EFFECT OF NURSING SUPPORT ON ANXIETY OF PREGNANT WOMEN WITH PREGNANCY-INDUCED HYPERTENSION

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The purpose of this quasi-experimental research was to determine the effect of nursing support on anxiety of pregnant women with Pregnancy-Induced Hypertension (PIH). Lazarus and Folkman's stress appraisal, and coping theory was used as the conceptual framework for this study. Purposive sampling was used to select 60 pregnant women with PIH who were admitted in the Obstetrics and Gynecology Department, Faculty of Medicine, Ramathibodi Hospital, during June to November, 1999. All participants signed consent forms. The samples were divided into control and experimental groups with 30 subjects in each group. The experimental group received both nursing support and usual nursing care, whereas the control group received only usual nursing care. State anxiety was measured twice by the State Trait Anxiety Inventory (STAI form Y-1) (Spielberger, et al., 1977). The first measurement was taken within the first day of hospitalization. The second measurement was taken on the third day of hospitalization. The data was analyzed with SPSS/FW program.

The findings showed that the mean score of anxiety in the experimental group, after receiving nursing support and usual nursing care was statistically significantly less than before receiving nursing support ($p < .001$). The mean score of anxiety in the experimental group after receiving nursing support and usual nursing care was statistically significantly less than in the control group ($p < .001$). Therefore, the effect of nursing support could reduce anxiety in hospitalized pregnant women.

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ปรานี ป้องเรือ : ผลของการสนับสนุนทางการพยาบาลต่อความวิตกกังวลของหญิงตั้งครรภ์ที่มีภาวะความดันโลหิตสูงเนื่องจากการตั้งครรภ์ (EFFECT OF NURSING SUPPORT ON ANXIETY OF PREGNANT WOMEN WITH PREGNANCY-INDUCED HYPERTENSION) คณะกรรมการควบคุมวิทยานิพนธ์ : อรพินธ์ เจริญผล วท.บ. ค.ม. มาลี เลิศมาลีวงศ์ วท.บ. M.N.
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การวิจัยกึ่งทดลองนี้มีวัตถุประสงค์ เพื่อศึกษาผลของการสนับสนุนทางการพยาบาลต่อความวิตกกังวลของหญิงตั้งครรภ์ที่มีภาวะความดันโลหิตสูงเนื่องจากการตั้งครรภ์ โดยใช้ทฤษฎีความเครียดของลาซารัสและโฟล์คแมนเป็นกรอบแนวคิด และยึดหลักการพิทักษ์สิทธิ์ คัดเลือกกลุ่มตัวอย่างตามคุณสมบัติที่กำหนด เป็นหญิงตั้งครรภ์ที่มีภาวะความดันโลหิตสูงเนื่องจากการตั้งครรภ์ที่เข้ารับการรักษาในโรงพยาบาลรามาธิบดี ระหว่างเดือนมิถุนายน ถึงเดือนพฤศจิกายน พ.ศ. 2542จำนวน 60 คน แบ่งเป็นกลุ่มควบคุมและกลุ่มทดลอง กลุ่มละ 30 คน กลุ่มทดลองได้รับทั้งการสนับสนุนทางการพยาบาลและการพยาบาลตามปกติ ในขณะที่กลุ่มควบคุมได้รับการพยาบาลตามปกติ ประเมินความวิตกกังวลขณะเผชิญด้วยแบบประเมินความวิตกกังวลของสปิลเบิร์ก (Spielberger, et al., 1977) 2 ครั้ง ครั้งแรกในวันแรกของการเข้าอยู่โรงพยาบาล และครั้งที่ 2 ในวันที่สามของการอยู่โรงพยาบาล วิเคราะห์ข้อมูลด้วยโปรแกรม SPSS/FW

ผลการวิจัยพบว่า หญิงตั้งครรภ์กลุ่มที่ได้รับการสนับสนุนทางการพยาบาลร่วมกับการพยาบาลตามปกติมีคะแนนความวิตกกังวลน้อยกว่าก่อนได้รับการพยาบาลอย่างมีนัยสำคัญทางสถิติ ($p<.001$) และหญิงตั้งครรภ์กลุ่มที่ได้รับการสนับสนุนทางการพยาบาลร่วมกับการพยาบาลตามปกติ มีคะแนนความวิตกกังวลน้อยกว่ากลุ่มที่ได้รับการพยาบาลตามปกติอย่างมีนัยสำคัญทางสถิติ ($p<.001$) ดังนั้นผลของการสนับสนุนทางการพยาบาลสามารถลดความวิตกกังวลของหญิงตั้งครรภ์ขณะอยู่โรงพยาบาลได้

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CHAPTER I

INTRODUCTION

Background and Rationale

Pregnancy-Induced Hypertension (PIH) is a condition unique to pregnancy because the etiology remains unknown and it is unpredictable prior to pregnancy. In the United States, the incidence is approximately 5% to 10% of all pregnant women who have hypertensive disorders during pregnancy (Cashion, 1999: 644; Cunningham, et al., 1997: 697; Pillitteri, 1995: 400). Of this, 80% is PIH (Chaturachinda, & Phuapradit, 1987: 140-141; Gilbert & Harmon, 1986: 267). Typically, it more often affects nulliparous women, pregnant teenagers, and women in low socioeconomic group (Cunningham, et al., 1997: 697; Pillitteri, 1995: 401; Repke, 1991: 779-792). Indeed, PIH is harmful to both mother and fetus. In Thailand, PIH is the third leading cause of maternal death. Specifically, it is the first and second cause of death at Siriraj and Ramathibodi Hospital, respectively (Chaturachinda, et al., 1991: 139). Furthermore, PIH could trigger some complications, such as abortion, premature labor, dead fetus in utero or abruptio placenta. Many patients also showed acute renal failure, circulatory failure, intracranial hemorrhage, seizure and death. The fetal mortality rate is high, approximately 15 % to 25% of eclamptic mothers (Richardson, 1994: 121).

Signs and symptoms of PIH are high blood pressure, edema, and proteinuria (Gant, 1994: 70; Pillitteri, 1995: 401; Richardson, 1994:121; Willis, 1982: 792-793).

In mild case, there is no headache or discomfort; whereas, in severe cases, headaches, blurred vision, epigastric pain, oliguria, unconsciousness, seizure or death would occur (Noradechanon, 1993: 17). Generally, if the patients do not receive an appropriate treatment, severe conditions ensue. Therefore, the maternal mortality rate can be high, up to ten times above normal (Phaosavasdi, et al., 1982: 201). It is essential that hospitalization and closed observation are needed for the most optimal treatment (Williams, 1986: 18; Willis, 1982: 808). Beneficial effects of bed rest and decreasing daily physical activity will enhance placental and uterine blood flow (Cunningham, et al., 1997: 717) and subsequently, decrease or stabilize blood pressure and lower various complications (William, 1986: 18).

Diagnosis of a high-risk status, such as PIH, may subsequently affect the degree of stress in a pregnant woman who may appraise that PIH can threaten her pregnancy or be a potential harm to either fetus or herself or both (Kemp & Page, 1986: 232; Penticuff, 1982: 71-72). Moreover, such women may seriously compromise their capacity to adapt during hospitalization. This would effect increasing stress and anxiety. Loos & Julius (1989: 54) found that the pregnant women expressed feeling of loneliness, boredom, and powerlessness. Some blamed themselves and felt guilty because they could not continue their pregnancy normally (Cohen, 1979: 15-24). White & Ritchie (1984: 54) and Clark, et al., (1979: 353-355) studied antepartum hospitalized women, and found that the longer they stayed, the higher their anxiety. The major stresses are not only their health status but also lack of privacy and information, family problems, and economic status. They negatively predicted the future and felt conflict between normal and dependent roles

(Chatphothong, 1993: 140-141). These women were concerned that they were a burden to their families and colleagues. Therefore, these anxieties may affect maternal and fetal well-being during pregnancy, labor or postpartum periods (Burstein, et al., 1974:195; Perkin, et al., 1993: 630-632; Standley, et al., 1979: 22).

Social support has a crucial role for pregnant women who have stress and anxiety (Cohen & Wills, 1985: 310-312). It was shown that social support could lead the patients to believe that they were cared for and loved, esteemed, and were members of a network of mutual obligations (Cobb, 1976: 300). According to Lazarus & Folkman (1984: 249), social support is the interaction of social relationships, especially how to evaluate the patients and provide the support.

Many studies demonstrated that social support appears to enhance effective coping and to negate stress and anxiety (Kemp & Hatmaker, 1989: 331; Mercer & Ferketich, 1988: 26). In fact, to provide these social supports is not a simple goal to achieve. The nurse should recognize personal factors (Hanucharurnkul, 1994: 99-100). A nurse can provide important health care. She or he has a major role in providing social support during hospitalization, as well as nursing support, promotion and assistance to pregnant women as an appropriate strategy to help them to cope with their stresses. These may inhibit the severity of diseases, decrease anxiety, and enhance self-esteem. Ultimately, the women would be able to carry on their pregnancy normally. As a nurse, the researcher has experience in caring for hospitalized pregnant women with PIH for years. Indeed, there is no detailed study of the effect of nursing support on anxiety in these pregnant women in Thailand. Therefore, the purpose of this study is to provide such an analysis by using the patients at Ramathibodi Hospital.

The results will be beneficial in nursing care plans and in decreasing anxiety in pregnant women with PIH and would helps develop more standard and quality of nursing care.

Conceptual Framework

The conceptual framework underlying this study is Lazarus and Folkman's (1984) stress, appraisal, and coping theory. Anxiety is an emotional response of stress (Lazarus, 1976: 69; Cox, 1978: 27). Stress arises when a person perceives an encounter that is harmful to physical or psychological well-being and then appraises it as threatening. We call this emotional response "anxiety" (Spielberger, 1972: 30-31). Lazarus and Folkman (1984: 19) defined stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being". Whether the event is stressful or not, depends on assessment between demands and resources.

