression during both the pregnancy and postpartum.

Number of preterm births : This factor had a statically significant positive correlation with anxiety ($r = .335$, $p<.01$) and with depression ($r =.228$, $p <.01$). It also showed that mothers who had previous preterm birth would have high anxiety and depression. It could be explained as that mothers who had experienced previous preterm labor or preterm birth , it would occur repeated opportunity. So , this mothers had more stresses such as financial problem , family conflict , inability to rest and anxiety about the pregnancy (Freda , et al., 1990 : 364-365) than the mothers who had full term delivery. Because a preterm birth could turn parent's happy expectations into a devastating reality. In additional , mothers who had previous preterm labor and several times of hospitalization would be limited their activities and changed lifestyle such as no heavy housework , work outside the home , standing , lifting , sexual activity , long trips , commuting and stair climbing. Limitation of these lifestyles affected to psychosocial state of mothers and mothers felt uselessness and being low self-esteem which were precipitating stressors of anxiety and depression.

Education : This factor had a statistically significant negative correlation with depression ($r = .168$, $p < .05$). This showed that the mothers who had a high-level of education would have low depression. From this study, it was found that the majority of mothers (61.5%) finished secondary school, and 38.5% finished primary school. This showed that better education mother had an easier time adapting to the demands of being a new parent (Campbell & Cohn, 1991 : 598) and more education mothers might have greater insight into the need of preparation for motherhood on many different level : emotional, relational and informational (Gottesman, 1992 : 108). Being better educated enables one to recognize associations among factors more readily, which facilitates transference of knowledge and utilization of previously learned and successful behavior (Jalowice & Powers, 1981 : 14). This finding was consistent with the studies previously conducted (Campbell & Cohn, 1991 : 597 ; Gotlib, et al., 1991 : 125 ; Whiffen & Gotlib, 1989 : 276).

Anxiety : This factor had a statistically significant positive correlation with depression ($r = .548$, $p < .01$). It also showed that mothers with high anxiety would have high depression. This could be explained as that both anxiety and depression were common correlated with other behavior disorder, such as somatization, conversation and drug abuse disorder (Lahey & Ciminero, 1980 : 238). One study showed that prevalence of anxiety states with accompanying depression had remained constant over the years (Stockard & Cullen, 1987 : 722). Anxiety was the major, was the primary symptom or was the primary cause of other symptom, whereas in the other disorder, anxiety was is the result of other problem (Holmes, 1991 :63). The individual suffering from anxiety had

feeling of impending doom and diaster from specific or unknown source. The anxiety caused significant distress and impairment in interpersonal , social , and / or occupational functioning. Feeling of depression could also be experienced by these patients because of the sense of helplessness that resulted from the anxiety (Bostrom & Schwecke , 1999 : 423). Depression was almost invariable accompanied and sometime overshadowed , by anxiety over the baby. Anxiety was also often manifest in hypochondriasis (Pitt , 1968 : 1331). Clinical differentiation between anxiety and depression was rendered difficult by the degree of overlap between them. Roth and others (1972 : 147-161) found that the symptomatology of patients suffering from anxiety and / or depression , both marked differences and areas as overlapping were found , other psychoanalytic authors had referred to special qualitative features of the anxiety associated with depression which had been described as a state of paralytic helplessness and inability to escape danger , in contrast to neurosis anxiety which reflects the ego's drive to surmount and survive the threat (Kolb , 1965 cited in Roth , et al.,1972 : 148). In addition , this relationship was consistent with the study of Wongvisetsirikul (1997 : 104) who found that anxiety of postpartum women had a positive relationship with depression of postpartum women with statistical significancly ($r = .56$, $p < .001$).

However , the results of the study revealed evidence of some variables which were related to anxiety and depression but not statistical significance as follows.

