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Early Management of Depression in Adolescent Pregnancy: An Integrative Review

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The purpose of this article was to discuss the factors associated with depressive symptoms in adolescent pregnancy and its early management. An integrative review was conducted to search databases such as CINAHL, Scopus, PubMed, and DynaMed for articles from 2008-2018. Thirteen published articles were selected by the PRISMA process. The results showed that the factors related to depressive symptoms in adolescent pregnancy that had the highest significance were the stigma perspective, lack of self-esteem, lack of support from family and spouse, barriers in accessing health services, and personal characteristics such as drug use, alcohol consumption, having history of depression, and experienced abuse. The findings of early management showed five emerging themes: 1) screening in early pregnancy, 2) promoting self-esteem, 3) promoting family and spouse support, 4) providing specific health care service, and 5) cooperation of all stakeholders. Early management is significant to a decrease in the severity of depressive symptoms in adolescent pregnancy, and it requires the collaborative work of all stakeholders in the health care system, such as nurses, physicians, psychologist, and the community, including family and friends.

***Keywords**:* integrative review, early management, depression symptoms, adolescent pregnancy, behavioral science theory

The World Health Organization (WHO, 2018) defines adolescents as "young people between the age of 10 and 19 years". However, many adolescents die prematurely due to accidents, suicide, violence, complications from pregnancy and other diseases that can be prevented or cured. Adolescence is the period where physical, psychological, social and moral changes occurs as one transitions from childhood to adulthood. These changes can cause emotional insecurity, which can impair mental health.

Adolescent pregnancies continue to affect many important issues such as the development of the country, economy, society, and health (WHO, 2018). Adolescent pregnancy has a negative effect on adolescent health. Pregnant women are at increased risk of infection such as gallbladder infection, chronic urinary tract infection, and systemic infection. Every year, approximately 3.9 million adolescents aged 15 to 19 years undergo unsafe abortions. This creates a risk of maternal death and health problems. It also affects the emotional, psychological, and social needs of pregnant adolescents, who already have more needs than non-pregnant adolescents of the same age (WHO, 2018).

Depressive symptoms in adolescent pregnancy can happen in antenatal and postnatal period; for instance, a study in Mexico found 32.5 percent occurred in second trimester and 24.7 percent occured after delivery (Lara et al., 2012). In the United States, approximately 400,000 births each year are to adolescent mothers who are less than 20 years old. Additionally, about 25-30% of them have experienced postpartum depression. These rates are higher than found in non-perinatal adolescents and adults (Phipps, Raker, Ware, & Zlotnicket, 2013).

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Depression is more than just a sad feeling, being upset for a short time, or feeling grief after a loss; it changes thoughts, feelings, behaviors, and physical health (ACOG, 2017). Depression is a common mental disorder which is characterized by persistent sadness and a loss of interest in activities that humans normally enjoy, and is related to an inability to participate in daily activities for at least two weeks. In addition, humans with depression normally experience the following symptoms: loss of energy; change in appetite; sleep problems; anxiety; reduced concentration; indecision; restlessness; feelings of worthless, guilt, or hopelessness; thoughts of self-harm or suicidal ideation (WHO, 2016).

Depressive symptoms can severely impact mothers and infants. Reid & Meadows-Oliver (2007) stated that "Depressive symptoms in adolescent pregnancy have been associated with a variety of negative outcomes for the adolescent mother and her child" (Meadows-Oliver & Sadler, 2010). The impacts from depressive syndrome include substance abuse, school dropout (Phipps et al., 2013), and suicidal thoughts that reached 11 percent (Hodgkinson, Colantuoni, Roberts, Berg-Cross, & Horolyn, 2010). Consequently, the babies who were born from mothers with depression are not well treated, delaying the babies' development, causing lower levels of social engagement and increase in stress reactivity (Phipps et al., 2013).

During pregnancy, women's physical, physiological, and mental attributes may not be the same due to the changes in hormonal levels such as in estrogen, progesterone, and human chorionic gonadotropin (hCG) that affect their physical and mental status (Kumar & Magon, 2012). If they cannot adjust themselves, they can suffer from stress and anxiety. The results can vary, such as lack of self-esteem that could cause stress, anxiety and sadness, which are the causes of depression. Hence, early management is very important to prevent depression in adolescent pregnancy and maintain good health during and after the pregnancy.