PIH is a situation encountered by pregnant women who must be hospitalized. They will evaluate their primary appraisals in terms of their well-being significance, such as irrelevant, benign-positive, or stressful (Lazarus & Folkman, 1984: 32-38). Stress appraisals include harm/loss, threat, and challenge (Lazarus & Folkman, 1984: 53). Whatever is appraised as a threat, harmful, or challenging, will create stress. After pregnant women realize that their well-being is affected, they will handle the situation by taxing or exceeding their resources. The next form of evaluation is secondary appraisal. It is crucial because they use this appraisal to select their available options and resources.

The pregnant women will appraise a type or severity of stressful event by two factors, personal and situational factors. Personal factors are commitments, beliefs, and intelligence. Situational factors are novelty, predictability, and uncertainty of events. The pregnant women who never have experienced hospitalization cannot predict the event (feel uncertainty, confused, hopeless, with a restricted perception of person and environment). The patients will exceed their resources of effort and thought to cope with their stress. This results in anxiety. It turns into a more unpredictable process because the patients cannot determine a final resolution.

Two major kinds of coping (Lazarus & Folkman, 1984: 150-153) are emotion-focused coping and problem-focused coping. There are ways to adjust emotions and lessen stresses for handling problems effectively. Lazarus also described five models of coping: information seeking (from ourselves and from others), direct action, inhibition of action, social support (from significant others or other appropriate sources), and use of intrapsychic defense mechanisms.

Lazarus & Folkman (1984: 159-64) suggested that the person who chooses an appropriate strategy to manage a situation can cope with a problem effectively. It depends on the resources that are available to them, arising from personal or environmental agendas. These include health and energy, positive beliefs, problem-solving skill, social skills, social and material resources. The pregnant women will increase options to solve and cope with the problems if they are healthy, confident, reasonable, well informed, and receive social support. Indeed, there are individual differences in each patient. The resources for coping must be recognized in the context of personal and environmental constraints, especially the level of threat.

A situation such as PIH or being hospitalized makes pregnant women separate from their families, their major social supports. This results in decreased resources from their environment. Thus, a nurse plays an important social support role during hospitalization. The essential aims of nursing care for these patients need high quality action to achieve good physical, psychological, emotional, and social responses. These activities, for example, are nursing care to respond to physical problems, to maintain information about the patient's unit, to provide physical care and a clean and safe environment, to manage and monitor progress of disease, nursing practice etc.

In this study, the researcher used social support according to Schaefer, Coyne, and Lazarus (1981: 381). This support is comprised of three subconcepts: emotional, informational, and tangible support. First, emotional support refers to attachment, reassurance, and being able to confide in and rely on another person which contribute to the feeling that one is loved or cared about, or even that one is a member of the group, not a stranger. Second, tangible support involves direct aids or services including loans, gifts, and provision of services such as taking care of needy persons or doing a chore for them. And third, informational support includes good and clear information and advice. This makes the patients ready to confront their stresses properly.

When the environment and perception are changed, the pregnant women will have reappraisal by altering their decisions based on the new information from either persons or environment (Lazarus & Folkman, 1984: 38). This causes two types of feedback: realization of new information and reappraisal to reduce stress. Therefore, the patients who receive nursing support can use their reappraisal and lower anxiety. It

has been shown that social support was helpful for hospitalized pregnant women. However, there is no detailed study of the effect of nursing support on anxiety in pregnant women with Pregnancy-Induced Hypertension. Thus, the present study was designed to examine whether nursing support can lower stress and anxiety in these patients. The findings may provide an additional guideline to improve nursing care for these patients. For purposes of clarity, the word "the patients" will used to refer to "the pregnant women with PIH".

The research framework summary is shown in Figure 1.

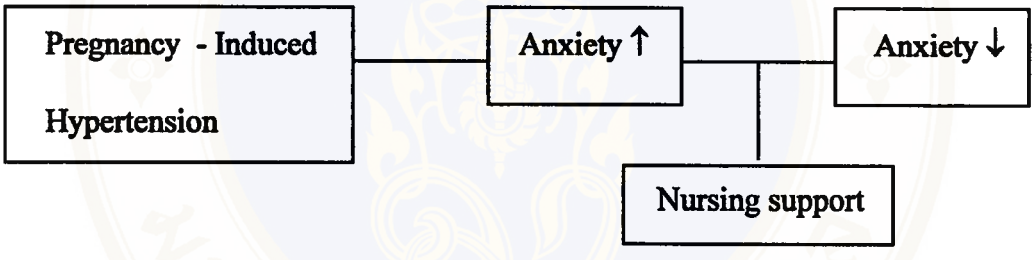

Figure I. Research framework

Research questions

1. What are the patients' anxiety scores before and after receiving nursing support and usual nursing care?

2. What are the patients' anxiety scores before and after receiving only usual nursing care?

3. How different are the anxiety scores between the patients who receive both nursing support and usual nursing care and those who receive only usual nursing care?

Objectives

1. To compare the changes of anxiety scores of the patients before and after receiving nursing support and usual nursing care.

2. To compare the changes of anxiety scores of the patients before and after receiving only usual nursing care.

3. To compare the anxiety scores between the patients who receive both nursing support and usual nursing care and those who receive only usual nursing care.

Research Hypotheses

1. After receiving both nursing support and usual nursing care, the patients have anxiety scores less than before receiving nursing support.

2. The patients who receive only usual nursing care show differences in the anxiety scores before and after receiving usual nursing care.

3. The patients who receive both nursing support and usual nursing care have anxiety scores less than those who receive only usual nursing care.

Scope of Research

The purpose of this study is to determine the effect of nursing support on anxiety of pregnant women with Pregnancy-Induced Hypertension (PIH). They were admitted in Ramathibodi Hospital, between June and November 1999.

Assumptions

Nursing support is provided equally in all pregnant women with PIH.

Expected Outcome and Benefits

1.To encourage nursing personnel to realize that provision of comprehensive nursing cares (to deal with physical, psychological, emotional, and social needs) is important and practical not only in pregnant women with Pregnancy-Induced Hypertension but also in others.

2.The results will be helpful as guidance for a state anxiety assessment of pregnant women with Pregnancy-Induced Hypertension both at antenatal care (ANC) clinics and during hospitalization. Therefore, each nursing care plan will be more appropriate and effective.

3. This report can be used as a database for further study in pregnant women with Pregnancy-Induced Hypertension.

Definition of Variables

Nursing Support means nursing activities for pregnant women with Pregnancy-Induced Hypertension including tangible, emotional, and informational support. These are based on a nursing support guideline and pamphlet for providing information.

Anxiety means feelings of personal uneasiness, nervousness, apprehension, dread, and tension in a situation. This is assessed by the State Trait Anxiety Inventory (STAI) form Y-I (Spielberger, et al., 1977).

CHAPTER II

LITERATURE REVIEW

In this study, the literature review includes Pregnancy-Induced Hypertension, anxiety, the relationship between stress and anxiety, anxieties of pregnant women with Pregnancy-Induced Hypertension, and nursing support.

Pregnancy -Induced Hypertension

Pregnancy-Induced Hypertension (PIH) is defined as the development of hypertension induced by pregnancy appearing after the 20th week of gestation. (Cunningham, et al., 1997: 694). In the United States, the incidence is 5% to 10% of pregnancies (Cashion, 1999). The conditions are hypertension, with proteinuria or with edema, or both. The diagnosis of PIH is divided into three categories depending on the symptoms. They are preeclampsia(mild and severe) and eclampsia. Mild preeclampsia is diagnosed by development of hypertension with proteinuria, or edema, or both. Blood pressure is greater or equal to 140/90 mmHg taken at least twice, 6 hours or more apart. It is present with proteinuria, 300 mg. or more of urinary protein per 24 hours . Severe preeclampsia is diagnosed, if blood pressure is higher or equal to 160/110 mmHg by taken two occasions, 6 hours apart, and proteinuria is greater than 5 gm. in a 24-hour urine specimen (Cunningham,et al., 1997: 695), and there is a sudden weight gain of 2 lb./wk with edema–fingers, face, legs, and feet. Moreover, severe headache, epigastric or right upper quadrant pain,

thrombocytopenia, and impairment in coagulation occur (Magann & Martin, 1995: 158). Eclampsia is the most severe form of PIH. It is characterized by generalized tonic-clonic seizures, due to brain edema and very high blood pressure. Maternal convulsions can result in maternal death in approximately 15 % of such cases (Pillitteri, 1995: 403).

Although the causes of PIH generally remain unknown, several theories have been proposed. These are abnormal immunologic responses of the woman, hereditary factors, overall physiologic and psychological stress, placental parasites, nutritional excesses or deficiencies (especially protein deficiency) and endocrine disturbances. (Cunningham,et al., 1997: 698). PIH may result from vasoconstriction and vasospasm by decreasing prostacyclin (PGI_2) and increasing thromboxane (A_2) levels. In addition, unusual hypersensitivity of blood vessel to angiotensin II is suggested (Cunningham,et al., 1997: 701) .

Complications occur in various organs. They are reduced renal perfusion and filtration, decreased uteroplacental perfusion, peripheral hemorrhagic necrosis in the liver, pulmonary edema, blurred vision and blindness (Cunningham, et al., 1997: 702-712). Furthermore, CNS symptoms, such as headache and hyperreflexia, subcapsular hemorrhage, or seizure, also may cause maternal death (Willis, 1982: 797). The complications, placental insufficiency and infarction due to reduced uteroplacental perfusion, could cause intrauterine growth-retarded (IUGR) fetus, hypoxia, and possibly death (Noradechanon, 1993: 11). Notably, the damage of many organs and consequences caused by PIH could affect both maternal and fetal well-being.