Second trimester , third trimester and postpartum period , It was found that most of pregnant women and postpartum women had normal anxiety as

73% and 83% respectively. Normal anxiety in mothers were necessary which marked a mother felt alert and perceptual field was increased. It could motivate learning and better solving problems rationally. Therefore , the second trimester , third trimester of pregnancy and postpartum in this study was not associated with abnormal anxiety and depression in mothers. **Gravida** , It could be explained by the fact that normal anxiety could occur to every mothers. There were several studies about anxiety in Thai pregnant women and showed that they had anxiety (Leelachaikul , 1985 ; Thongkrajai , et al., 1986 ; Kerdmongkol , 1988 : C ; Namtaweechaikul , 1998). Light & Fenster (1974 : 48) found that multiparas had significantly higher frequency of concerns related to family and subsequent pregnancies than primiparas. Conversely, primiparous had more frequency of concerns related to baby , self , child birth , birth defects , finances , medication and doctor than multipara. So , gravida was not associated with anxiety. **Number of term births and number of children** , Most of history of obstetric of the subjects were term birth and there were living children at home. In addition , most of them had normal pregnancy and no complication after birth. This mothers were healthy and capacity to perform the activities of daily living. Physical integrity affected the mind to healthy too. So , this factors were not precipitating anxiety and depression. **Number of abortions** , There were not affected to anxiety and depression because this pregnancies were normal , they became antenatal clinic and received information for self-care. All this condition made the mothers confident that pregnancies were safety through labor. **Education** , It was found that the most mothers in this study finished secondary school and had normal anxiety. This factors increased capacity of

mothers to seek information from many resources for solving problem and limitation anxiety went above that level. So , education was not affected anxiety in this study.

Results of hypotheses testing

Hypothesis 1 : Anxiety in pregnant and postpartum women could be predicted by personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age , education and family income).

This study found that the factors that could be jointly used in predicting anxiety of mothers , namely number of preterm births and age could collectively explain the variance of anxiety at 14.4% ($p<.001$). This showed that the hypothesis was partially supported.

The first variable that could be used in predicting anxiety was number of preterm births. This study found that 2 pregnant women with previous preterm births had abnormal anxiety. It could be explained that the mothers who had previous preterm births , would have low self-esteem or had not be proud of their maternal role because they would fear of the same events as previous pregnancy. Thus , they were very anxious because she doubted about her ability to succeed whether term or preterm delivery. Will (1961 cited in Auden , 1987 : 345) believed that an individual's level of self-esteem was an important factor related to anxiety. Age was a variable , which then came into the prediction anxiety. It could be explained that the transition to motherhood might be difficult for adolescent mothers. These young mothers might

experience difficulty accepting a changing self-image and adjusting to new roles related to the responsibility of infant care. The conflict between their own desires and the infant's demands , in addition the low tolerance for frustration that typical of adolescent , further contributed to the psychosocial stress of childbirth (Edward , 1999 : 466). Like as , Standley and others (1979 : 22-24) found that younger women and poor education were related to anxiety about pregnancy and childbirth. Moreover , age could predict the levels of anxiety of pregnant women in the second trimester (Kerdmongkol , 1988 : D). In addition , the investigator also found that the first trimester of pregnancy was little statistical significant correlated with anxiety but were not too strong to predict anxiety.

Other variables which were not included in the predictive equation were as stages of maternity (the first , second , third trimester , postpartum period) , gravida , number of abortions , number of children , education and family income. It could be explained that the mothers in this study had sufficient family income for living and had not complication during pregnancy and postpartum even there were some mothers had previous abnormal obstetric history. However , there were only 2 variables that could be explained anxiety only 14.4%. Therefore , anxiety would be high or low depended on the other factors that were not included in this study.

Hypothesis 2 : Depression in pregnant and postpartum women could be predicted by personal factors (stages of maternity , gravida , number of term births , number of preterm births , number of abortions , number of children , age , education and family income) , and anxiety.

The study found that the factors that could be jointly used in predicting depression of mothers , were anxiety and education which could collectively explain 33.7% of the variance of depression scores ($p<.001$). This showed that the hypothesis was partially supported.

