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Self-Esteem, Social Support and Depression in Thai Adolescent Mothers*

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Abstract: Depression is an important determinant of poor health outcomes for adolescent mothers and their infant. Low self-esteem and a lack of social support are associated with risk factors of depression. In Thailand, research on depression among adolescent mothers is still limited, particularly on the potential impact of antepartum depression on the prediction of postpartum depression. This prospective study aimed to test the structural equation model of maternal depression and to determine how self-esteem, social support and antepartum depression influence postpartum depression among Thai adolescent mothers. A multi-stage random sampling method was used to obtain 340 pregnant women aged less than 20 years from four hospitals in Bangkok metropolitan. Pregnant adolescents completed the Center for Epidemiologic Studies Depression Scale, the Rosenberg’s Self-Esteem Scales, and the Inventory of Social Support Behaviors Questionnaire during the third trimester of pregnancy and at six weeks postpartum.

The results revealed that the model fit the data well (χ² = 84.82, df = 67, p-value = .9096, RMSEA = .000, GFI = .99, and AGFI = .97) and 84% of variance was accounted for, by five variables, postpartum depression. This best-fit model showed that each time point, self-esteem and social support had significantly negative direct influence on depression both in the antepartum and the postpartum periods. Antepartum depression had significantly positive direct influence on postpartum depression (β = .72, p < .000). In addition, 49.37% of adolescent mothers who experienced antepartum depression also experienced postpartum depression. Antepartum self-esteem and antepartum social support had significantly direct (p < .05) and indirect influences on postpartum depression. The results of this study indicate that early detection of antepartum depression may enhance nurses to identify adolescent mothers at risks of postpartum depression and prevent postpartum depression by improving adolescent mother’s self-esteem and social support.

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Key words: adolescent mothers, depression, self-esteem, social support

Introduction

Depression is an important determinant of poor health outcomes for adolescent mothers.1,4 Maternal depression has negative effects on behavioral and cognitive problems in children.5,14 Research in Western countries indicates that adolescent mothers experience high rates of depression both during the antepartum

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period (12%) and the postpartum period (14.9% to 53%). Affonso and colleagues' conducted a cross-country study and they found the differences in level of postpartum depression of women from nine countries. Although the sampled countries of Affonso and colleagues' study included Asian countries, Thailand was not included. The study of depression in Thailand may help to answer whether depression exists in Thai adolescent mothers. Furthermore, depression that occurs in the antepartum period is associated with depression that occurs in the postpartum period. It remains uncertain whether or not postpartum depression develops from antepartum depression.

Low self-esteem and a lack of social support are indicated as risks of maternal depression. However, most studies on the relationship among self-esteem, social support and depression have focused on adult mothers, particularly during the postpartum period. In the absence of adequate data for adolescent mothers in Thailand, a study of depression in adolescent mothers is important, particularly in the view of the potential impact of antepartum depression and expectations on the prediction of postpartum depression. Thus, the purposes of this prospective study were 1) to test the structural equation model of maternal depression in adolescent mothers, and 2) to determine the influences of self-esteem, social support, and antepartum depression on postpartum depression among adolescent mothers.

Review of literature

In Thailand, depression among adolescent mothers is poorly understood, especially during the antepartum period. It is not clear when Thai adolescent mothers are most likely to experience depression. Piyasil found that 23% of adolescent mothers were depressed by the third day after delivery. However, it is not clear whether these adolescent mothers were experiencing postpartum blues rather than postpartum depression because depression was measured so soon in the postpartum period. Striseng found that 54.0% of adolescent mothers were depressed at six weeks postpartum, but given the cross-sectional design of this study, it is impossible to know when depression began or how long it lasted. Adolescents may experience depression during pregnancy, and then lasts to the postpartum period or that depression might occur in the postpartum period.