In adolescent pregnancy, there are various factors that cause depression such as alcohol use, physical or sexual abuse, and history of depression (Tzilos, Zlotnick, Raker, Kuo, & Phipps, 2012). The lack of social support from mother and spouse is related to the negative perception of pregnancy and impacts the severity of depression (Pires, Araujo-Pedrosa, & Canavarro, 2014). Providing services from effective staff can reduce the severity of depression (Meadows-Oliver, M. & Sadler, 2010).

Early management in adolescent pregnancy is related to human behavior. Social support and self-esteem are the aspects of behavior management that can be used to create health modification in the targets. Social support is defined as a type of relational content: "the emotionally or instrumentally sustaining quality of social relationships" (House, Umberson, & Landis, 1988: 293). Berkman (1984) viewed social support as the emotional, instrumental, and financial aid that was obtained in one's social network form (Song, Son, & Lin, 2011). Social support also has important causal effects to health status, exposure to stress and the relationship between stress and health (House, 1981 as cited in House, 1987)

Self-esteem generally refers to an individual's overall positive evaluation of self (Gecas, 1982; Rosenberg, 1990; Rosenberg et al., 1995, as cited in Cast & Burke, 2002). It consists of two divergent dimensions, competence and worth (Gecas, 1982; Gecas & Schwalbe, 1983).

The dimension of competence refers to the degree to which people see themselves as a capable and an efficacious person. The dimension of worthiness refers to the degree of feeling worthy, or the feeling of being a person of value (Cast & Burke, 2002). Self-esteem can be classified into high and low self-esteem with anxiety having the tendency to generate low self-esteem (Rosenberg, 1965). In a report on pregnant women, Jesse and Swanson (2007) found that the women who have low self-esteem are almost three times more likely than the other women to experience increased antenatal depression symptom (Jesse, Kim & Herndon, 2014).

Nowadays, the increased rate of depression in adolescent pregnancy, the negative impact of depression to society and the economy, and other ethical issues are the biggest concerns to be addressed. Adjusting the health service system requires the understanding that depression is a risk factor related to adolescent pregnancy that needs to be managed. It will be difficult if there is no serious cooperation and effort to address source of the real problem. This integrative review was focused on the question of "How can early management of depression in adolescent pregnancies prevent the negative impacts on the mother and the fetus?" The objective was to discuss the factors related to depressive disorder in adolescent pregnancy and early management for antenatal care, risk prevention, and avoiding postpartum complication.

Methods

This is integrative literature review is considered a strategy in identifying the existing evidences with an aim to build health practices in various specialties. The five stages that were applied for the elaboration of the study (Whittemore, 2005, as cited in Whittemore, & Knafl, 2005) composed of: 1) the problem identification stage, 2) the literature search stage, 3) the data evaluation stage, 4) the data analysis stage, and 5) the presentation stage. The problem identification stage found that the depressive disorder in adolescent pregnancy increases the number of problems and affects both mothers and infants, leading to the selection of the research question. Knowing the factors related to the depressive disorder in adolescent pregnancy and having the management in the early pregnancy will reduce the severity of both maternal and neonatal events in antenatal and postpartum period.

The literature review and the data sources in the study include CINAHL, Scopus, PubMed, DynaMed and other sources. The keywords used in the study follow the PICOT search words: "early management and depressive adolescent or teenage pregnancy"; "management and depressive adolescent or teenage pregnancy"; "factors related or influenced and depressive adolescent or teenage pregnancy".