The goal of PIH treatment is to prevent convulsion and to decrease harm to both mother and fetus from high blood pressure and then terminate pregnancy at the optimal time. Management depends upon the severity of PIH condition. In severe conditions, hospitalization is necessary for the patients to rest in order to control blood pressure and reduce any harmful affects with the optimal treatment. However, most of the patients with mild to moderate hypertension, without heavy proteinuria, may be managed at home (Cunningham, et al., 1997: 717) requiring only information of bed rest, food, and observation of abnormal signs and symptoms. If resting at home cannot alleviate or cannot control the symptoms, the patients must be admitted to hospitals. Consequently, they feel stress and increasing anxiety because of being separated from family and being unfamiliar with the new environment, and finally, these stresses may affect maternal and fetal well-being (Burstein,et al., 1974: 195; Crandon, 1979: 109-111; Lederman,et al., 1979: 94).

Anxiety

Anxiety is an emotional response of stress (Bolander, 1994: 283; Kennerley, 1990: 9; Kozier,et al., 1995:833; Lazarus, 1976: 69). Indeed, it is a part of everyday life which most people have experienced (Kennerley, 1990: 9; Taylor, 1994: 201). Anxiety is characterized by subjective feelings of tension, apprehension, nervousness, worry and fear (Lederman, 1984: 28). It is a feeling of helplessness also related to an impending or anticipated unidentified threat to the individual (Kozier,et al., 1995: 833). Spielberger (1972: 489) defines anxiety as an emotional reaction or pattern of response that occurs in an individual who perceives a particular situation. It may be

personal danger or threat irrespective of the presence or absence of objective source. Furthermore, it also relates to an apprehensive tension or uneasiness which stems from the subjective anticipation of imminent or impending danger. This source is largely unknown or unrecognized, but creates an alarm reaction appearing whenever there is a threat to the organism (Graham & Conley, 1971: 114; Kennerly, 1990: 9-10). In addition, it is a subjectively painful warning of impending danger, that motivates the individual to take corrective action to relieve the unpleasant feelings. We cannot know exactly how the patients feel, except their facial expressions and manner (Keawkingkaew, 1984: 167). It has been shown that an unpleasant experience associated with the perception of real or with imagined threat affect psychological, physical and behavioral components (Walker, 1990 cited by Weber, 1996: 197). Therefore, these investigators concluded that anxiety is a state of mental uneasiness, nervousness, tension, insecurity, and unknown situation. These make individual feel threatened, resulting in mental and physical responses.

Anxiety is an inevitable result of the attempt to maintain equilibrium in a changing world (Kneisl, 1992: 85). Generally, situations of frustration, conflict, or stress that threaten the physical or mental security of an individual produce anxiety (Bolander, 1994: 284). When an anxiety occurs, the person usually cannot identify its exact cause, but he or she can tell the feeling at that moment. The general causes of anxiety have been classified into two major kinds of threats (Kneisl, 1992: 85; Stuart, 1995: 333-334); as follow:

1. Threats to biologic integrity: they are actual or impending interference with basic human needs, such as the needs for food, drink, or warmth. Some conditions

may decrease capacity to perform daily living activities e.g., illness, traumatic injury, the normal biological changes during pregnancy etc.

2. Threats to the security of the self: unmet important expectations to self-integrity, unmet needs for status and prestige, anticipated disapproval by significant others, inability to gain or reinforce self-respect or to gain recognition from others, guilt, or discrepancies between self-view and actual behavior.

Not only does it affect biologic integrity and the security of the self, but also easily can be communicated interpersonally e.g., from mother to baby, from patient to nurse, or from nurse to patient, etc. However, this communicated anxiety is not as severe as threats to self-security. Suwonnakote (1984: 417) suggested some predisposing factors of anxiety as follow;

1.The nature of stressors: they are meaning, significance, severity, type, amount, period, beforehand knowledge, and past experience of these stressors.

2. Personal nature: they are factors, which affect adaptation, personal development, life style patterns, and feeling expression.

Lader &Marks (1971: 32-36) found that anxiety level also was affected by sex, age, heredity, past experience, and cultural factors. Especially, young adults feel anxious more than other age groups. Linn's study (Linn, 1980:1022-1023) revealed that factors related to anxiety were genetic. The person who is thin, slim and tall feels anxious easily. Psychological factors e.g., anxiety in early life will be a stimulus for anxiety in later life. Furthermore, age and personality development may result in different anxiety levels. Social, cultural, economic, and political factors and law could affect or threaten mental status. Individual differences of learning may also be an

additional factor. Thus, the nurse may identify the presence of an anxiety–provoking situation for the patient, such as an impending hospitalization. It should be noted that individuals of the same age and socioeconomic status could react entirely differently. In addition, Nyamathi & Kashiwabara (1988: 168) found that anxiety had a negative correlation with age.

Anxiety may be divided into 2 types (Spielberger, et al., 1983: 1):

1.State anxiety or A-state refers to an acute situational, specific, transitory emotional state that does not persist beyond the provoking situation. The person perceives the pressure from situations that create feelings of tension, apprehension, nervousness, and worry. The anxiety level depends on the severity of event or stressor.

2.Trait anxiety or A- trait refers to relatively stable individual differences in anxiety- proneness. This is a part of personality that is related to heredity, past experience, present emotion and thoughtfulness. It is greatly influenced by each individual's past experience.

The degree and duration of anxiety demonstrated by each individual varies depending on the meaning of the event and personal traits (Niwatchai, 1985: 1112). Generally, anxiety is categorized into four levels (Keltner,et al., 1991: 355-357; Kneisl, 1992: 86; Kozier, et al., 1995: 833):

1.Mild anxiety: it produces a slight arousal state that enhances ability to deal with the stressor, where the perceptual field widens slightly and there is heightened awareness. It is able to focus on what is happening and provide increased attention to solve problems. This kind of anxiety can motivate learning and produce growth and creativity.

2.Moderate anxiety; in which the person focuses only on immediate concerns: it involves the narrowing of the perceptual field and blocks out selected areas. However, the patients can attend to more problem solving.

3.Severe anxiety: the perceptual field is greatly reduced and disoriented, unaware of environment, unable to focus on what is really happening. The patients will focus only on one specific detail of the situation generating the anxiety.

4.Panic anxiety: it is a period of intense fear, with a completely disrupted perceptual field. Learning is impossible, out of control. Feeling of unreality may include hallucination, aggressive behavior, and depression.

In summary, mild to moderate anxiety may be beneficial and heighten one' s capacities to learn and solve problems whereas severe and panic levels paralyze or overwork capacities resulting in loss of control.

The effect of anxiety is manifested by symptoms from each category: physiological, biochemical, emotional, or cognitive. Symptoms are varying according to the level of anxiety. (Carpenito, 1995: 127-128; Chisholm, 1993: 191; Kozier, et al., 1995: 833; Stuart, 1995: 329-331):

1.Physiological dimension: the symptoms originate from the sympathetic nervous system. The effects include increased heart rate, elevated blood pressure, hyperventilation, pupil dilatation, dry mouth, tremors, sweaty palms, hot and cold flashes, insomnia, nausea and/or vomiting, frequent urination, or diarrhea.

2.Biochemical dimension: it has been noted there are increases in blood hormone e.g., epinephrine, norepinephrine, and adrenocorticoid hormone. These hormones regulate electrolyte balance and metabolism.

3.Emotional dimension: there are impatience, uneasiness, restlessness, grief, crying, and terrible dream.

4.Cognitive dimension: many processes are involved, such as blocking of thoughts, forgetfulness, errors in judgement, poor focus, lack of attention to details, distorted perceptual field.

In conclusion, anxiety affects physiological, biochemical, and cognitive conditions. Thus, the importance of nursing care should be to recognize these effects from mother to fetus.

The following methods (Chisholm, 1993: 188-196; Kneisl, 1992: 87; Stuart, 1995: 329; Wilson-Barnett, 1992: 377-379) can assess anxiety:

Physiological measures: several physiological indices have been used in the measurement of anxiety e.g., heart rate, blood pressure, respiratory rate, and body temperature. The poor correlation of these methods to psychological tests is due to the fact that these measures may be seen as indices of arousal rather than anxiety.

Psychological measures are composed of :

1.Behavior measure of anxiety: performed by observing changed behaviors from movement, perception, or dialogue. It is believed that personal behavior is a reflection of emotion; being observed, these are nervousness, sighing, crying, or rapid speech. Finally, the nurse will be able to assess emotional reactions to anxiety by a subjective description of the patient's personal experiences (Graham & Conley, 1971: 114).

2. Self-report measurement of anxiety: it is the measurement of self-perceived feeling by answering and assessing the level of anxiety. The instrument most used is the State- Trait Anxiety Inventory (Spielberger, et al., 1970).

In Thailand, it was used in many studies; for example, in primipara parturient (Baosoung, 1983), in post Cesarean Section (C/S) women (Pattiya, 1987), in primigravida women during pregnancy and labor period (Chuahorm, 1991), and in women pregnant for the first time with preeclampsia (Kanjanasorn, 1992). Somanusorn (1993) measured anxiety levels in primipara mothers while Chirakool (1996) studied postpartal mothers with jaundice babies. Recently, Junkhow (1998) and Rotchanapraditse (1998) assessed women experiencing preterm labor.

The Relationship between Stress and Anxiety

Lazarus and Folkman stress theory defines stress as a particular relationship between person and environment that is appraised by the person as taxing or exceeding his or her resources. Spielberger's concept (1972: 30-31) explained an anxiety as a stressful event when the person perceived harm to mental or physical health and appraised this as threatening. The result of emotional response is anxiety. The relationship between stress and anxiety found that stress is the introducer, not the effect of an action (Carter, 1976: 178) whereas anxiety is an emotional response to stress (Lazarus, 1976: 69).

Anxiety of Pregnant Women with Pregnancy-Induced Hypertension

Moore (1983: 226), and Jones (1986; 111-128) found that pregnant women with unplanned pregnancies or high-risk pregnancies and unsatisfactory labor showed higher levels of anxiety. These conditions were pregnancy-induced hypertension, premature labor or dead fetus in utero. The women feel that the pregnancy cannot continue normally as expected. Emotions, such as guilt or blame, may occur if the pregnant women believe that their health caused the risk situation. Thus, the pregnant women with PIH who were accepted as high risk must receive close observation and care in order to prevent harmful complications to themselves and their fetuses. The effect of hospitalization has been shown to increase stress and anxiety (Chatphothong, 1993: 131).