The first variable that could be used in predicting depression was anxiety. Because pure anxiety was rarely seen , but it was usually observed in combination with other emotions (Auden , 1987 : 349). Depression was sometimes accompanied by anxiety. This especially the case in the early or prodromal phase , when the symptom patterns was taking shape. During this phase , the individual believed that everything was going wrong , was upset and anxious , and a lot of worrying. In fact , during the prodromal phase , it was sometime difficult to determine whether the individual was experiencing the onset of depression or was suffering from an anxiety state. Although anxiety continued to be a component of the depressive disorder , as time goes by , the individual gave up the struggle to "get out from under" accepted fate ; the level of anxiety was reduced , and the level of depression increased (Holmes , 1991 : 146). In fact, there were close ties between anxiety , depression , guilt and hostility , and these emotions often functioned in a reciprocal manner—one feeling acted to generate and reinforced the others (Auden , 1987 : 349). Education was a variable, which then came into part in the prediction depression. It could be explained that years of education was significantly correlation with parenting self-efficacy (Cutrona & Troutman , 1986 : 1512). Perceived self-efficacy was concerned with judgment of well one expects to cope with uncoming situation (Cutrona & Trouman , 1986 : 1508). Mothers who had self-efficacy might have

high self-esteem. High self-esteem had similar been correlated with low anxiety, effective group functioning and acceptance of others. Low self-esteem had been correlated with poor interpersonal relations , and a sense of low , that self-worth was particularly prominent of depressive disorder (Kierkegaard , 1987 : 400). Thus, high level education could reduce anxiety and depression. In addition , the investigator found that variables related to depression but could not be used in its prediction , there were gravida and number of preterm births. It was probable that gravida had a statistically positive correlation with number of preterm births ($r = .395$, $p < .01$) , number of abortions ($r = .591$, $p < .01$) , number of children ($r = .601$, $p < .01$) , age ($r = .390$, $p < .01$) and depression ($r = .176$, $p < .05$). It was found that gravida had higher statistically positive correlation with number of preterm births , number of abortions , number of children and age than depression. But number of abortions ($r = .090$, $p > 05$) , number of children ($r = .030$, $p > 05$) and age ($r = -.018$, $p > 05$) had no statistically correlation with depression , then it could not predict depression. It could be concluded that number of preterm births , number of abortions , number of children and age in this study could not affect depression of the mothers.

Other variables which were not include in predictive equation were stages of maternity (the first , second , third trimester , postpartum period) , number of abortions , number of children , age and family income because the sample in this study had similar characteristic , which could be explained previous to the rationale in hypothesis 1. However , the 2 variables could be used as predictive factors only at 33.7%. The result showed that whether depression was raised or

reduced depended on the outcomes of other factors that were not included in this study.

From the results of the study , it cloud be summalized that the mothers who had previous preterm births and younger age would have high anxiety. In addition , it could be summalized that the mothers who had high anxiety and low education would have high depression. So , the research results supported the transition theory of Chick & Meleis in that personal factors such as number of preterms birth , age and education were the factors that might influence the transition from woman to motherhood as it occurred during pregnancy and postpartum period. And these factors affected the perception of some mothers to response the transition as negative outcomes which were anxiety and depression.

Limitation

1. The sample of this study was not randomly recruited. Therefore , the results could not be generalized to other populations.

2. This study was a cross-sectional study , thus the anxiety and depression were belong to different person. Thus , it could not explain continuous sequences of anxiety and depression through all stages of maternity.

CHAPER VI

CONCLUSION

This descriptive research aimed to a) describe the characteristics of personal factors , anxiety and depression in pregnant and postpartum women ; b) predict anxiety by personal factors ; and c) predict depression by personal factors and anxiety. Transition theory of Chick & Meleis (1986 : 237-257) was used as a theoretical framework of the study. A convenience sample of this study included 100 pregnant women and 100 postpartum women who attended the Antenatal Clinic or attended the Postpartum Clinic in Family Planning Unit Department of Obstetric and Gynecology , Sawanpracharak Hospital and Health Promotion Center Region 8 , Nakhonsawan , Thailand , from April to May 2000.

The instruments used in the study were as follow : 1) Demographic Data Questionnaire and 2) HADS. The HADS was developed by Zigmond & Snaith (1983 : 361-370) and translated in to Thai by Nilchaikovit and others (1996 : 18-30). Data was collected by investigator or research assistance. The data was analyzed by Statistical Package for Social Science for Window Program.