From the database, 734 studies published from January 2008 to April 2018 were identified. Then, the duplicated studies were removed, and the remaining 33 studies were considered and screened through their abstract to exclude the irrelevant studies. 10 studies were excluded as they were not in PDF full-text format. After reviewing and considering the abstracts, 10 studies were further excluded because of insufficient information, i.e. the age discrepancy to the target group and wrong purpose. The remaining thirteen studies were full-text and were selected. The last studies have related criteria as follows: (a) the participants were

pregnant adolescents in antenatal, intrapartum, and post-partum period (b) the adolescent pregnancy has been screened and classified to have depressive symptoms (c) the early management that the participants received after they had been identified the symptoms. For this integrative review the guiding framework was based on PRISMA 2009 Flow Diagram (Moher, Liberati, Tetzlaff, & Altman, 2009), which is composed of four steps: identification, screening, eligibility, and included (see Figure 1).

Guidelines for selecting articles are based on PICOT search and the information was classified in topic of interest: author, journal, country, and language, the level of evidence, year, article title, professional category, method, main results, and recommendations of new research.

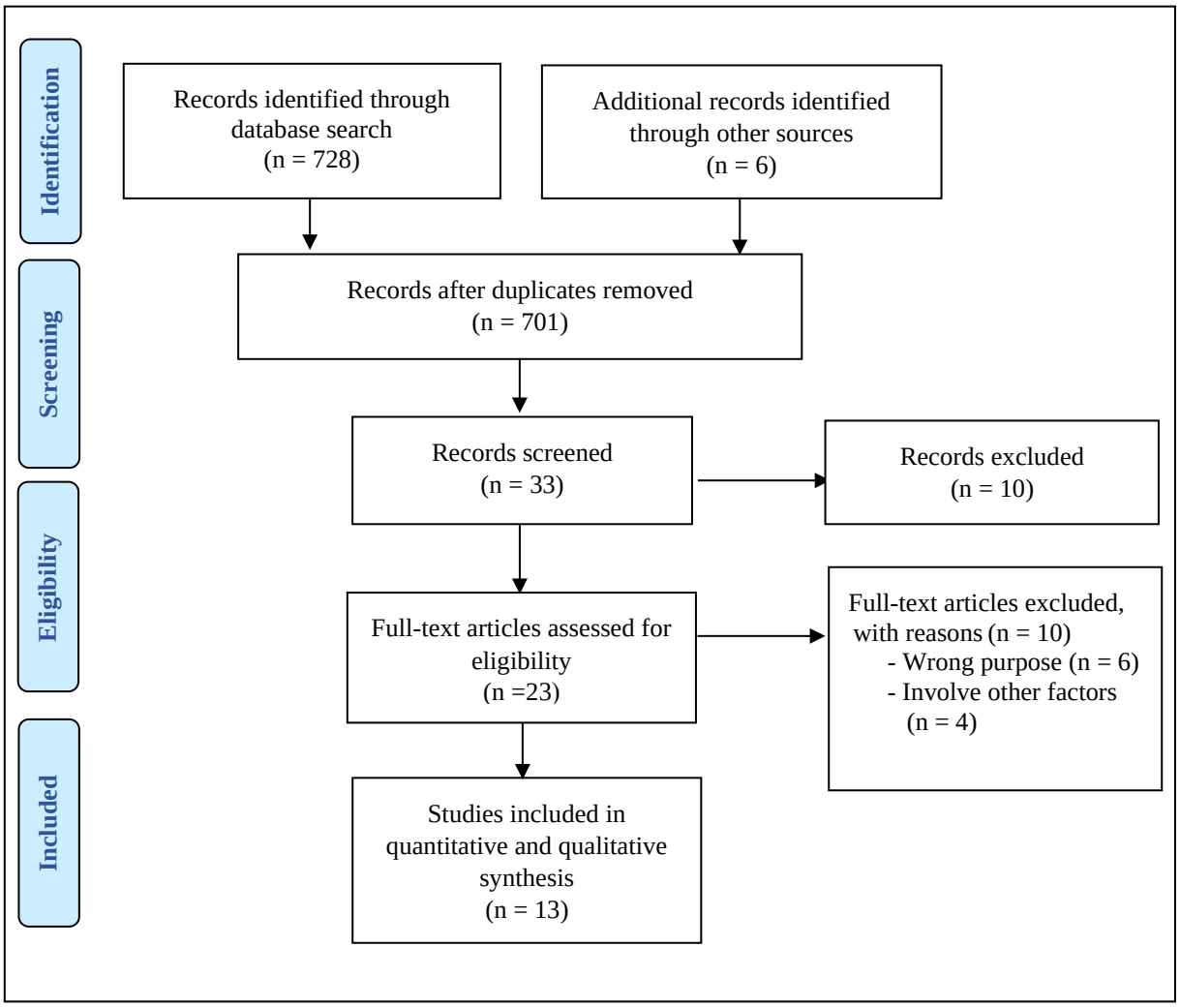

Figure 1. PRISMA 2009 Flow diagram adapted to examine "Early Management in Depressive Adolescent Pregnancy" (Adapted From: Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G., 2009).

Thirteen articles, which were published in the database, were considered. The title, sample characteristic, year of publication, and the finding with the corresponding quantitative and qualitative studies of the selected studies are presented in Table 1 and Table 2.

Factors related to depressive symptoms in adolescent pregnancy

The studies in Table 1 present factors related to the depressive symptoms in adolescent pregnancy

Table 1

Summary of studies and their findings about factors related to depressive symptoms in adolescent pregnancy