Bed rest in the hospital is often prescribed for women experiencing complications of pregnancy. It has become an accepted strategy for preserving fetal and maternal well-being. However, the effects of long-term hospitalization in high-risk pregnant women found that they feel more anxious (Monahan & Dejoseph, 1991 cited by Puargtes, 1997: 31). Consequently, anxiety had a potential impact on labor and the well-being of the newborn (Burstein, et al., 1974: 195; Crandon, 1979: 109-111; Lederman, et al., 1979: 94; Stanley, et al., 1979: 22). In addition, other emotions happening include loneliness, mood swings, loss of control, powerlessness, helplessness, and boredom. These resulted from their inability in controlling their pregnancies (Loos & Julius, 1989: 54; Maloni, 1996:317; White & Ritchie, 1984: 47-57). Moreover, the patients often have situational stresses during hospitalization relating to their sickness, dependence role, lack of control, and activity restriction. The

main alterations are changing daily living and life style (sleep and mealtime), unfamiliar environment, lack of privacy, and being restricted under hospital regulation (Gupton, et al, 1997: 425-426). The patients may lose the capacity to work during a long-term hospitalization. This results in economic problems (Intarasombut, 1993: 7; Wilson- Barnet, 1976: 351-358).

The anxiety of hospitalized PIH pregnant women can be measured by STAI form Y-I (Spielberger, et al., 1977). The nurse's assessment is according to this guideline (Kanchanasorn, 1992: 42):

1. It should be realized that the hospitalized pregnant woman could be anxious from illness, activity restriction, family and economic problems and other concerns.

2. It should be realized that anxiety is the result of frustration or unmet expectation that wants to be expressed. The pregnant woman with PIH, reversing from expected normal to real high-risk pregnancy, will become anxious. So, nurses should help them to express feelings of frustration, and unmet needs by individual listening to their concerns or observing via group discussion in order to assess the real anxiety.

3. It should be realized that the pregnant women have more tendency to experience a high level of anxiety. Nurses should be sensitive to their needs and behaviors.

Nursing Support

According to Lazarus and Folkman (1984), cognitive appraisal and coping occur in stressful situations and mediate distress. Stress is defined as "a particular relationship between the person and the environment". Coping is defined as

"constantly changing cognitive and behavioral efforts to manage specific external and /or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus and Folkman, 1984: 141). Coping has two main functions. Emotion-focused coping regulates the distressing emotions caused by encounter. Problem-focused coping is directed to management of a problem through a direct instrumental action that alters or mitigates the source of the stress (Lazarus and Folkman,1984: 148-153). Coping is a constantly changing process, therefore, people will cope it differently at different times, depending on their changing situations. The ways people actually cope also depend heavily on the resources that are available to them and the constraints that inhibit uses of these resources in the context of the specific encounter. Coping resources include health and energy, positive beliefs, problem-solving skills, social skills, social support, and material resources (Lazarus and Folkman, 1984: 159-164).

Social support is perceived the social support given by whomever from society and the family (Lazarus and Folkman, 1984:164). It distinguished three types of functions; emotional, informational, and tangible support. Emotional support includes intimacy and attachment, reassurance, and being able to confide in and rely on another, which contributes to the feeling that one is loved or cared about. Tangible support involves direct aid or services. This support can include loans, gifts of money or goods, and provision of services such as taking care of someone who is ill or doing a chore for them. Informational support includes giving information and advice which could help a person solve a problem and providing feedback about how a person is doing (Schaefer, Coyne, and Lazarus,1981: 385-386).

The widely respected notion that social support has a stress-buffering function requires the demonstration of an interaction between support and stress (Cohen & Wills, 1985: 310-312; Lazarus & Folkman, 1984: 246; Schaefer, Coyne, & Lazarus, 1981: 387). Social support also acts directly and indirectly on health status. The perceived availability of social support is important in the stress and coping process. It is a relatively accessible resource, which can be utilized in intervention, presenting decreased anxiety and promotion of coping and adaptation. When the pregnant women with PIH appraised and perceived that they have high-risk pregnancy and hospitalization, anxiety was a typical emotional response. Nursing personnel can play a crucial role as social support in strengthening the patients' coping strategy through supporting and providing information until they are enable to control threats, such as PIH. Adaptational outcomes are social function, morale, and health status.

Pregnancy with PIH is a high-risk status that affects both women and family. Therefore, nursing support management should cover the responses to physical, mental, emotional, and social needs. These will help high-risk pregnant women to cope appropriately for decreasing anxiety. The support is understanding, talking, giving advice, and doing everything possible to promote individual coping (Reeder, et al., 1976 cited by Mcniven, et al., 1992: 3). This includes listening, instruction or giving knowledge, problem solving, giving consistency, usefulness, freedom in decision-making, eliminating borders and helping and respecting the pregnant women (Byrne & Sebastian, 1994: 35).

According to literature reviewed, nursing support is shown as follow (Kozier, et al., 1995: 843-845; Rimdusit, 1996: 17-27; Ruengyot, 1996: 18-19; Sangvanich, et al., 1988: 55-59):

Tangible support

1.Physical care: As restricted activity or bed rest, the patients should be provided comfortable conditions. The left lateral position or a position that makes them feel relax is mostly preferred.

2. Assessment of the progress and changing of PIH condition: Nurses should observe any significant edema generally limited to face, hands and feet, and blood pressure recording. Asking for the severe conditions, such as headache, blurred vision, epigastric or right upper quadrant pain, and body weight need to be performed and recorded.

3. Nursing personnel should provide an appropriate and adequate diet as well as fluid according to medical management. These include low salt diet, vegetable and fruit supplementation, carbohydrate restriction, high protein diet of at least 70 grams per day, and an interview about food habits which hinder the therapeutic management.

4. Assessment of sleep pattern and method of sleeping can be observed from patient's facial expression and posture.

5. Nursing personnel have to assist pregnant women who have headaches, epigastric pains, or emotional disturbances from disease. This management involves medication, or using relaxation techniques by effective deep breathing, meditation, reading books, and sleeping.

Emotional support

Besides, physical care during hospitalization, the pregnant women will be anxious. Therefore, receiving continuous care from the time of admission on ward will assist them in feeling confident and having power to cope.

1. Each nurse should construct a good warm relationship with a smiling face, introducing herself, and expression of willingness. Offering to help, talking with respect, using a soft tone of voice which is easy to understand, or maintaining identity by addressing patient's name are very essential.

2. It is necessary to take time, and calmly listen while the pregnant women express their anxiety. Assess their needs and anxiety about hospitalization, personnel, and environment from observing behavior; inquiry or statements are important. Nursing personnel should allow the patients to verbalize questions and concerns and answer any questions with willingness. However, the personnel should not express pity for them. The personnel have to explain what will happen during hospitalization and reasons for the treatment and nursing care that they will receive.

3. The personnel need to assess fetal well-being from listening to and recording the fetal heart rate, inquiring about daily fetal movements (FM) and giving information of fetal well-being after each examination to the patient.

4. Supporting and sympathizing with touching: This can be performed by hand touching. The personnel should accept the patient's emotions such as anger and uneasiness without a bored expression.

5. The personnel may act in an intermediary role between a pregnant woman and her husband, or family by keeping them informed of the progress of disease and management.

6. The personnel should manage the patients with confidence, esteem and respect as a person, avoiding use of technical terms or talking with a whisper that makes them feel anxious.

Informational support

1.When giving information about hospital regulations, environment, and usual nursing care, personnel should inform the pregnant woman and family about visiting times, location of facilities in the patient unit e.g., rest room, nurses' station, nursing care time (bathing time, vital signs measurement, and medication time). The woman and her family should also informed of other treatments e.g., recording of body weight in the morning, urine protein examination, time and type of nutrition ect.

2. The personnel need to provide information regarding the disease and management by using an easy explanation, telling how they can operate and assist to allay the symptoms until they can rest at home.

3. Advise the relaxation methods such as meditation, reading a funny book, sleeping, relaxation training, deep breathing, and relationship with others.

4. Encourage friends and families to visit, support, and talk without bringing uneasiness.

5. Giving economic information by estimating expenses.

In Thailand, several studies focused on the effects of nursing support to decrease anxiety and stress. Baosoung (1983, 89-91) studied the effects of planned

instruction and touching on anxiety level and coping behavior during labor. It was found that giving information to parturients and allowance to verbalize questions could decrease anxiety in those who stay in an unfamiliar environment. In addition, touching helps them feel they have friends, warmth, and confidence. It was a method to support the pregnant women and make them feel confident. The samples who received planned instruction and touching had the least anxiety score, significantly different from the group which receiving usual care. Pattiya (1987, 70) studied the effect of systematic instruction in primipara delivered by cesarean section. The result showed that the group, which received systematic instruction, could be better in adaptation to motherhood and had statistically significant lower anxiety levels than the group, which received usual instruction.

Kanchanasorn (1992, 77) also examined the effects of formal information on the level of anxiety and satisfaction in primigravida with preeclampsia. Her findings revealed that formal information could decrease anxiety and increase satisfaction. Similarly, Chirakool(1996,44-45) studied the effect of educative and supportive intervention on anxiety of postpartal mothers with jaundice babies. The study showed that the mean score of anxiety, 48 hours later, in the experimental group was significantly lower than the control group. Tarasak(1997: 31) examined the relationship between coping-support nursing care (tangible support, emotional support, and informational support) and anxiety of parturients. The findings revealed that the anxiety was middle level in patients who perceived coping-support nursing care and in high level of both by whole and each subscale. Moreover, coping-support-nursing care had negative statistically correlation with anxiety of parturients.

Rotchanapraditse (1998: 48-51) tested the effect of support and information giving on anxiety and satisfaction of nursing in women experiencing preterm labor. The finding indicated that an experimental group, which received support and information giving with usual nursing care, had statistically significant less anxiety scores and higher satisfaction scores than a control group.