The results of the study were reported below.

1. Most mothers were aged 20-30 years old , average 26.50 years ; level of education was finish secondary school ; family income ranged from 500 to 30,000 , average 9.218.38 bath per month.

2. Among the 100 pregnant women , 9% were abnormal anxiety and 5% were abnormal depression. The 3 mothers were both anxiety and depression during pregnancy.

3. Among the 100 postpartum women , 4% were abnormal anxiety and 2% were abnormal depression. Non postpartum women both anxiety and depression.

4. There were statistically significant correlation between the first trimester of pregnancy ($r=.184$, $p<.01$) and number of preterm births ($r= .335$, $p <.01$) with anxiety. There were no statistically correlation between the second , third trimester , postpartum period , gravida , number of term births , number of abortions , number of children , age , education , and family income with anxiety.

5. There were statistically significant positive correlation between the first trimester of pregnancy ($r=.162$, $p <.05$) , gravida ($r=.176$, $p<.05$) number of preterm births ($r=.228$, $p<.01$) and anxiety ($r=.154$, $<.01$) with depression. Education showed negative correlation with depression ($r= -.168$, $p<.05$). The second , third trimester , postpartum period , number of term births , number of abortions , number of children , age , and family income were not correlated with depression.

6. Number of preterm births and age could be statistically significant predictors of anxiety accounted for 14.4% ($p<.001$).

7. Anxiety and education could be statistically significant predictors of depression accounted for 33.7% ($p<.001$).

Recommendation

Nursing practice

The results of this study revealed that anxiety could be predicted 30.1% of the variance of depression. The study suggested that nurses should assess anxiety and depression of mothers and providing mothers' classes to prevent any psychological complication that could be occurred , especially for the mothers who had previous preterm births , who were young and who had low education. It was recommended that HADS should be assessed anxiety and depression because of its convenience and expediency.

Nursing education

The study has shown that pregnant and postpartum women had anxiety or depression and might elicit only normal or possible anxiety and depression , or might elicit severe or abnormal anxiety and depression. So , in nursing education , the instructor should convince nursing student to be aware of abnormal anxiety and abnormal depression , as well as the physical complication which will affect the mothers.

Nursing research

1. The findings in the research showed that number of preterm births and age could be jointly used for predicting anxiety in mothers at 14.4%. Anxiety and education could be jointly used for predicting depression in mothers at 33.7% , which showed that the other factors which affected anxiety and depression in mothers may be other variables that were not studied this research , so there should be other study for testing other factors , for instance , self-esteem , social support , and the intention for having a baby.

2. This research was a cross-sectional descriptive study that could not convinces the real time of its episode so it was recommended that the prospective study should be imply to study the beginning of anxiety and depression during pregnancy and postpartum.

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APPENDIX

Appendix A

Consent to Participate in Research Study

Human Rights for Research Population

To.....

I am "Pinkaew Choteamnuay" a graduate nursing student , Nursing Department , Faculty of Medicine , Ramathibodi Hospital , Mahidol University. I am currently conducting research "Personal Factors Predicting Anxiety and Depression of Pregnant and Postpartum Women". The research will be beneficial to appropriate planning and effective intervention to and manage anxiety and depression in pregnant and postpartum women. However , the research will not completed if there is no participation from you.

You can participate in this research study by response questionnaire , including personal data and Hospital Anxiety and Depression Scale. All data which you provide will be kept confidential and used only to present and overall picture. Your name will not appear in the report or in any other place.

You can refuse or participate in this research study with no effect on treatment or care that you receive. And even during the study period , you can withdraw yourself from the study at anytime.

Thank you for your kind cooperation

Sincerely your,
Pinkaew Choteamnuay
Graduate nursing student.