Authors/ Year	Country	Title	Study designs/Sample	Results/Findings
Kumar et al., 2017.	Kenya	Adolescent pregnancy and challenges in Kenyan context: perspectives from multiple community stakeholders.	A qualitative research with 36 participants in total. 8 pregnant adolescents, 6 caregivers and 22 new adolescent mothers.	- Five themes from study were (1) social stigma, (2) lack of emotional support, (3) stress based on new life adjustments (4) poor health care access (5) planning for the future.
Buzi, Smith, Kozinetz, Peskin, & Wiemann, 2015.	USA	A sociological framework to assessing depression among pregnant teens.	A descriptive study, 249 African American and Hispanic pregnant adolescents age 15-18 years old. The instrument is Center for Epidemiologic Studies Depression Scale (CES-D)	- Adolescent pregnancy caused depression and many health effects. The family and spouse support were important. - Verbal abuse, physical or sexual abuse, higher level of family criticism, low level of general support and community violence are factors which predict depression.
Koleva, & Stuart, 2014.	USA	Risk factors for depressive symptoms in adolescent pregnancy in a late-teen subsample.	A cross-sectional analysis, 509 adolescent women age 18-20 years old. The instrument is Beck Depression Inventory (BDI; Beck et al., 1961).	- The demographic factors (age, ethnicity, years of education, marital status, employment, income, and a number of items regarding obstetrical history) did not relate with severity score of depression in adolescent pregnancy. - Adolescent development is associated with a high prevalence of depression, regardless of the demographic and perinatal characteristics. - Screening for depression in adolescent pregnant women should be used in all clinics.
Jesse, Kim, & Herndon, 2014.	USA	Social support and self-esteem as mediators between stress and antepartum depressive symptoms in rural pregnant women	The path analysis with linear regression. 318 participants age 16-44 years and a singleton pregnancy gestational age 16-28 weeks.	- Self-esteem influences the relationship between stress and depression rather than satisfaction with social support.