The main purpose of nursing care for hospitalized pregnant woman with PIH is solving and relieving cause of anxiety. Besides physical care, the role of nurse is to realize that mental, emotional, social or informational support are also equally important. These can promote a pregnant woman's self-confidence and coping-competency. Consequently, the patients can reappraise anxiety of situation according to perceived resources from nursing support. The support will be successful if nursing personnel have a standard of performance. This standard should specify the objectives, nursing guideline and outcome from the patients.

In conclusion, the review of literature indicates that Pregnancy-Induced Hypertension is a risk condition for maternal and fetal health. It is the situation that pregnant woman have to confront when required to stay in a hospital. This causes anxiety. Therefore, nursing personnel is one of the important social support teams. They care for pregnant woman on the basis of human needs' including physical, mental, emotional, and social conditions. This makes the patients use and contribute resources from the environment to decrease anxiety during hospitalization. In the present study, the Lazarus and Folkman's stress theory was used to examine the effect of nursing support on anxiety level in pregnant women with PIH. The study was started in a period of early diagnosis of PIH. It is helpful to decrease stress and

anxiety. This enables the patients to adjust themselves properly, create understanding and co-operation. This results in both maternal and fetal well-being that allows women continue their pregnancy normally until labor.

CHAPTER III

MATERIALS & METHODS

This study was a quasi-experimental research design to determine the effect of nursing support on anxiety of pregnant women with Pregnancy-Induced Hypertension.

Population and Sampling

Population in this study was the pregnant women with Pregnancy-Induced Hypertension (PIH) who were admitted in the Inpatient Unit No.3 at Obstetrics-Gynecology Department, Faculty of Medicine, Ramathibodi Hospital, during June to November 1999. The inclusion criteria were:

1. Free from other pregnancy complications such as diabetes mellitus, chronic hypertension, and renal diseases.

2. Without any demonstrated psychological problems (psychosis or neurosis).

3. No previously hospitalization for the present pregnancy.

4. Ability to read, write, and comprehend Thai language.

5. Willingness to participate in the study.

The exclusion criteria were the pregnant women who had severe PIH and were transferred to the Labor room for intensive treatment or who were hospitalized less than 3 days.

Sampling is based on the principle of Polit and Hungler (1983: 426-7). It suggested that the sample size should consist of 20-30 cases. In case of comparison, the number of samples in each group should not be less than 10 cases, depending on the number of variables. In this study, the sample size is calculated from the group number x variable x constant (10) = 2 x 1 x 10 = 20. At least, the sample size is 20; however, to decrease the error of data, a greater sample size is more suitable to generalize (Thanooruk, 1994: 83). Therefore, the sample size for this study was 60.

In this study, there were two sample groups: experimental and control group, 30 cases each. Purposive sampling was used to select the samples. The experimental group consisted of the patients who received both nursing support and usual nursing care. The control group consisted of the patients who received only usual nursing care. All patients were free to have social contact with each other. In order to prevent contamination of nursing care between groups that may cause feelings of unequal or unfair comparison, the data collection began with the control group (from June to August), and then proceeded with the experimental group (from September to November). The resting time between groups was 5 days.

Setting

The Inpatient Unit No.3 in Obstetrics-Gynecology Department, Faculty of Medicine, Ramathibodi Hospital, provides health services for patients and education services for medical students, nursing students, and other health team members. The unit consists of 21 beds, and one single isolated room (2 beds) for infectious cases. It also provides a 24-hour service for high-risk pregnancy and complicated pregnant

women. When the pregnant women have a progression of labor or severe conditions, they are transferred to the labor room. In cases of fetal death or admission of a newborn baby to the Intensive Care Unit, the patients will be transferred back to this ward. Usual nursing care that the patients received include nursing activities from nursing staffs; take vital signs, assess fetal heart rate, assess uterine contraction, provide physical care, and provide general information. These activities did not restrict of the attendants, frequency, and timing for nursing care.

Instrumentation

The instruments of this study were composed of procedure research instruments and collected data instruments. Procedure research instruments included:

Nursing-support guideline during hospitalization based on Schaefer, Coyne, & Lazarus' concept of social support defining nursing activity which should be provided to support pregnant women's needs. There are 3 types: tangible support, emotional support, and informational support. The nursing support was provided by the researcher during 8 a.m. to 12 p.m., at least 1 hr., for 3 days. Tangible support included providing physical care, assessment of the progress and changing of PIH condition, assessment of sleep pattern, elimination pattern and provide an appropriate of diet. Emotional support included establishing relationships and take time to listen and support with touching while the patients express their anxiety. Nurses should respect the patients as a person by addressing their names. Provision of information support about the setting and personnel work, the disease of PIH, or management and practice and relaxation methods (Appendix D) also are included. A pamphlet for

providing information was based on "Knowledge and practice for pregnant women with Pregnancy-Induced Hypertension" and included causes, signs and symptoms, and management of Pregnancy-Induced Hypertension, and described being hospitalized or at home, and awareness of abnormal signs and symptoms. This pamphlet was given to review and understand all issues on first hospitalized day. The content was prepared by literature review. Five experts from the Maternity and Newborn Nursing and Instrumentation unit tested the content validity and appropriation of Thai language. Then, three pregnant women with PIH evaluated the pamphlet for clarity and ease of language before being used.

Instruments for data collection are:

1. **Demographic data form** was used. The descriptive information was sought from charts and interviews regarding age, education, marital status, occupation, family income per month, type of family, number of pregnancies, planned pregnancy, and history of previous hypertension, and type of patient.

2. **The State Trait Anxiety Inventory** (STAI, Form Y-1) (Spielberger, Gorsuch, & Lushene, 1977) was used to measure state anxiety. This STAI is a Likert-type, self-rating scale consisting of 20 items. Each STAI item is given a weighted score of 1 to 4 that ranges from "not at all" to "very much so". The anxiety-absent items for which the scoring weights are reversed on the S-Anxiety Scale are 1,2,5,8,10,11,15,16,19,20. The scoring weights for the anxiety-absent items are reversed, i.e., 4,3,2, or 1. A high rating indicates the absence of anxiety for ten items (e.g., "I feel calm"). The anxiety-present items are 3, 4, 6, 7, 9, 12, 13, 14, 17, 18. The scoring weights for the anxiety-present items are 1,2,3, or 4. A rating of 4 indicates the

presence of a high level of anxiety for the remaining ten items (e.g., "I feel frightened'). Scores for the S-Anxiety can vary from a minimum of 20 to a maximum of 80. Mild anxiety level was 21 to 40. Moderate anxiety level was between 41 and 60 and severe anxiety level was 61 to 80. The higher scores indicate the higher anxiety levels (Appendix C). In this study, the researcher used Chanwatana's Thai version of STAI form Y-1 (1977) to collect data.

Instruments validity

1.Procedure research instruments are the nursing-support guideline and pamphlet. Five experts and instructors in the Maternity and Newborn Nursing and Instrumentation unit established them for content validity. The guidelines and pamphlet were tested by a sample of 3-pregnant women before administration of the instruments into the study. The responses from the tested group were evaluated.

2.Instruments for data collection

The STAI form X-I was examined for construction validity by Spielberger, et al., (1970) using the known groups technique. The test was performed on 197 high school students, Florida University. They were tested in 4 different stress situations: normal, relaxation, examination, and stress movie. The results showed that the anxiety scores after examination were statistically significantly higher than other situations. Cronbach alpha reliability coefficients were .83 to .94. Cotchapakdi, Worakitpokathorn, and Nissaisuk translated this instrument to be a Thai STAI version. Somprasert (1983: 64) brought the Thai instrument to be reviewed for content validity by the Instrumentation and Language experts. In 1977, Spielberger, Gorsuch, & Lushene, had revised form X and replaced some new items. Then, Melynk (1994:

51) used the new form on unplanned childhood hospitalization mothers and found that the alpha coefficient was .95. The improved STAI (1977) was translated into the Thai language by Chanwatana, and was examined for content validity by 4 experts. The first test was performed on mothers who have preschool children hospitalized for the first time and the alpha coefficient was .89 (n=10). The language used in the new Thai STAI version is easier; therefore, it was selected to use in this study.

Spielberger,et al.(1970) examined data reliability for the STAI by using test-retest correlation and stability coefficients. The results showed that the reliability was relatively low, ranging from .16 to .54. These were due to the individual differrences of time and state of anxiety. Somprasert (1983: 64) tested the Thai STAI version (STAI, 1970), for reliability by the same method in the first year students, Faculty of Science, Mahidol University. The posttest was performed 24 days after the pretest, and found the data reliability was .27.

In Thailand, where the STAI form X-I (1970) has been used extensively in research and clinical practice, the alpha coefficients were between .82 to .93 (Chirakool, 1996: 36; Junkhow, 1998: 44; Pattiya, 1987: 58; Rotchanapraditse, 1998: 42; Somanusorn, 1993: 51; Tarasak, 1997: 46). Using the improved STAI Form Y-1 (1977), the alpha coefficient reliability in parents whose children were admitted to NICU was .88, (n=60) (Silprasert, 1999). In this study, internal consistency reliability of state scales using Cronbach's alpha in pilot study was .88 (n=20) and again for the full sample after the study was .87 (n=60).

Data Collection

Research Assistant Preparation

The research assistant, who is a registered nurse, was prepared to understand the STAI form Y-1 by receiving an explanation of the detail of each item. To decrease bias of the data, the blind technique was used. The assistant will use the instrument in the sample groups on the third day of hospitalization.

Procedure for Data Collection

1.Applying for permission to conduct research was performed by submitting the documents from the Faculty of Graduate Studies, Mahidol University, to the Dean of Faculty of Medicine, Ramathibodi Hospital, the Co-ordinator of Obstetrics and Gynecology Nursing department, and the head nurse of Obstetrics ward at Ramathibodi Hospital.

2.The medical records of the admitted pregnant women were screened for qualified women for this study. The control group was selected first (from June to August), and then the experimental group (from September to November). The resting period between groups was 5 days after the last of patients discharged.

