DEPRESSION DURING PREGNANCY AMONG THAI TEENAGERS ATTENDING THE ANTENATAL CARE UNIT AT SONGKHLA HOSPITAL

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Abstract

Background: In recent years, the number of pregnant teenage mothers has been increasing around the world. In Thai society, this problem occurs primarily among teenagers whose families are experiencing social problems. As a result, these teens often suffer from a shortage of educational opportunities (Intronprasert & Thaneepanitskun, 1998). To seek an awareness of depression during pregnancy among teenagers would be a challenging process to many.

Aim:

- To assess depression levels during pregnancy in Thai teenagers.
- To compare depression levels between planned and unplanned pregnancies.

Methods: A descriptive cross-sectional design was used. Data was collected at an antenatal care unit from March to April 2012. The sample included pregnant Thai teenagers aged 15 to 19 years. Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale (CES-D).

Results: Of the 93 participants, 7.5 percent were classified as clinically depressed during pregnancy (CES-D ≥ 23); 39 percent as mildly depressed (CES-D 16-22); and 54 percent as not depressed (CES-D ≤ 15). It was found that pregnant teenagers who were planning a pregnancy were less depressed compared to pregnant teenagers who did not plan their pregnancy ($p < .05$).

Conclusion: The findings suggest that depression during pregnancy was a major problem in this group of Thai teenagers. Therefore, identifying and assessing interventions to reduce depression are essential in promoting mental health and preventing depressive symptoms.

Key words : Pregnant teenagers, Depression, Quantitative research, Adolescent, Planned pregnancy, Unplanned pregnancy

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Background

In recent years, the number of pregnant teenage mothers has been increasing around the world. In Thai society, this problem occurs primarily among teenagers whose families are experiencing social problems. As a result, these teens often suffer from a shortage of educational opportunities (Intronprasert & Thaneepanitskun, 1998). Statistics from the Ministry of Public Health, Thailand, revealed that the rate of pregnancy in mothers younger than 20 years increased to 14.7 percent in 2011, exceeding the benchmark set by the World Health Organization, which is below 10 percent (WHO, 2009). Currently, there are about 140 cases of teenage mothers giving birth every day (Ministry of Public Health, Bureau of Health Promotion, 2007). These statistics reveal that the situation of teenage pregnancy is a serious problem in Thai society. Because adolescent mothers have many problems, including conditions related to emotional instability, there is a high risk of stress and depression due to early age pregnancies, and the expected quality of life of infants born to these teens may be diminished as a result.

Teenage pregnancy has many effects on both mothers and infants. Several studies have demonstrated that teenage mothers are not ready to become pregnant (Bennett et al., 1999; Cohen et al., 2002). This may be because teenage mothers often lack the necessary physical, mental, social and economic skills. Even though pregnancy is a normal physiological change, pregnancy during adolescence can lead to a negative emotional state (Dean, Ducey & Malik, 1997). Teenage pregnancy was shown to have many effects on young women in terms of health-related problems, such as hypertensive disorder related to pregnancy, prolonged labor, preterm labor, genetic diseases, and increased maternal mortality rates (Intronprasert & Thaneepanitskun, 1998). In addition, newborn infants delivered by teenage mothers often have poor birth outcomes, such as low birth weight, prematurity and stillbirth, when compared to infants born to older mothers. These problems result in increased costs, which are most often borne by the government, each year. On the other hand, mental health problems often occur among pregnant teenagers (Intronprasert, & Thaneepanitskun, 1998). Since the psychological development of teenagers is somewhat fragile, lack of emotional maturity and experience make it difficult for these young women to serve as good mothers. Often, young women who are pregnant are ashamed, and they are sometimes forced to withdraw from their school or working life during a pregnancy. In this case, emotional conflicts in the mother can cause harm to the baby during the pregnancy. The fetus can suffer as a result of such maternal influences. Difficulties during the pregnancy can also result in birth abnormalities, which may lead to psychological disorders in children born to teenage mothers (Hofferth & Reid, 2002).