Table 1 *(Continued)*

Authors/ Year	Country	Title	Study designs/Sample	Results/Findings
Pires, Araujo-Pedrosa & Canavar-ro, 2013.	Portugal	Examining the links between perceived impact of pregnancy, depressive symptoms, and quality of life during adolescent pregnancy: The buffering role of social support.	A cross-sectional study, 395 pregnant adolescents age 12-19 years.	- Mother support had a significant direct effect on both depressive symptoms in pregnant adolescents and QoL. Additionally, spouse support can predict depressive symptoms significantly. - Support from mother and spouse buffered the indirect effect by weakening the relationship between a negative perception of the impact of pregnancy and higher severity of depressive symptoms.
Coelho et al., 2013.	Brazil	Major depressive disorder during teenage pregnancy: socio-demographic, obstetric and psychosocial correlates.	A cross-sectional study, 828 pregnant adolescents age 13-19 years old.	- Incidence of Major Depressive Disorder in pregnancy is highest among adolescents with less than 8 years of education and those with low social support. - MDD is a common condition in adolescents with gestational age and are the socioeconomically and psychosocially disadvantaged.
Tzilos, Zlotnic, Raker, Kuo, & Phipps, 2012.	USA	Psychosocial factors associated with depression severity in pregnant adolescents	A cross-sectional study, 116 pregnant adolescents average 16 years old. The instrument is Children's Depression Rating Scale-Revised (CDRS-R; Poznanski et al., 1985).	- A history of drug use, such as alcohol, depression, and abuse may increase the chances of identifying adolescents at risk for prenatal depression. - A history of abuse of adolescent was related to severity of depression in pregnancy.
Lara et al., 2012	Mexico	Population study of depressive symptoms and risk factors in pregnant and parenting Mexican adolescents.	A correlational study, 8,049,088 adolescents aged 13–19 years. The instrument is the Center for Epidemiologic Studies-Depression (CES-D).	- Multiple logistic regression models can be used to estimate the likelihood of depression (CES-D 16-23) in the first or second trimester, the second postpartum and children over 1 year. - Increased risk of high symptoms (CES-D $\geq$ 24) are found in people who are not in school or have children beyond 1 year old.

Of the eight researches in the literature review, four were conducted in the USA, and the others were conducted in Kenya, Portugal, Brazil, and Mexico. The studies identified the risk factors related to the depressive symptoms in adolescent pregnancy. The five main factors

identified from these studies are: (1) the social stigma perspective issue, (2) the lack of self-esteem, (3) the lack of family and spouse support, (4) the barrier in access to health service, and (5) the demographic characteristics such as using drug, drinking consumption, having depression history, and experienced abuse.

Factor (1) and (2) comprised the social stigma perspective and the lack of self-esteem. In the case of pregnancy during adolescence, most communities found social stigma as the issue that influences other people. Social stigma is the cause of anxiety, stress, and depression. In the meantime, the anxiety tends to generate low self-esteem (Rosenberg, 1965).

Self-esteem is an outcome of the person interaction with the environment, particularly the evaluation of others. It is the evidence received from the combination of ideas, beliefs, and experiences of the person. (Roger, 1951: 498-501). Self-esteem can be expressed by an attitude of approval or disapproval toward oneself and can be measured by Rosenburg measurement scale (Rosenberg, 1965). High self-esteem is defined as the individual who respects himself, considers himself worthy. Low self-esteem, in the other hand, refers to self-rejection, self-dissatisfaction, and the lack of individual self-respect (Rosenberg, 1965).

Factors (3) and (4) are related to social support: the lack of family and spouse support and barriers in accessing health service. Social support also includes other parts as follows:1) emotional support; esteem, effect, trust, concern, listening 2) appraisal support; affirmation, feedback, social comparison 3) information support; advice, suggestion, directive, information, and 4) instrumental support; aid in kind, money, labour, time, modifying environment (House & Kahn, 1985).

Factor 1: The social stigma perspective

The study (Kumar et al., 2017) showed that depressive disorder in adolescent pregnancy is associated with the social perspective. The adolescent women have perceived that people in society reject their pregnancies and do not believe that they are pregnant. They stated that "they would take the baby to care like an adopted child". They also felt that the nurses and the public health staff expressed their disgust at the service they provided. Manifest feelings of isolation, stress, loneliness, and depression are considered a common experience during pregnancy.

Factor 2: The lack of self-esteem

The study (Kumar et al., 2017) showed the feelings of teenage women that consisted of aloneness, loneliness, stress, and depression when their family rejected their pregnancy. The family did not believe in their ability to care for their children. Finally, they would give the baby away for adoption. It is similar to the lack of support from the husband that adds more pressure, as well as causes the despair, the sadness, and the loss of self-esteem. According to the study (Jesse et al., 2014) low social support and low self-esteem significantly predicted depressive symptoms and self-esteem influenced on the association between antenatal stress and depressive symptoms in pregnant women.