The control group received only usual nursing care, while the experimental group received nursing support in addition to usual nursing care. The nursing support was provided by the researcher during 8 a.m. to 12 p.m., at least 1hr, for 3 days.

3. The pregnant woman who met the criteria for inclusion in the sample will be approached on the first hospitalized day. On the same day the patients were invited to participate in the study. An explanation of the study was presented to the patients by the researcher based on the protection of human rights. After obtaining the consent,

the pretest STAI (Form Y-1) questionnaire (first measurement) was handed to each participant. Then the experimental group received nursing support from the researcher approximately 30 minutes to 1 hr.

4. On the third hospitalized day, the assistant provided the posttest STAI (Form Y-1) questionnaire (second measurement) to the same participants for checking and completion the data.

5.The researcher collected and rechecked all data again.

6. The data were analyzed by statistical analysis.

Summary of data collection procedures is shown in Figure 2.

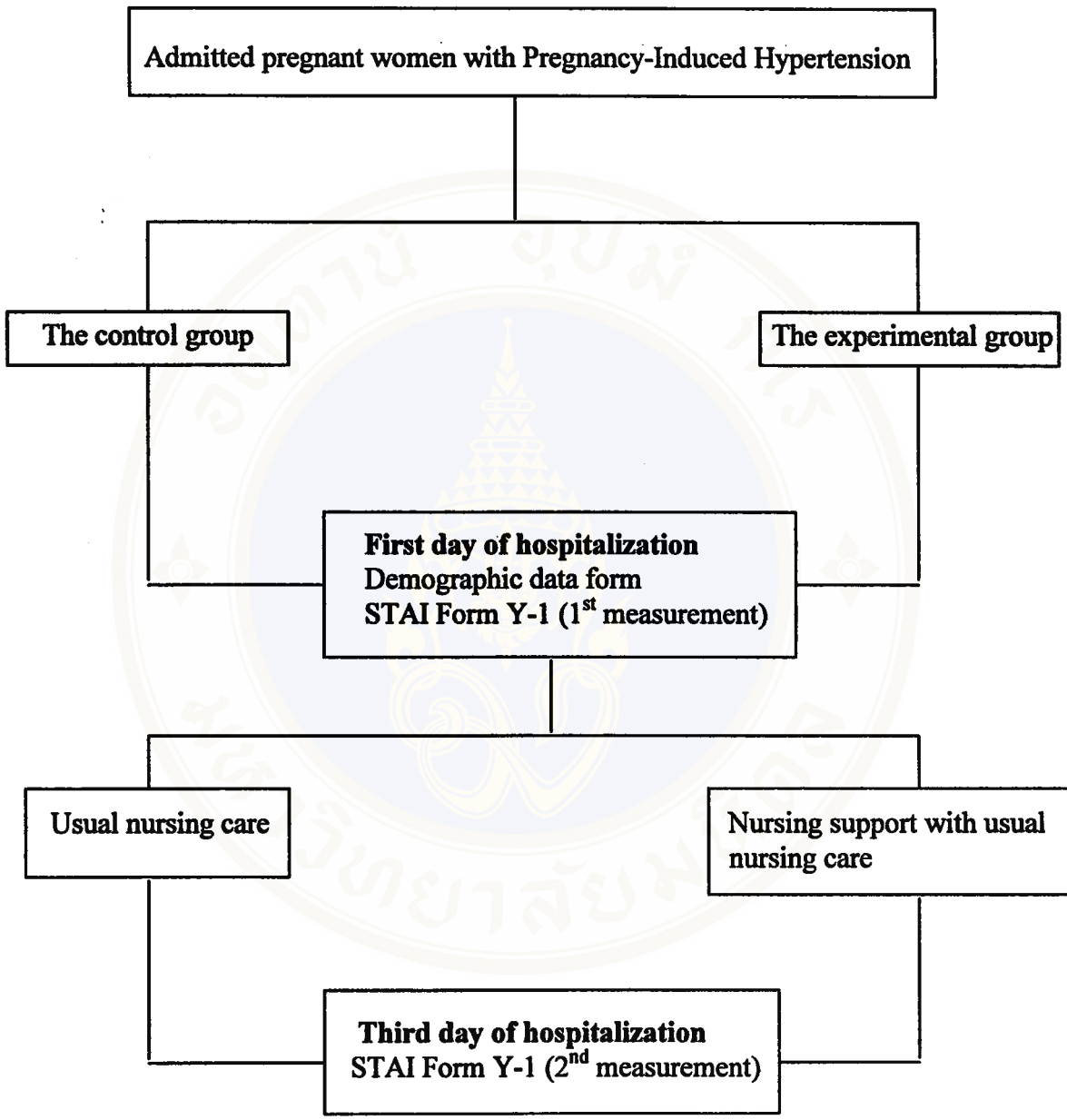

Figure 2. Data Collection Procedures

Data Analysis

All data were analyzed by using SPSS/FW (Statistical Package for the Social Science / For Window) version 7.5:

1. Descriptive statistics were used to describe demographic data such as age, educational years, family income per month, occupation, marital status, type of family, number of pregnancies, planned pregnancy, history of previous hypertension, and type of patient. Grouped t-test and Chi-square test were used for comparison.

2. Anxiety score changing in first and second measurements of both groups were shown by minimum values, maximum values, mean, and standard deviation.

3. Compare anxiety scores difference between first and second measurement within group by paired t-test.

4. To analyze the difference of posttest anxiety scores between groups, ANCOVA (Analysis of Covariance) is used for comparison and use pretest anxiety scores as covariate. (Indeed, the results from regression analysis showed that pretest anxiety scores could affect significantly on posttest anxiety scores).

CHAPTER IV

RESULTS

This study was a quasi-experimental research design to determine the effect of nursing support on anxiety of pregnant women with Pregnancy–Induced Hypertension. Findings of this study are presented as follow: characteristics of the sample, anxiety scores and the results of hypothesis testing.

Characteristics of the Sample

The total number eligible subjects for this study was 76 pregnant women. During the study, 16 dropped out because they were transferred to the labor room (12) (8 of control group and 4 of experimental group), and discharged in control group (4) before their completion of the third hospitalized day. A total of 60 subjects remained throughout the study.

In this study, there were two groups, control and experimental groups (30 patients in each group). As shown in Table 1, baseline characteristics of both groups were similar when examined with Kolmogorov Smirnov Goodness of fit test and it showed normal distribution. The mean age for the control group was 32.30 years (SD= 4.07, range = 20-39) and the experimental group was 32.07 years (SD = 6.07, range = 21-40). An average of education in the control group was 11.13 years (SD = 5.24), and in the experimental group was 10.17 years (SD = 4.49). Family income ranged

from 6,000 to 60,000 baht per month. The average family income per month was 16,430 baht (SD = 10,730.08) in the control group and 17,393.33 baht (SD = 8,945.43) in the experimental group respectively. All subjects in both groups were married and had no previous history of hypertension. Most patients were employed, 73.3 % and 86.7 % in the control and the experimental groups, respectively. The patients were from nuclear families in both control (83.3%) and experimental groups (73.3%). A half of the subjects were primigravidas. The majorities of subjects (more than 70%) had planned pregnancies and were service patients. When analyzed by t-test and Chi-square test, there were no statistically significant differences between the control and experimental groups in these parameters as shown in Tables 1 and 2.

Table 1. Comparison of the Characteristics of the Sample by Grouped t-test (n=30).

Characteristics	Control group			Experimental group			*t*
	Min-Max	Mean	SD	Min-Max	Mean	SD	
Age (year)	20 - 39	32.30	4.07	21- 40	32.07	6.07	.175^{ns}
Education (years)	4 - 20	11.13	5.24	4 - 18	10.17	4.49	.768^{ns}
Family income (Baht /month)	6,000 - 60,000	16,430	10,730.08	6,000 - 38,000	17,393.33	8,945.43	-.378^{ns}

^{ns} $p > .05$

Table 2. Comparison of the Characteristics of the Sample by Chi–square test (n = 30).

Characteristics	Control group		Experimental group		χ^2
	n	%	n	%	
Occupation					
Unemployed	8	26.7	4	13.3	.938[ns]
Employed	22	73.3	26	86.7	
Type of family					
Nuclear	25	83.3	22	73.3	.393[ns]
Extended	5	16.7	8	26.7	
Number of pregnancies					
Primigravida	15	50.0	18	60.0	.269[ns]
Multigravida	15	50.0	12	40.0	
Planned pregnancy					
Yes	22	73.3	23	76.7	1.000[ns]
No	8	26.7	7	23.3	
Type of patient					
Service	23	76.7	21	70.0	.085[ns]
Private	7	23.3	9	30.0	

[ns] $p > .05$

Anxiety scores and the results of hypothesis testing

Hypothesis 1 stated that "after receiving both nursing support and usual nursing care, the patients have anxiety scores less than before receiving nursing care."

In this study, the experimental group had anxiety score mild and moderate levels equally (46.7 %) on the first hospitalized day and the mean score was 42.73. After receiving both nursing support and usual nursing care, on the third hospitalized day most of the experimental group had mild level of anxiety score (80 %) and the mean score was 34.43. When tested by t-test, there was statistically significant difference (t = -6.561, p < .001). This indicated that the patients' anxiety score in the experimental group decreased after receiving nursing support and usual nursing care. Therefore, the results supported Hypothesis 1(Table 3 and 4).

Hypothesis 2 stated that "the patients who receive only usual nursing care show differences in the anxiety scores before and after receiving nursing care."

On the first hospitalized day, the control group had anxiety score in moderate level (60 %) and the mean score was 47.20. After receiving usual nursing care on the third hospitalized day, anxiety level was mild (43.3 %) and moderate level (53.3 %) and the mean score was 42.97 (Table 3). When tested by t-test, there was statistically significant difference (t = -2.544, p < .05). Therefore, Hypothesis 2, was supported (Table 3 and 4). Patients who dropped out from this study had moderate level of anxiety score in both groups.