Psychosocial factors such as self-esteem and social support have been found to be associated with maternal depression. Some researchers have demonstrated that lower self-esteem is a risk factor for maternal depression. In the recent year, although the studies focused on the relationship between self-esteem and depression were developed in Thailand, majority in adult mothers. Only one study in Thailand has been reported on the relationship between self-esteem and postpartum depression in adolescent mothers. Although it was found that self-esteem was a significant predictor of postpartum depression among a sample of adolescent mothers, the study cannot assumed that self-esteem can be a predictor of antepartum depression. In addition, conducted postpartum depression of adolescent mothers in rural areas and the results may not be suitable generalization to adolescent mothers in other regions of Thailand.

Recently, a few studies have been conducted on the relationship between social support and depression in Thai adolescent mothers during both in the antepartum and the postpartum periods. Wintysaprapai found that social support has negatively correlated with postpartum depression ($r = -0.314, p < 0.05$). However, 10.6% of the sample of the study was adolescent mothers. Study in adolescent mothers only might better be represented the relationship between social support and depression.
and postpartum depression in adolescent mothers. In order to capture the gap of the knowledge of maternal depression in Thai adolescent mothers, and in relation to self-esteem and social support, the research focuses on maternal depression in Thai adolescent mothers is needed to be explored.

Conceptual framework

The maternal depression model of adolescent mothers was illustrated based on the psychosocial development theory. An adolescent as a person needs to develop his or her own identity and cognitive abilities. A female at adolescent age is usually expected by society to be a good daughter who is still studying school rather than an acceptable mother. When pregnancy occurs prematurely, pregnant adolescents tend to be frustrated by the events of interrupted their development, results in being depressed mothers. Maternal depression is defined as feelings of involving depressed affect, positive affect, somatic and retarded activity, and interpersonal relationship that adolescent mothers have experienced during the past week in the antepartum period or the postpartum period. The model proposes that self-esteem and social support influence both antepartum depression and postpartum depression. In addition, antepartum depression influences postpartum depression.

Self-esteem is an evaluation of one's self-worth or acceptance. Positive self-esteem is inestimable to normal development because it provides resistance, strength, and capacity for regeneration. Self-esteem includes feeling of self-value and self-respect, and feeling of competence ability. According to Rosenberg, a person with high self-esteem has a self-attitude of respect and a number of merits, a sense of self-worth, and ability to measure weakness and strength accurately. A lack of self-esteem is often associated with a number of negative possibilities, including a sense of unworthiness and depression.

Based on the concept that social support improves health and well-being by increasing knowledge and providing reassurance of self-esteem, reducing stress and decreasing depression, inadequate support has been like with depression. Social support includes guidance, emotional support and tangible support. The functions of social support consist of increasing knowledge, providing reassurance of self-esteem, reducing stress and decreasing depression. Adolescent mothers who experience antepartum depression are expected to experience postpartum depression. Pregnant adolescents might be no more likely to cope by seeking social support and misinterpret support received.

The double-headed arrow (Figure 1) between self-esteem and social support indicates a nonspecific correlation between self-esteem and social support. One of functions of social support is provide reassurance of self-esteem. Adolescent mothers who have high social support also have high self-esteem because social support lead mothers to believe that support are cared for and love. In turn, low self-esteem can also lead to decrease social support. During the postpartum period, self-esteem and social support are defined as endogenous latent variables, which are influenced by antepartum self-esteem and antepartum social support, respectively.

In long-term effects, antepartum self-esteem has a negative direct influence on postpartum depression and has an indirect influence on postpartum depression via antepartum depression and via postpartum self-esteem. Concurrently, it is postulated that antepartum social support has a negative direct influence on postpartum depression and has an indirect influence on postpartum depression via antepartum depression and via postpartum social support.
In summary, as shown in Figure 1, the combination of having low self-esteem, a lack of social support and experiencing antepartum depression can be important factors in determining postpartum depression in adolescent mothers, both in the short term and long term effects.

Figure 1A Prospective Hypothesized Model of Structural Equation Modeling of Postpartum Depression among Thai Adolescent Mothers
Method

This prospective study was conducted in order to test the hypothesized model of maternal depression in Thai adolescent mothers. Pregnant adolescents completed the questionnaires two times: during the third trimester of pregnancy and at the sixth week postpartum.