Factor 3: The lack of family and spouse support

The studies (Buzi, Smith, Kozinetz, Peskin, & Wiemann, 2015; Coelho et al., 2011; Kuma et al., 2017; Pires et al., 2013) showed that social support from primary caregivers is important, especially mothers and grandmothers. Mother support and spouse support are related to the negative impact on the perception of pregnancy and the severity of depression. Family care is important from antenatal until postnatal period as family members help assist in caring for the baby. At the same time, the spouse is a very important person. If the adolescent women

lack support from their spouse, they will feel more pressure and have feelings of despair and sadness. Parental and husband support have a significant effect on depression. It was found that the maternal support and partner support reduce the severity of depression (Lara et al., 2012; Pires, Araujo-Pedrosa, & Canavarro, 2013).

Factor 4: The barriers in access to health service

Health care services do not have a specific target, so adolescent pregnancies have been reported with reluctance. Pregnant women also access health care, not only adolescent services. The health service providers should be friendly to adolescents because when the staff express the negative attitude it is considered showing punishment. Some adolescents have not received the help because of the negative attitude of the health care providers (Kumar et al., 2017).

Factor 5: The personal characteristics

The study (Tzilos et al., 2012) found a history of drug use, alcohol use, depression, and abuse that may increase chances of identifying adolescents at risk for prenatal depression. It also found that the history of abuse in adolescents is related to the severity of depression in pregnancy. Physical and mental abuse are related to the severity of depressive symptoms in pregnancy and other factors, such as alcohol use which can be applied to predict the antenatal depression.

Education levels affect stress in pregnancy, especially when the number of years spent in the education system was less than eight years (Coelho et al., 2013). However, some studies found demographic factors and obstetric factors are not influences to the depressive symptoms (Koleva & Stuart, 2014). The study (Lara et al., 2012) found that pregnant adolescents in their second trimester have the highest prevalence of depressive symptoms, so gestation is another significant factor.

Strategies for early management of depression in adolescent pregnancies

Table 2 shows early management strategies for depressive adolescent pregnancies.

Table 2

Summary of studies and their findings in management of depressive adolescent pregnancy

Authors /Year	Country	Title	Study designs/Sample	Results/Findings
Kumar et al., 2017.	Kenya	Adolescent pregnancy and challenges in Kenyan context: perspectives from multiple community stakeholders.	A qualitative research with 36 participants in total. 8 pregnant adolescents, 6 caregivers and 22 new adolescent mothers.	- Five themes from study were (1) social stigma, (2) lack of emotional support, (3) stress based on new life adjustments (4) poor health care access (5) planning for the future.
Watts, Liamputtong, & Mcmichael, 2015.	Australia	Early motherhood: a qualitative study exploring the experiences of African Australian teenage mothers	A qualitative research, the participants were 16 female African refugees who experienced antenatal in Great Melbourne, Australia.	- During pregnancy, participants were affected by family rejection. When the help of mothers, brothers and close friends are present, they will continue to survive. - On the positive aspects of pregnancy, while teenagers face major challenges they learn to be more accountable and aware of social expectations in their role