The results showed that standard deviation of different compared mean (S_D) were higher than different compared mean ($\overline{D}$) in both groups. It showed more dispersion of data. To confirm the changes of anxiety scores (Table 3) used Wilcoxon

matched-pairs signed ranks test. It showed significantly difference of anxiety scores in both groups (in control group, $Z = -2.709$, $p < .01$, in experimental group, $Z = -4.533$, $p < .001$). By this reason, from both methods of analysis the results showed significantly different. The data were agreed with assumption of t-test, in this study tested by paired t-test.

Table 3 Frequency and Percentage of Anxiety Score Level of Patients in both Groups.

Level of anxiety score	Control group				Experimental group			
	pretest		posttest		pretest		posttest	
	n	%	n	%	n	%	n	%
mild	9	30.0	13	43.3	14	46.7	24	80.0
moderate	18	60.0	16	53.3	14	46.7	5	16.7
severe	3	10.0	1	3.3	2	6.6	1	3.3

Table 4 Comparison the Changes of Anxiety Scores of the Patients before and after Receiving Nursing Care in both Groups by Paired t-test (n= 30).

Group	Time	Min-Max	Mean	$\bar{D}$	S_D	*t*
Experimental	before	29-65	42.73	-8.30	6.93	-6.561***
	after	23-62	34.43			
Control	before	29-72	47.20	-4.23	9.11	-2.544*
	after	31-63	42.97			

* $p < .05$; *** $p < .001$

Hypothesis 3 stated that "the patients who receive both nursing support and usual nursing care have anxiety scores less than those who receive only usual nursing care".

The influence of patients' anxiety scores from pretest (1st measurement) to posttest (2nd measurement) was tested by regression analysis in each group (Cook & Campbell, 1979: 154). In this study, the result showed a statistical significance in the control group ($\beta = .538$, $t = 3.378$, $p < .01$). Similarly, in the experimental group, the result was also significant ($\beta = .655$, $t = 4.583$, $p < .001$). Thus, it led to a comparison of posttest anxiety scores between the experimental group and the control group by Analysis of Covariance (ANCOVA) by adjusting pretest scores as covariate. There was a statistically significant difference between the two groups of patients (F =

12.036, $p < .001$) (Table 5). It showed that after receiving both nursing support and usual nursing care patients had anxiety scores less than those who received only usual nursing care. Therefore, the results supported Hypothesis 3.

Table 5 Comparison of Patients' Anxiety Scores (posttest) between the Control Group and the Experimental Group by Analysis of Covariance (ANCOVA).

Source of variates	df	SSy	MSy	F	*p*
Covariates	1	1915.936	1915.936	41.981	.001
Main Effects	1	549.280	549.290	12.036	.001
Residual	57	2601.383	45.638		
Total	59	5066.600			

CHAPTER V

DISCUSSION

The results of this study demonstrate that nursing support significantly reduces anxiety in pregnant women with Pregnancy-Induced Hypertension (PIH). The results are discussed as follow:

The Effect of Nursing Support on Anxiety of Pregnant Women with PIH

In this study, on the third day of hospitalization, after receiving nursing support and usual nursing care, the experimental group had the anxiety score decreased from moderate to mild level (Table 3) which showed a significant decrease ($p < .001$) in the mean score of anxiety (Table 4). This supported Hypothesis 1 that "after receiving both nursing support and usual nursing care, the patients have anxiety scores less than before receiving nursing support". The resulted also showed that the mean scores of anxiety in the patients who received both nursing support and usual nursing care were less than those who received only usual nursing care ($p < .001$) (Table 5). This supported hypothesis 3 that "the patients who receive both nursing support and usual nursing care have anxiety scores less than those who receive only usual nursing care".

The patients had never experienced and did not know what to expect or what would happen in new situations, such as hospitalization with PIH. According to

Lazarus's stress theory, a stress is assessed by cognitive appraisal. When the pregnancy cannot continue normally, patients will appraise the irrelevant and severity of the stressful event. PIH is a novelty which creates uncertainty, threatening and harming both them and the fetus. Consequently, patients feel stress and anxious. A high-risk condition such as PIH will contribute to the patients concern about their fetal well-being. Furthermore, social relationships are restricted during hospitalization (visiting hours, or lack of privacy). For these reasons, perceived social support from social networks, husbands, relatives, and close friends are decreased. Most of the patients also lack knowledge and understanding of causes, signs and symptoms, management, and practice. The patients will appraise the severity of the stressful events by situational factors; for example, the number of pregnancies and severity of PIH. Other factors include personal factors such as, age, education, occupation, and family income. These factors create individual differences of commitments, beliefs, and intelligence for managing the events and selecting available resources. From the results, when analyzing those characteristics, it was found that there were no statistically significant differences in both groups. This suggests that their perceptions of events are similar. This agrees to Leelachaikul's study (1986: 59), which showed no statistically significant differences of age, education, occupation, and economic status on state-anxiety in different pregnant women. Stresses and anxiety depended on the severity of events. In addition, the differences of severity in each person are due to a stressor, meaning, personality, personal development, past experience, and life-security (Suwonnakote, 1984: 418). In this study, all the patients confronted similiar new situations. However, the experimental group received both nursing support and

usual nursing care: tangible support, emotional support, and informational support. Therefore, they would have optimal reappraisal and self-confidence to practice for reducing stresses and anxiety.

Regarding the reduction of anxiety, many studies (Albrecht & Rankin, 1989: 49-60; Kemp & Hatmaker, 1989: 331) revealed a significantly negative association between state-anxiety and social support. It has been demonstrated that social support was a resource or an environmental factor that appeared to enhance effective coping (Schaefer, et al., 1981: 385-386). The patients' husbands, relatives, and friends are their essential social supports. This includes the personnel in a hospital who provide warm caring, advice, and support. In the present study, most patients lived with their husbands and relatives. Therefore, they received social support from their families' visiting. The result was decreased anxiety. This was also supported by Tharasak's study (1997: 31), which showed a significantly negative correlation between state-anxiety and coping-support nursing care (tangible support, emotional support, and informational support). Thus, nursing support is a social support receiving from nurse that helps the patients to cope with and manage stressful situations effectively.

In this study, the experimental group received nursing support, such as, constructed relationships and tangible supports: nursing care, information of progress and management of disease. Allowing time for the patients and listening while they expressed their feelings, needs, anxiety, and problems during hospitalization or at home. Provision of emotional support, such as, reinforcement by appreciation when they do something right, acceptance of the patients' behavior, and encouragement to solve problems by themselves. Visiting the patients at the same time for 3 days was

also included. These emotional supports could lead the patients to believe that they were cared for, loved, and esteemed (Cobb, 1976: 300). In addition, they felt warm, confident and not alone, all of which decreased the anxiety. This agreed with Nonsrichai's (1993: 57) and Pingprasert's studies (1991: A) which found that in most of the experimental groups anxiety was reduced and self–esteem increased respectively after receiving counseling.

Besides emotional support, informational support was provided regarding the cause of disease and management during hospitalization or at home (rest, diet, fetal assessment, and mental relaxation). Moreover, the emphasis of follow up on each appointment, and observation of abnormal signs and symptoms, were provided in this study. By continued visiting every day, the patients and nurses could evaluate and manage together to solve the problem. The patients also were given knowledge and understanding of the optimal practice. In addition, the patients were given information in the pamphlet to review and understand. This pamphlet consisted of pictures and easy language to understand. The patients could review it by themselves when they wanted clarity and more details. The results of Pattiya's study (1987, 70) showed that the effect of systematic instruction in primiparity delivered by caesarean section, in the experimental group, was a significantly lower anxiety level, compared to the control group. This agreed with Kanchanasorn's (1992: 77) and Rotchanapraditse's studies (1998: 48-51) which found that supporting and informational giving significantly decreased anxiety and enhanced satisfaction.

As stated earlier, age, education, occupation, family income, number of pregnancies, planned pregnancy and type of patient were not significant differences in

both groups. These findings may be a result of the patients' situational appraisal on the first hospitalized day that was similar. Although receiving only usual nursing care, the findings for the control group revealed that most of the anxiety level on the first and the third hospitalized day were in moderate level (Table 3). However, the mean score of anxiety after receiving nursing care significantly decreased from 47.20 to 42.97 on the third hospitalized day ($p < .05$) (Table 4). Result supported Hypothesis 2 that "the patients who receive only usual nursing care show differences in the anxiety scores before and after receiving nursing care". The significant reduction of anxiety scores in the control group on the third day may be explained that during the data collecting period, these patients also received other care from many staffs, such as, physicians, nurses, various programs of students, and clinical nurse specialists at the same time. These cares included either emotional or informational support and affected patients'coping. Type of patient was other factor that affected on anxiety level. The private patients received some information from staff during prenatal care. But from the results showed no significantly differences. Moreover, the patients got a partial response from information about practices provided on the admission (before participation in this study). The researcher was not involved at this point and recognizes that such extraordinary outside "support" for the control group is a limitation affecting this study. Therefore, the patients' perceptions of the event were changed. The patients will have reappraisal and appraise the event as not quite harmful to them and their fetuses. Subsequently, the anxiety was reduced.

It is noteworthy that the social support in this study was the nursing support used in Schaefer, Coyne, & Lazarus' concept of social support (1981: 381-387). This

support allows makes the patients to understand and gain knowledge of disease and management. They will re-evaluate that the events are not severe and also receive emotional support by taking time and speaking out. These will decrease the anxiety, which is an emotional response of stress. By the results, it showed that the anxiety level in experimental group was mild level after received both nursing support and usual nursing care. In control group after received usual nursing care, the anxiety level was moderate level. Therefore, the patients who received both nursing support and usual nursing care had anxiety scores less than those who received only usual nursing care.

By the above reasons, the present findings demonstrate that usual nursing care the patients received could respond to the patients'needs. However, nursing support, and usual nursing care, also enhances responses (physical, mental, emotional, and social). Subsequently, the anxiety decreases. This result demonstrates the desirability of developing nursing care to create more effective and efficacious fulfillment of the patients' welfare.