Participants

Two offices of government were selected. Then, randomly sampling was performed to select two representative hospitals from each government office. A simple random sampling was used to recruit 280 pregnant adolescents, aged between 14 and 19, into the study. The following criteria were used for selecting the eligible participants: 1) being first-time pregnancy, 2) having gestational age between 32 and 38 weeks, and 3) Thai-language literacy. Adolescent mothers who gave birth to premature infant or lost custody of the infant were excluded.

Measures

The Center for Epidemiologic Studies Depression (CES-D) Scale, which was translated by Boonponginas, was used to measure depression. The CES-D Scale is a 20-item self-report questionnaire, which was designed to measure the current level of depression in terms of feeling occurrence during the past week including today. The CES-D scale consists of four major depressive symptoms: depressed affect, positive affect, somatic and retarded activity, and interpersonal relationship. The possible response of each item ranged from 0 (rarely or none of the time) to 3 (most or all of the time). The scores of 20 items were summed to create total score ranging from 0 to 60. According to Radloff, a score between 0 and 15 is considered "not depressed"; scores at or above 16 indicate depression. However, recent Thai studies have suggested a cutting point of 19 is suitable for Thai population. Thus, the researcher used scores at or above 19 for identifying depressed mothers for this study. In this study, the Cronbach’s coefficient alpha of the CES-D scale was .88 and .87 at the antepartum period and at the postpartum period, respectively.

The Rosenberg’s Self-esteem (RSE) Scale, which was translated by Sisiang, was used for measuring self-esteem. The RSE Scale is a 10-item self-report scale, which was designed to measure the level of feeling that people value themselves. The RSE scale consists of 9 dimensions: a feeling of self-value and self-respect and a feeling of competence and ability. The possible response of each item ranged from 1 (strongly disagree) to 4 (strongly agree). The scores of 10 items were summed to create a total score ranging from 10 to 40. A higher score indicates higher self-esteem. In this study, the Cronbach’s coefficient alpha of the RSE scale was .80 and .79 at the antepartum period and at the postpartum period, respectively.

The Inventory of Social Support Behaviors (ISSB) Questionnaire, which was translated and modified from 40 to 35 items by the researcher, was used to measure social support. Since this ISSB has never been used in Thailand before, the researcher utilized back translation method to investigate the equivalence of meaning between English and Thai languages. Experts, nurses in maternal and child health nursing field, and pregnant adolescents were invited to review this questionnaire for cultural appropriateness.

The dimensions of social support were assigned to three subscales: guidance, emotional support, and tangible support. The participants were asked to answer how often they received the various forms of help or assistance during the past month. The response of each item was ranging from 1 (never...
received) to 5 (received about every day), with a total possible score ranging from 35 and 175. A higher score indicates a greater support. In this study, the reliability of the ISSB questionnaire was .94 both the antenatal and the postpartum periods.

Personal profile of participants was done in order to collect personal information including maternal age, educational level, family income, number of family members, living with husband, planned or unplanned pregnancy, gestational age, type of delivery, and birth weight of her baby.

Procedures

Following the approval of the study by the Faculty of Graduate Studies, the Human Research Board of Mahidol University and the Ethical committee of each hospital, individuals willing to participate were identified by either the researcher or a research assistant. The pregnant adolescents who met inclusion criteria were approached. Those who agreed to participate in the study were asked to sign an informed consent form on protection of human subjects. Each participant was asked to complete three questionnaires in sequence: 1) The Rosenberg’s Self-Esteem (RSE) Scale, 2) The Inventory of Social Supportive Behavior Questionnaire (ISSB), and 3) the Center for Epidemiological Studies of Depression (CES-D) Scale. The Personal Profile finally completed. The approximate time for each participant took 30-40 minutes. Participants were reminded via mailing or telephone at the fifth week postpartum. At the postnatal care clinic, the six-week postpartum, the participants were approached and each participant was asked to answer the same three questionnaires including additional personal information data about type of delivery and body weight of the infant.