Table 2 *(Continued)*

Authors /Year	Country	Title	Study designs/Sample	Results/Findings
		in greater Melbourne, Australia		as mothers. This includes increased responsibilities after childbirth, competitive needs of work and childcare.
Jesse, Kim, & Herndon, 2014.	USA	Social support and self-esteem as mediators between stress and antepartum depressive symptoms in rural pregnant women	The path analysis with linear regression. 318 participants age 16-44 years and a singleton pregnancy gestational age 16-28 weeks.	- Self-esteem influences the relationship between stress and depression rather than satisfaction with social support.
Phipps et al., 2014	USA	Randomized controlled trial to prevent postpartum depression in adolescent mothers	The randomized controlled trial. 106 participants were pregnant nulliparous adolescents who were 17 years old.	- The REACH program, which has been developed specifically for pregnant women to prevent postpartum depression can reduce postpartum depression in adolescents.
Gyesaw & Ankomah, 2013.	Ghana	Experiences of pregnancy and motherhood among teenage mothers in a suburb of Accra, Ghana: a qualitative study	A qualitative study, 54 participants were 14-19 years and living alone or with parent or guardians.	- The adolescent pregnancy of this group was resulting from their basic needs, sexual violence, and the desire for acceptance of people in society. - When pregnancies occur, parents and guardians of adolescents are upset in the early stages of pregnancy, but one important thing is that the family will refuse abortion.
Boath, Henshaw, & Bradley, 2013.	UK	Meeting the challenges of teenage mothers with postpartum depression: overcoming stigma through support	A qualitative study, 15 adolescent mothers aged 16-19 years.	- The four key issues are shame and perception of being judged, social and professional support, knowledge and information and barriers to using support. - Adolescent mothers lack the informal support system for many supporting factors.
Meadows-Oliver, & Sadler, 2010.	USA	Depression among adolescent mothers enrolled in a high school parenting program.	A descriptive study of 45 adolescent mothers aged 14-19 years in high school-based parent support program. The instrument is Beck Depression Inventory (BDI-II; Beck et al., 1966).	- All adolescent mothers reported a loss of energy, sleep patterns, changes, appetite and fatigue. - The nurses must work with adolescent mothers to understand the physical and mental changes, which can occur in the postpartum period. Adaptation in the postpartum period as well as the deeper emotional problems that lead to depression.

From the seven studies in the literature reviews, three were conducted in the USA, and four were conduct in Australia, Ghana, Kenya, and the UK. They found that early management must focus on the following five themes: 1) screening in early pregnancy, 2) promoting self-esteem, 3) promoting family and spouse support, 4) providing specific health care services, and 5) cooperating in all sections.

Theme 1: Screening in early pregnancy

Screening for depression in all adolescent women should be done. Depression is found during pregnancy of adolescents, who have a greater risk of depression than other adolescents (Buzi et al., 2015). The most appropriate screening time to examine must be in the first trimester of pregnancy because depression will be more severe in the second trimester (Lara et al., 2012).

There are also physical and mental changes that can be assessed by using the depression evaluation form. One study (Meadows-Oliver et al., 2010) found that all adolescent mothers regardless of depression scores, showed increased symptoms related to loss of energy, such as change in sleep patterns and change in appetite and fatigue. However, none of the adolescent mothers in the non-depression group has suicidal thoughts.

There are several instruments used for screening depression in adolescent pregnancy. Buzi et al. (2015) used three depression screening tools: (1) The Depression Scale (CES-D), (2) the Edinburgh Postnatal Depression Scale (EPDS), and (3) Beck Depression Inventory II (BDI-II). Meadows-Oliver et al. (2010) used Depression Inventory II and Koleva & Stuart (2014) used Beck Depression Inventory for assessment.

Theme 2: Promoting self-esteem.

The study in self-esteem (Jesse, Kim, & Herndon, 2014) found that self-esteem is influenced by stress and depression. Self-esteem is negatively correlated with antenatal depressive symptoms, especially low self-esteem in pregnant women as it is associated with stress and depression. Self-esteem, which is the internal source of individual strength, is influenced by social support. Therefore, it is important to support female adolescents in their times of crises.

Low self-esteem can cause further negative outcomes. Some of this outcomes include depression, anxiety, eating disorders, poor social functioning, dropping out of school, and high-risk behaviors (Mulligan, 2011). Pregnant adolescents feel that they have lost their values. They also feel that they are 'bad moms' because they are adolescents, and cannot fulfill the contemporary social norms of motherhood (Kirmayer, 2008; Yardley, 2008 as cited in Boath, Henshaw, & Bradley, 2013).

Theme 3: Promoting family and spouse support

During pregnancy, the adolescent encounters numerous challenges; therefore, they need peers who can understand and provide the new roles of being a mother with a sense of socialization, acceptance, and stability. Many studies (Boath et al., 2012; Gyesaw & Ankomah, 2013; Meadows-Oliver et al., 2010; Phipps et al., 2013; Watts, Liamputtong, & Mcmichael, 2015) found that social support can buffer or prevent the depressive symptoms in adolescent

pregnancy. The depressive symptoms are influenced by many aspects; for example, the physical and mental support of family members: parents, brothers, sisters, and spouse.