Depression during pregnancy can be a symptom of a broad range of differential diagnoses, from pregnancy-related hormonal influence leading to biological-psychological symptoms to severe mental disability. Identifying a pregnant woman with an undiagnosed depressive disorder (minor or major), a depressive phase of bipolar disorder, generalized

anxiety disorder, posttraumatic stress disorder, panic disorder, or simply a mother with symptoms of a normal pregnancy is challenging at best. In gathering a history of common pregnancy discomforts, one might identify similar symptoms found in mood disorders, such as weight loss, sleeplessness, appetite changes, decreased libido, difficulty concentrating, diminished energy, and depressed mood. Finally, to seek an awareness of depression during pregnancy among teenagers may be an important strategy to aid in the recognition of symptoms, the correct diagnosis, and early, appropriate management of patients. In other words, one could simply say that the importance of being concerned about the potential for depression in pregnant teenagers should be given greater attention by health care providers. Such careful attention may improve health care providers' ability to effectively care for these patients.

Conceptual Framework

The biopsychosocial model (BPS) is a general model that encompasses biological, psychological and social factors, all of which play a significant role in human functioning in the context of disease or illness (Santrock, 2007). Therefore, it is in contrast to the traditional, reductionist biomedical model of medicine, which suggests that every disease process can be explained in terms of an underlying deviation from normal function, such as a pathogen, genetic or developmental abnormalities, or injury (Engel & George, 1977). This concept is used in varieties fields such as medicine, nursing, health psychology and sociology. The biopsychosocial paradigm is also a technical term for the popular concept of the mind-body connection, which addresses more philosophical arguments between the biopsychosocial and biomedical models, in contrast to their empirical exploration and clinical application.

According to the previous section, the biopsychosocial model is a theoretical framework that could potentially be applied to understand patient perception and how the workings of the body can affect the mind, as well as how the functioning of the mind can in turn affect the body (Halligan & Aylward, 2006). This means both a direct interaction between mind and body as well as indirect effects. The biopsychosocial model presumes that it is important to handle the three together as a growing body of literature suggesting that patient perceptions of health and threat of disease, as well as barriers in a patient's social or cultural environment, appear to influence the likelihood that a patient will engage in health-promoting or treatment behaviors, such as taking medication appropriately, following proper diet or nutritional guidelines, and engaging in physical activity (DiMatteo, Haskard & Williams, 2007). Therefore, when depression during pregnancy exists, perhaps it is this element of increased risk which leads to an increased likelihood of disease.

Aim and Research Questions

Aim:

1. To assess depression levels during pregnancy among Thai teenagers.

2. To compare depression levels between teenagers with planned versus unplanned pregnancies.

Research Questions:

1. What is the proportion of depression during pregnancy among Thai teenagers?

2. What is the difference in the proportion of depression levels between teenagers with planned pregnancies versus teenagers with unplanned pregnancies?

Design and Setting of the Study

This study was structured using a descriptive cross-sectional design that recruited participants while they attended an antenatal care unit at Songkhla Hospital from March to April 2012. Participants who met the following criteria were eligible for the study. Thus, 92 pregnant teenagers were enrolled in the study. Criteria were delineated as follows:

1. Thai teenagers definitively determined to be pregnant
2. Possessing the ability to speak, read, write and understand the Thai language
3. Between 15 to 19 years of age
4. No diseases or complications during pregnancy; and willingness to participate in this study

Research Methodology

The instrument of this study was a self-report questionnaire. The following two measures were used in the study.

Part I: The demographic questionnaire was designed to assess personal characteristics. It consisted of 10 items regarding personal data such as age, religion, nationality, educational level, occupation, marital status, family members, family's monthly income, and adequacy of income in terms of family expenses. The person who provided advice and help to these teens during pregnancy was identified as part of this questionnaire, and questions about health and pregnancy information, such as whether this was a planned or unplanned pregnancy, were also posed.