Limitations

To prevent the cross contamination of nursing care, the data collection was firstly carried out in the control group and then in the experimental group. This resulted in a difference of environmental situation that may affect the anxiety scores in both groups. The population was not randomized but was selected by purposive sampling. As such, the results could be generalizable to a population similar to the

samples but not to other population groups. Additionally, the researcher could not control other instructions from other staffs providing their own nursing care.

CHAPTER VI

CONCLUSION

This study is a quasi-experimental research aimed to determine the effect of nursing support on anxiety of pregnant women with Pregnancy-Induced Hypertension (PIH). Lazarus and Folkman's (1984) theory of stress, appraisal, and coping was used as the conceptual framework of the study. This study was conducted using pregnant women with Pregnancy-Induced Hypertension (PIH) at the Obstetrics and Gynecology Department, Faculty of Medicine, Ramathibodi Hospital, who were admitted from June to November 1999. The sample size was 60, divided into 2 groups; the control and experimental group (30 cases in each group). The control group received only usual nursing care. The experimental group was provided both nursing support and usual nursing care. The purposive sampling was selected under inclusion criteria: a pregnant woman who has PIH, no medical complications (such as diabetes mellitus, renal disease, or chronic hypertension), no previous hospitalization during this pregnancy, ability to read, write, and comprehend Thai language, and is willing to participate in this study. The exclusion criteria were patients who have severe PIH and were transferred to the labor room or hospitalized less than 3 days.

The tools used in this research comprised nursing support guidelines and pamphlet, demographic data form, and the State Trait Anxiety Inventory (STAI) form Y-I (Spielberger, et al.,1977).

Data collection was selected to study the control group first in order to prevent contamination of nursing care. On the first day of hospitalization, both groups signed a consent form after receiving an explaining of the purposes of the study and the data collection procedures. Demographic data were collected first and then the STAI questionnaire was introduced by the researcher. The control group received only usual nursing care. After finishing the control group, the researcher provided nursing support in addition to usual nursing care for the experimental group for 3 days. On the third hospitalized day, both groups were reassessed by completion the STAI questionnaire. Data were analyzed by SPSS/FW 7.5 program.

The results revealed that:

1. After receiving both nursing support and usual nursing care, the patients had anxiety scores less than before receiving nursing support ($p < .001$).

2. The patients who received only usual nursing care showed significant differences in the anxiety scores before and after receiving usual nursing care ($p < .05$).

3. The patients who received both nursing support and usual nursing care had anxiety scores less than those who received only usual nursing care ($p < .001$).

Recommendations

Nursing practice

1. Nursing support should be included as a guideline in nursing practice. Thus, its significance should be emphasized in a conference or seminar of nursing to develop more effectiveness of nursing care.

2. An individual nurse should be assigned to take care of pregnant women during hospitalization. Nurses can apply nursing support (tangible support, emotional support, and informational support) combined with the usual nursing care.

3. Nurses should be concerned with and assess the patients' anxiety and perception on admission and during hospitalization. Nursing support should be developed by nurses to decrease stress and anxiety. In addition, nurses should collaborate with other personnel for providing effective care and support.

Nursing education

1.Nursing support should be included in educational programs for nursing students and nurses who work in maternal and newborn nursing facilities.

2. Nursing students should be assigned to practice clinical experience, such as individual nursing care for pregnant woman in order that they can apply nursing support to manage an appropriate nursing care plan.

Nursing research

1. Study the effect of nursing support on satisfaction of nursing is recommended.

2. Repeated study of nursing support in other groups such as Diabetes Mellitus and premature labor should be performed.

3. Studies in influential factors of the state anxiety scores such as trait anxiety and couple relationship are also important for control extraneous variables.

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APPENDIX

APPENDIX A

Human Rights for Research Population

For the control group

My name is Pranee Pongrua, a graduate nursing student, Nursing Department, Faculty of Medicine, Ramathibodi Hospital, Mahidol University. I am interested in a research study that determines the effect of nursing support on anxiety of pregnant women with pregnancy-induced hypertension. The results of this study will be beneficial to improving more effectiveness and quality of nursing care. I would like to ask for your cooperation by answering the demographic data and STAI questionnaire on the first hospitalized day and then do the STAI questionnaire again on the third hospitalized day. It will take you around 10 minutes. Your information will be confidential and used only in this study. Your name will not appear in reports or in other places. If you would not like to participate in this study, you can withdraw from the study anytime. This will not affect you in any way. If you have any question, I would be glad to explain them to you. If you decide to participate in this study please put your signature at the end of this paper. Thank you for your kindness

Pranee Pongrua

Graduate nursing student.

Signature.....

(.....)

participant

For the experimental group

My name is Pranee Pongrua, a graduate nursing student, Nursing Department, Faculty of Medicine, Ramathibodi Hospital, Mahidol University. I am interested in a research study that determines the effect of nursing support on anxiety of pregnant women with Pregnancy-Induced Hypertension. The results of this study will be beneficial to improving more effectiveness and quality of nursing care. I would like to ask for your cooperation and participation in this research by answering the demographic data and STAI questionnaires on the first hospitalized day and then do the STAI questionnaire again on the third hospitalized day. It will take you around 10 minutes. During the study, you will receive nursing support from me by visiting, helping, providing information of your disease. You also are informed any management, nursing care, and problem solving for three days. Your information will be confidential and used only in this study. Your name will not appear in reports or in other places. If you would not like to participate in this study, you can withdraw from the study anytime. This will not affect you in any way. If you have any question, I would be glad to explain them to you. If you decide to participate in this study please put your signature at the end of this paper. Thank you for your kindness.

Pranee Pongrua

Graduate nursing student

Signature.....

(.....)

participant

APPENDIX B

Demographic Data Form

H.N..... No.....

Direction: please fill out the blanks or put a mark ✓into ☐ in front of the relevant answer in each item.

1. Age.....years.

2. Educational level ..... years.

3. Marital Status ☐ Single ☐ Married ☐ Widowed/ Divorced/ Separated

4. Occupation ☐ Housewife ☐ Employee; identify.....

☐ Agricultural workers ☐ Civil servant

☐ Merchant/ Business

5. Family income (Baht per month) .....

6. Type of Family ☐ Nuclear ☐ Extend

7. Number of pregnancies.....

8. Planned Pregnancy ☐ Yes ☐ No

9. History of privious hypertension ☐ Yes ☐ No

APPENDIX C

State Anxiety Questionnaire

Name..... **Date**..... **No**.....

DIRECTIONS: A number of statements which you have used to describe yourself are given below.Read each statement and then put a circle around the number to the right of the statement to indicate how you feel **right** now, that is, **at this moment**.There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not at all	Somewhat	Moderately So	Very much so
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

Appendix D

Nursing Support Guideline

The purposes of nursing support are:

1. To provide tangible support (physical needs) and emotional support.

2. To provide informational support for reducing anxiety.

Steps of nursing include;

1. **Establishing relationship stage.** To establish a relationship intimacy and trust with a patient on the first day of hospitalization was performed by the researcher's introducing name, informing the purposes of the study, explaining nursing care that they will receive and spending time of nursing care. This stage will take time around 10 minutes. Then, the researcher will provide the general information including hospital rules, orders, regulations, and environment.

2. **Processing stage.** Nursing support will given by responses to physical needs, emotional support. The informational provision was at least 1 hr/d for 3 days.

3.**Terminate relationship stage.** The researcher will prepare to terminate the relationship on the third day of hospitalization after the patients complete their post test of STAI.

Nursing Support Guideline

Objective	Nursing Activity	Evaluation
The first time 1.To establish the professional relationship intimacy and trust with a patient.	1.smile, be polite, and introduce the researcher's name, status and institution. 2.Give information of research objective and nursing care according to nursing support guideline for 3 days. . . Give information of disease, management, practice during hospitalization or at home and the pamphlet was given to review and understand all issues again. . . .	Observe palients' reactions e.g. smiling and willing to talk to the researcher. . . Observe patients' interests and ask some questions back. .
The third time To provide tangible, emotional, and informational support. . .	1.Provide tangible, emotional and informational support following Nursing Support Guideline.	. . . .
To terminate nursing care.	Prepare to terminate nursing care by telling the patients that the activities of nursing care according to Nursing Support Guideline are complete. After that they can ask for help from other personnel in any way.	Observe facial, verbal, and feeling expression; no sign of angry or unsatisfactory from the patients.

APPENDIX E

Pamphlet for the Pregnant Women with Pregnancy-Induced Hypertension

The Content of Pregnancy Induced-Hypertension in each pamphlet includes:

Definition

Causes

Signs and symptoms

Management: during hospitalization, or at home

APPENDIX F

List of Experts Consulted on Validation of the Instruments

1. Assistant Professor Khannika Suwonnakote, Ph.D.
   Department of Nursing, Faculty of Medicine, Ramathibodi Hospital, Mahidol University.
2. Assistant Professor Gritsana Darnprachankul, B.Sc.(P.H.N.)
   Department of Nursing, Faculty of Medicine, Ramathibodi Hospital, Mahidol University.
3. Assistant Professor Porntip Wongvisetsirikul, D.N.S.
   Department of Nursing, Faculty of Medicine, Ramathibodi Hospital, Mahidol University.
4. Assistant Professor Nittaya Sinsuksai, Ph.D.
   Department of Obstetrics and Gynecological Nursing, Faculty of Nursing, Mahidol University.
5. Assistant Professor Yaowaluk Serisathien, D.N.S.
   Department of Obstetrics and Gynecological Nursing, Faculty of Nursing, Mahidol University.

BIOGRAPHY

NAME	Miss Pranee Pongrua
DATE OF BIRTH	3 May 1960
PLACE OF BIRTH	Bangkok, Thailand
INSTITUTIONS ATTENDED	Mahidol University, 1978-1982: Bachelor of Science (Nursing)
	Mahidol University, 1997-2000: Master of Nursing Science (Maternity and Newborn Nursing)
POSITION & OFFICE	1982-Present, Department of Nursing, Faculty of Medicine, Ramathibodi hospital, Mahidol University, Position: Nurse 6