Analysis

The researcher utilized Statistical Package for the Social Sciences (SPSS) 11.5 program to analyze the characteristics of participants and the study variables. The Linear Structural Relationship (LISREL) 8.30 program was used for analyzing data in order to answer research questions. The accepted level of significance was alpha .05.

Results

Characteristics of the participants

The age of participants ranged from 14 to 19 years, with a mean of 17.56 (SD = 1.34), more than two-thirds (68.24%) had attained secondary education (M = 8.84, SD = 1.67). Fifty-two percent had family income in the range of 5,001-10,000 Baht/month (M = 6,770.71, SD = 4,662.63). Around sixty-two percent (62.35%) of the participants were living with 1 to 5 family members. The majority of the participant (92.94%) lived with their husband. Around two-thirds (64.12%) of the participants had unplanned pregnancy. Eighty-six percent of the participants had normal delivery, around half of the participants (58.85%) gave birth to a child with weight range 3,000 to 3,500 grams (M = 3,070.16, SD = 864.09).

The description of study variables

The results revealed that 47.06% of the participants experienced antenatal depression, whereas 14.71% experienced postpartum depression (Z = 2.46, p < .05). The mean scores of antenatal depression (M = 18.34, SD = 8.15) and postpartum depression (M = 20.25, SD = 8.84) were statistically different with t-value = 5.31, p = .000. The mean scores of antenatal self-esteem (M = 20.05, SD = 3.55) and postpartum self-esteem (M = 22.18, SD = 3.49) were statistically different with t-value = 4.49, p = .000. The mean scores of antenatal social support (M = 128.7, SD = 22.85) and postpartum social support (M = 120.59, SD = 24.96) were statistically different with t-value = 6.99, p = .000.
Model testing

Measurement model

The results of Confirmatory Factor Analysis (CFA) demonstrated that all of measurement models fit the data well (see Table 1). The results of an examination displayed non-significant levels of probability (p > .05), which was indicated the verification of the relationship among indicators and construct. The X^2/df ratio fell within the recommended levels of 1 to 2, with both GFI and AGFI values close to or equal 1.00 and RMSEA values close to or equal .00.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Chi-square</th>
<th>df</th>
<th>P-value</th>
<th>GFI</th>
<th>AGFI</th>
<th>RMSEA</th>
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<td>1.00</td>
</tr>
<tr>
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<td>1.00</td>
<td>1.00</td>
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<td>.013</td>
<td>.749</td>
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</tbody>
</table>

Note: GFI = Goodness of Fit Index, AGFI = Adjusted Goodness of Fit Index, RMSEA = Root Mean Square Error of Approximation, AP = Antepartum, PP = Postpartum

Structural Equation Model

Step one: Hypothesized model testing. The results indicated that a hypothesized model (see Figure 1) did not fit the sample data, as reflected by some poor goodness of fit index (X^2 (df, 118) = 716.25, p-value = .000, GFI = .61, AGFI = .72, RMSEA = .122). Frecking some parameters in order to adjust the model to achieve the best-fitted model was performed in the model modification step.

Step two: Model modification. The results showed the evidence that the fit of modified model was improved to the good fit model (X^2 (df, 67) = 34.89, p = .999, GFI = .99, AGFI = .97, RMSEA = .009). The best-fit modified model (Figure 2), by five variables, accounted for 84% of variance in postpartum depression among Thai adolescent mothers.