Part II: Responses to the depressive symptoms questionnaire were measured using the Center for Epidemiologic Studies-Depression Scale (CES-D). There were 20 items used to measure depressive symptoms. The CES-D was translated into Thai by Dr. Umaporn Trangcasombat. The reliability of the CES-D was measured using Cronbach's coefficient alpha 0.86. The CES-D measures the frequency of depressive symptoms (e.g., crying spells, feeling fearful or lonely) experienced in the past week using a 0- to 3-point Likert scale, ranging from *rarely or none of the time* (0) *to most or all of the time* (3). Scores from all 20 items were summed to produce the total score, and higher scores indicated more depressive symptoms. The highest possible total score is 60. The recommended cut score for the CES-D is greater than or equal to 22; individuals who score less than 22 are not considered depressed (Trangkasombat, Larpboonsarp & Havanond, 2002). The CES-D has been widely used and was shown to have satisfactory validity and reliability in previous research in Thailand, with a Cronbach's alpha of .80 to .92 (Bennetts et al., 1999; Ross et al., 2005; Srisaeng, 2003; Thananowan & Kaesornsamut, 2010).

Ethical Considerations

1. We obtained permission to recruit for this study from the director of Songkhla Hospital.

2. We informed all staff members who would be involved in this study.

3. We obtained patient consent, including the completion of patient consent forms.

After obtaining ethics approval from the Boromarajonani College of Nursing, Trang some modifications to improve clarity of the information sheet and the consent form and feasibility of the proposed timetable were made in accordance with recommendations by the review committee. At this stage, individual consent was required for this study, and the letter of approval was presented to the director of Songkhla Hospital, where the study was to take place.

Informed consent was obtained on the same day the participant was recruited. Participants were informed that their participation in the study was voluntary and could refuse to answer any specific questions or could terminate their participation at any point during the study period without giving a reason.

Data Collection

Researchers approached the participants to introduce themselves and explain the purpose of the study. After they received an explanation of the study and were provided additional information, most of the participants felt encouraged about participating in the study. Participants' informed consent was obtained at this stage. In addition, participants younger than 18 years of age were required to give consent together with their parents.

Data Analysis

Outcomes were analyzed using the SPSS statistics software package for Windows. The descriptive statistics, including means, frequencies, percentages and standard deviations, were used to analyze the demographic data. Depression levels between teens with planned pregnancies versus teens with unplanned pregnancies were compared by using an independent T-test.

Results

The results were presented in two parts. Part I presents the demographic data of pregnant Thai teenagers (Table 1). Part II presents data related to depressive symptoms among pregnant Thai teenagers by CES-D. Table 2 shows the mean and standard deviation and the depression level as categorized by each item. Table 3 shows the depressive symptoms among pregnant Thai teenagers, and Table 4 shows the comparison of depression levels between planned and unplanned pregnancies.

Part I.Table 1: Demographic Characteristics of Participants (N=93)

Characteristics	Frequency (n)	Percentage (%)
Age (years)		
15	14	15.1
16	15	16.1
17	16	17.2
18	20	21.5
19	28	30.1
Mean = 17.35, SD = 1.44		

Part I.Table 1: Demographic Characteristics of Participants (N=93) (continued)

Characteristics	Frequency (n)	Percentage (%)
Religion		
Buddhism	76	81.7
Christianity	14	15.1
Islam	3	3.2
Marital status		
Single	15	16.1
Married	75	80.6
Divorce	2	2.2
Widow	1	1.1
Educational level		
Primary school	16	17.2
Secondary school	55	59.1
Bachelor degree	21	22.6
Others	1	1.1
Occupation		
Employee	19	20.4
Merchant	21	22.6
Farmer/ Gardener	12	12.9
Fisherman	1	1.1
Unemployed	40	43
Monthly family income (Baht per month) (5 Bahts = 1 SEK)		
Less than 5,000 Bahts	15	16.1
5,000 - 10,000 Bahts	59	63.4
10,001 - 15,000 Bahts	14	15.1
15,001 - 20,000 Bahts	4	4.3
More than 20,001 Bahts	1	1.1
Adequacy of income in the family expenses		
Sufficiency	60	64.5
Insufficiency	11	11.8
Uncertainty	22	23.7

Part I.Table 1: Demographic Characteristics of Participants (N=93) (continued)