Appendix B

Instruments

Part I Demographic data questionnaire

H.N._____ LMP_____

EDC_____ GA_____

G_____P_____

1. Age_____ years old
2. Highest level of education_____
3. Family income_____ Baht / month
   - ☐ Sufficiency
   - ☐ Insufficiency
4. Number of children at home_____

Part I Demographic data questionnaire

H.N._____ Date of delivery_____

G_____P_____

1. Age_____ years old
2. Highest level of education_____
3. Family income_____ Baht / month
   - ☐ Sufficiency
   - ☐ Insufficiency
4. Number of children at home_____

Part II Hospital Anxiety and Depression Scale (HADS)

Explanation : This questionnaire want to know how you feel during pregnancy / postpartum. Please read each item and **correct mark** in the brackets which comes closest to **how you have been felling in the past week. Please answer all items.**

1. I fell tense or 'wound up' :

( ) Most of time ( ) A lot of the time

( ) From time to time , occasionally ( ) Not at all

2. I still enjoy the things I used to enjoy :

( ) Definitely as much ( ) Not quite so much

( ) Only a little ( ) Hardly at all

.
.
.

7. I can sit at ease and feel relaxed :

( ) Definitely ( ) Usually

( ) Not often ( ) Not at all

.
.
.

13. I get sudden feelings of panic :

( ) Very often indeed ( ) Quite often

( ) Not very often ( ) Not at all

14. I can enjoy a good book or radio or television program :

( ) Often ( ) Sometimes

( ) Not often ( ) Very seldom

Percentage of response on items of HADS

Item scales	Score	Number	%
1. I fell tense or ' wound up ' :			
Most of the time	3	8	4.0
A lot of the time	2	12	6.0
From time to time , occasionally	1	162	81.0
Not at all	0	18	9.0
2. I still enjoy the things I used to enjoy :			
Definitely as much	0	104	52.0
Not quite so much	1	59	29.5
Only a little	2	31	15.5
Hardly at all	3	6	3.0
3. I get a sort of frightened felling as if something awful is about to happen :			
Very definitely and quite badly	3	4	2.0
Yes , but not too badly	2	56	28.0
A little , but it does not worry me	1	92	46.0
Not at all	0	48	24.0
4. I can laugh and see the funny side of things :			
As much as I always cloud	0	156	78.0
Not quite so much now	1	30	15.0
Definitely not so much now	2	14	7.0
Not at all	3	0	0.0
5. Worrying thoughts go through my mind :			
A great deal of the time	3	8	4.0
A lot of the time	2	12	6.0
From time to time but not too often	1	127	63.5
Only occasionally	0	53	26.5

Item scales	Score	Number	%
6. I feel cheerful :			
Not at all	3	0	0.0
Not often	2	17	8.5
Sometimes	1	100	50.0
Most of the time	0	83	41.5
7. I can sit at ease and feel relaxed :			
Definitely	0	91	45.5
Usually	1	74	37.0
Not often	2	34	17.0
Not at all	3	1	0.5
8. I feel as if I am slowed down :			
Nearly all the time	3	9	4.5
Very often	2	25	12.5
Sometimes	1	106	53.0
Not at all	0	60	30.0
9. I get a sort of frightened felling like 'butterflies' in the stomach :			
Not at all	0	114	57.0
Occasionally	1	70	35.0
Quite often	2	12	6.0
Very often	3	4	2.0
10. I have lost of interest in my appearance :			
Definitely	3	9	4.5
I don ' t take so much care as I should	2	9	4.5
I may not take quite as much care	1	55	27.5
I take just as much care as ever	0	127	63.5

Item scales	Score	Number	%
11. I feel restless as if I have to be on the move :			
Very much indeed	3	11	5.5
Quite a lot	2	9	4.5
Not very much	1	81	40.5
Not at all	0	99	49.5
12. I look forward with enjoyment to things :			
As much as ever I did	0	104	52.0
Rather less than I used to	1	52	26.0
Definitely less than I used to	2	28	14.0
Hardly at all	3	16	8.0
13. I get sudden feelings of panic :			
Very often indeed	3	6	3.0
Quite often	2	12	6.0
Not very often	1	57	28.5
Not at all	0	125	62.5
14. I can enjoy a good book or radio or television program :			
Often	0	114	57.0
Sometimes	1	69	34.5
Not often	2	11	5.5
Very seldom	3	6	3.0

BIOGRAPHY

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