According to the modified model, the results showed that antepartum self-esteem and antepartum social support had significantly negative direct influence on antepartum depression among adolescent mothers (β = -.84, p < .001 and β = -.87, p < .001, respectively). Similar to the postpartum period, self-esteem and social support had significantly negative direct influence on postpartum depression among adolescent mothers (β = -.77, p < .001 and β = -.84, p < .001, respectively). Furthermore, the results revealed that postpartum self-esteem had an indirect influence on postpartum depression via postpartum social support with total indirect effect = -.04. Concurrently, postpartum social support had an indirect influence on postpartum depression via postpartum self-esteem with total indirect effect = -.10. In sum, total effect of postpartum self-esteem and postpartum social support on postpartum depression was -.81 and -.34, respectively.
Antepartum depression had significantly positive direct influence on postpartum depression ($\beta = .73$, $p < .001$) among adolescent mothers. Antepartum self-esteem had significantly positive direct ($\beta = .60$, $p < .01$) and indirect influence on postpartum depression. That is to say, indirect influence via: 1) antepartum depression ($\beta = -.40$), 2) postpartum self-esteem ($\beta = -.65$), and 3) postpartum self-esteem through postpartum social support ($\beta = -.95$) on postpartum depression. In sum, total effect of antepartum self-esteem on postpartum depression was -.48.

Antepartum social support had significantly positive direct ($\beta = .81$, $p < .05$) and indirect influence on postpartum depression. Thai is to say, indirect influence via: 1) antepartum depression ($\beta = -.20$), 2) postpartum social support ($\beta = -.11$), and 3) postpartum social support through postpartum self-esteem ($\beta = -.04$) on postpartum depression. In sum, total effect of antepartum self-esteem on postpartum depression was -.14. The explanation total effect, direct and indirect effect of influence variables was summarized in Table 2.

Table 2 Total, Indirect and Direct Effects of Influenced Variables on Affected Variables of Maternal Depression

<table>
<thead>
<tr>
<th>Influenced Variable</th>
<th>Antepartum Depression</th>
<th>Postpartum Self-estem</th>
<th>Postpartum Social Support</th>
<th>Postpartum Depression</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>DE</td>
<td>IE</td>
<td>TE</td>
<td>DE</td>
</tr>
<tr>
<td>Antepartum Depression</td>
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<td>-.64***</td>
<td>.71***</td>
<td>-.71***</td>
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<td>-.27**</td>
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<tr>
<td>Antepartum Social Support</td>
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<td>-.15*</td>
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<td>-.72***</td>
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<tr>
<td>Postpartum Self-Estern</td>
<td>-.13*</td>
<td>.12*</td>
<td>.24***</td>
<td>.24***</td>
</tr>
</tbody>
</table>
Discussion

The comparison of the rates of antepartum depression with other studies in Thailand might not be possible because of the difference in characteristics of participants and instruments used. Comparing with studies in western countries by using the same instrument could be possible. Despite the higher cutoff score (≥ 19) was used, this study showed the higher rates of antepartum depression (17.0%) in adolescent mothers than Barnett and colleagues' study. By using the cutoff score 16, Barnett and colleagues, found that 42% pregnant adolescents, aged 12 to 14, were depressed. If this current study used the cutoff score 16, the higher rates (66.66%) of antepartum depression would be found.

According to postpartum depression, this study could be compared to Hudson and colleagues' study, which was found that 53% adolescent mothers experienced postpartum depression. In Thailand, Sirasang study, of the sample were in which the same age ranges and the same instrument was used, found 54.6% of postpartum adolescent mothers rated depression scores of 16 and over. Despite using higher cutoff scores (10), this study found the higher rates of postpartum depression (54.71%) than Sirasang.

One possible explanation for the higher rates (χ² = 146.54, p < .05) and increased scores (t = -5.31, p = .000) of postpartum depression over antepartum depression is that this might be related to more difficulties in an adolescent mother's life. Difficulties for postpartum adolescents not only taking care of the baby without childcare experience and interpreting the baby's need but also household work can lead adolescent mothers to be depressed. A significance decreased levels of postpartum self-esteem from the antepartum self-esteem (t = 4.48, p < .000) might be related to their more responsibilities in childbearing. The results of this study are similar to Freeman and Rickels study, which suggested that childbearing leads to more responsibilities and difficulties resulting in a decreased level of self-esteem in adolescent mothers.