Characteristics	Frequency (n)	Percentage (%)
Person who provided advice and help during the pregnancy		
Parents	68	73.1
Brother or sister	15	16.1
Spouse/partner	4	4.3
Friends	2	2.2
Others	4	4.3
Information about health and pregnancy		
Gestational age		
≤ 20 weeks	16	17.2
More than 20 weeks	77	82.8
Number of pregnancies		
Primiparous	63	67.7
Multiparous	30	32.2
Number of children		
1	69	74.2
2	22	23.7
≥ 3	2	2.2
Last child		
None	71	76.3
1 year	13	14.0
2 year	4	4.3
≥ 3 year	5	1.1
Abortion		
None	86	92.5
Once	6	6.5
Twice	1	1.1
Planned or unplanned pregnancies		
Planned	58	62.4
Unplanned	35	37.6

Table 1 shows that approximately one-third of the participants were 19 years of age. The youngest participants were 15 years of age, and the oldest participants were 19 (mean = 17.35; SD = 1.44). The most common religion was Buddhism (81.7 percent). About 80 percent of participants were married. The most common educational achievement was secondary school (59.1 percent). Forty-three percent of the participants were unemployed. About 63.4 percent had a family income between 5,000-10,000 Bahts (1,000-2,000 SEK). Sixty-four percent of the participants' families had adequate income to cover expenses. The most common person to provide advice and help to Thai teens during pregnancy was the parents (73.1 percent). About 80 percent of the participants were pregnant beyond 20 weeks, as estimated by gestational age. The majority of the subjects were primiparous (67.7 percent). Approximately 25 percent of the participants had no prior experience of pregnancy. About 90 percent of the participants reported no experience with abortion. About 60 percent of the participants had planned their pregnancies.

Part II. Depressive symptoms among pregnant Thai teenagers, as measured by the Center for Epidemiologic Studies-Depression Scale (CES-D)

Table 2: Mean and Standard Deviation of Depression Levels Categorized by Item (N=93)

Behavioral symptoms or feelings	Mean	SD
1. I was bothered by things that don't usually bother me.	.99	.67
2. I did not feel like eating; my appetite was poor.	.82	.78
3. I felt that I could not shake off the blues even with the help of my family or friends.	.68	.74
4. I felt that I was just as good as other people.	1.69	.97
5. I had trouble keeping my mind on what I was doing.	.65	.60
6. I felt depressed.	.55	.67
7. I felt everything I did was an effort.	.37	.55
8. I felt hopeful about the future.	1.34	1.09
9. I thought my life had been a failure.	.40	.59
10. I felt fearful.	.46	.54

Table 2: Mean and Standard Deviation of Depression Levels Categorized by Item (N=93) (continued)

Behavioral symptoms or feelings	Mean	SD
11. My sleep was restless.	.83	.67
12. I was happy.	1.35	1.12
13. I talked less than usual.	.52	.68
14. I felt lonely.	.54	.64
15. People were unfriendly.	.40	.68
16. I enjoyed life.	1.61	.94
17. I had crying spells.	.69	.61
18. I felt sad.	.54	.58
19. I felt that people disliked me.	.20	.43
20. I could not get "going."	.45	.58

Table 2 shows depressive symptoms among pregnant Thai teenagers as measured by the Center for Epidemiologic Studies-Depression Scale (CES-D). The highest mean scores occurred in item 4 (1.69), "I felt that I was just as good as other people," item 16 (1.65), "I enjoyed life," and item 12 (1.35), "I was happy," respectively.

Table 3: Depressive Symptoms among Pregnant Thai Teenagers (N=93)

CES-D score	Frequency	Percentage	Classification
0 -15	50	53.8	Not depressed
16 -22	36	38.7	Mildly depressed
23 - 60	7	7.5	Clinically depressed
Total	93	100	

Table 3 shows depressive symptoms among pregnant Thai teenagers, as measured by the CES-D. Based on Radloff (1977), the cut-off score for depressive symptoms with referral needs is ≥ 23. Scores of 16-22 on the CES-D were used to classify mild depression, and scores of 0-15 were used to identify no depression. Approximately 7.5 percent reported clinical depression. Approximately half of the participants reported no depression.

Table 4: Comparison of Depression Levels Between Planned and Unplanned Pregnancies (N=93)

Values	Mean	SD	T-test	p-values
Planned pregnancies (N = 58)	13.74	6.25	- 2.362	.02
Unplanned pregnancies (N = 35)	17.17	7.60		

* p < .05

Table 4 shows the comparison between the mean of depression levels among planned versus unplanned pregnancies. Teenagers with unplanned pregnancies had a significantly higher level of depression compared to teenagers with planned pregnancies.

Discussion

Discussion of Methods

The CES-D is a 20-item; self-report questionnaire developed as a research instrument to measure depression in the general population (Radloff, 1977). The instrument takes about 10 to 15 minutes to complete. The CES-D is a screening instrument, and elevated scores in and of themselves do not confirm the presence of clinical depression. The CES-D is not intended as a clinical diagnostic tool, and interpretations of individual scores should not be made. Group means should only be used in reference to other groups. The internal reliability and consistency is regarded as sound for all groups tested (race, age, education) (Radloff, 1977). In this study, reliability for the CES-D was determined by using Cronbach'a alpha coefficient, which was 0.85 with 18 pregnant Thai teenagers. Crobach's alpha coefficient is considered acceptable if it is higher than .70 (Polit & Beck, 2008).

Discussion of Results

The results of this study revealed that about half of the 93 participants reported no depression. One-third of the participants showed mild depression and about 8 percent (7.5 percent) showed clinical depression. Several studies have shown that depression is very common in women during the transition to parenthood and presents explicitly when compared to other life phases (Figueiredo, Pacheco & Costa, 2007; Figueiredo, Bifulco, Pacheco, Costa & Magarinho, 2006). In this study, the demographic characteristics related to depression during pregnancy were maternal age, lower educational level, marital status, occupation, family's monthly income, and number of pregnancies. The low prevalence of depression among young women was similar to the rate found in an American study (Hasin, Goodwin, Stinson & Grant, 2005). The absence of a spouse or domestic partner has been described as a risk factor for depression (Leigh & Milgrom, 2008; Webster et al., 2000) and is probably related to the lack of social support often provided by the presence of a companion. With respect to the characteristics of pregnancy, women who had a previous pregnancy, who did not plan their pregnancy, and who suffered any stressful situations during pregnancy had a higher probability of presenting with a depressive episode during the antenatal period.

In this study, women who thought about having an abortion were more likely to experience depression, which is in consonance with the results of a Japanese multicenter study (Kitamura et al, 2006).

One of the purposes of this study was to compare the mean of depression levels between teenagers with planned versus unplanned pregnancies. In this study, it is believed that this can be a consequence of expectations related to motherhood. Pregnant teenagers who plan a pregnancy suffer less frequently from depression than pregnant teenagers who did not plan their pregnancy, which is consistent with reports of other investigators (Bitto, et al., 1997) that differentiate depression in women with planned pregnancies from those with unplanned pregnancies with respect to age, maternal status, occupation, parity, and history of previous miscarriage. Women with unintended pregnancies were younger than those with a planned pregnancy. Pregnant teenagers who had a family and social support were less likely to be associated with depression. Lack of support has been the strongest factor associated with antenatal depression during pregnancy (Robertson, 2004).

However, the biopsychosocial model suggests that in the end, the interdependent factors (biological, psychological and social factors) all influence each other in an interdependent way. Depression can be caused by any number of factors which would, on their surface, appear to be independent from one another (Engel, 1977). Moreover, as one factor tends to influence others, it is probable to expect a physical reaction to a social or psychological stressor, and vice versa. This interdependent nature, or the manner in which various causes of depression affect one another, means that it is critical to take all factors into account when attempting to form an explanation of depression during pregnancy in teenagers (Engel, 1977).

Conclusions

The findings suggest that depression during pregnancy was a major problem in this group of pregnant Thai teenagers. Therefore, identifying and assessing interventions to reduce depression are essential in promoting mental health and preventing depressive symptoms.

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