The decreased level of social support in the postpartum period might be the result of the social context of mother adolescent. Adolescent mothers who live in Bangkok tended to live with their boyfriends, which is one needs to rely on oneself. This could be implied the utilization of fewer social support resources. Another reason shown was a lack of support between support needed and amounts of social support received, and then possibly leading to depression.

The influence of antepartum self-esteem on antepartum depression, shown in this study is consistent with Kontiö-Griffin and colleagues, which found that low self-esteem was statistically significant in predicting depression symptom in sample of 92 American pregnant adolescents, aged 14 to 20 years. An explanation of the influence of antepartum self-esteem on antepartum depression could be those pregnant adolescents with low self-esteem may feel self-unworthiness. Pregnant adolescents might also believe that anything that happens to them along with their being pregnant would end up being unpleasant and that they do not deserve any better. Referring to the influence of antepartum social support, the results of this study compared with the of Saramohe's study, which found that antepartum social support was negatively correlated with antepartum depression (r = -.53, p < .01).

At the postpartum period, their study also found that the influence of postpartum self-esteem and postpartum depression (β = -.77, p = .001). Similar to Sirasang's study, which found that there was a negative relationship (r = -.50, p < .001) between postpartum self-esteem and postpartum depression. The result of this study congruent with many studies, which revealed that social support was negatively related to the postpartum depression among adolescent mothers. Postpartum adolescent mothers with depression might perceive less support, although it might be the same level of support previously provided at the antepartum period. Adolescent mothers with depressive symptoms were no more likely to cope by seeking social support.
than were adolescent mothers without symptoms. Extra help provided by the support network, particularly mothers and mother-in-laws, on taking care of a baby was associated with the greater difficulty in adjusting to parenthood. 20,30

Although the relationship between self-esteem and social support has been reported in correlational studies, this study found the influences of postpartum self-esteem and postpartum social support on each other, which is more specific relationship. The possible explanation is that, during time of crisis, adolescent mothers with low self-esteem tend to decrease perceived social support received. Social support provides reassurance of self-esteem, which in turn reduce depression. Therefore, adolescent mothers who have perceived low social support, tend to value themselves at worthlessness, results in increase depression.

Although these were negative influences of self-esteem and social support on maternal depression both in the short and long term, it is noticeable that in each specific situation the short term affects are preferable to the long-term affects. As shown in Table 5, the influence of postpartum self-esteem on postpartum depression ($\beta = .81$, $p < .001$) was higher than antepartum self-esteem ($\beta = -.45$, $p < .001$). The influence of postpartum social support postpartum depression ($\beta = -.34$, $p < .001$) is higher than antepartum social support ($\beta = -.14$, $p < .001$).

**Conclusion and recommendations**

This tested model reflects the validity of Erikson’s psychosocial development theory. Developing to the next stage of a role identity or developmental task can be affected by psychosocial factors including self-esteem and social support. Absent development such as pregnancy during adolescence can lead to depression. This indicates that adolescent mother with low self-esteem and social support can lead to depression.

Considering the results of this study that there are high rates of both antepartum depression and postpartum depression among the adolescent mothers, a standard screening of maternal depression should be established. The findings of that antepartum depression can be risk for postpartum depression can be used to guide nurse to early detect maternal depression. That is screening of pregnant adolescents can identify mothers who are at risk for postpartum depression.

The subjects in this study consisted of the adolescent mothers who had no complications. Future study should include those with complications, such as a preterm labor or give birth with congenital anomalies, because these mothers might need more support from both health care professional and support networks. The findings might add more conclusive knowledge in the area of maternal and child health.

This CCHS-D served as a screening tool for measuring depression. However, this study left a doubtfulness of an appropriate cut-off score for identifying Thai adolescent mothers who are at risk of depression. Therefore, determining an appropriate cut-off score for screening adolescent mothers, who are a vulnerable population at risk of depression, is recommended.

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การเดินคุณค่าในตนเอง การสนับสนุนทางสังคม และการชี้แจงแย้งในมาตรคุรุร์ไทย*

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