Theme 4: Providing specific health care services

There is the support from health professionals who are sympathetic, unbiased, and willing to provide services with knowledge. Kumar et al. (2017) studied experiences of adolescent mother in Kenya which stated the potential barriers to providing care was the absence of mental health training, parenting education and how to work with adolescents?

A study (Phipps et al., 2013) found that postpartum depression in adolescents can be reduced by focusing on support of the interpersonal therapy in the development of effective communication skills to manage relationship conflict in antenatal and postpartum period, such as stress management, the motherhood, and psychosocial resources for new mothers.

Health education for adolescents in schools is important, and it should be expanded. Important information includes cognition in pregnancy, risk factors for pregnancy, contraceptive use, abortion, complications and preterm birth, and its consequences. This is a unique role for nurses in schools (Gyesaw & Ankomah, 2013).

A study by Meadows-Oliver et al. (2010), focused on nursing discipline, showed that nurses who work with adolescent mothers must understand their physical and mental changes. The depression is a consequence of the postpartum period. Schools based parenting services can be an important source of social support as well as nurses who provide the depression screening and referral tools for an accurate diagnosis to help the adolescent mothers.

Theme 5: Cooperation of all sections.

A study in Kenya (Kumar et al., 2017) found the pregnant adolescent who resided in the rural area faced the trouble in accessing health care services and dropping out of school, because they were not accepted. According to the study (Watts et al., 2015) about experiencing the adolescent mother, the researchers stated that “community does not provide help. Let them trouble and face the difficulty alone. They were embarrassed with everyone in the community”.

The study of Phipps et al. (2013) was to develop an intervention for the prevention of depression during the postpartum period. The study investigated the depressive symptoms in adolescent pregnancies in their first trimester after the participants joined the REACH program, (R: relaxation, E: encouragement, A: appreciation, C: communication, H: helpfulness). The program focuses on interpersonal behaviors which is found more significantly effective in preventing the postpartum depression, and requires support in the area of health care during pregnancy, psychosocial resource, and facilitators.

Discussion

The factors related to depression in adolescent pregnancy came from various causes. The literature reviewed showed that these included: personal factors such as physiological change, low self-esteem that was the affected by psychosocial change; and environmental factors such as social stigma, lack of support from family and spouse, low access to health

services, poor quality of service and lack of community support. However, a factor that causes of women to have stress and anxiety that tend to lead to depression is the right to equality in society. Generally, from the social perspective it was shown that the women are subordinate, because the men have more power. Bernard (1982) suggested that marriage was much more beneficial for men than women. Research showed that men tend to need marriage much more than women, and married men tend to have much better physical and mental health than single men, as the woman is the person who takes care of the husband, acts a housewife, and takes the role of motherhood.

The early management of depression in adolescent pregnancy is an multi-step process which is composed of- 1) screening for depression early in the pregnancy to find the risk and severity of depression, allowing specialist treatment to begin as soon as possible; 2) planning preventive care in cases of high risk, such as promoting self-esteem, family and spouse support, and providing knowledge about the motherhood role; 3) providing specific health care services that consist of easy access and quality service; 4) cooperation among all sectors, which is a collaboration of all sectors related to adolescent pregnancy for continuous and quality care.

1. Screening depression in early pregnancy: Pregnancy in the first trimester of adolescence is a very important period because it is an important time to plan for the effective care of pregnant women and their baby. Pregnant adolescents needs to be checked as soon as possible to reduce the severity depression, in case it is present, in the second, third, and postpartum period. Several assessments have been used such as CES-D, EPDS, BDI, and BDI-II. However, there are some reports that adjust the depressive assessment to be specific for pregnant women to do screening more effectively (Osborne & O'Keane, 2009).

According to the American College of Obstetricians and Gynecologists (Conway, 2010), they introduced the tools for screening depression, which are available for use by healthcare providers. Most tools have specificity ranging from 77 percent to 100 percent. The tools are the Edinburgh Postnatal Depression Scale, Postpartum Depression Screening Scale, and Patient Health Questionnaire-9 (ACOG, 2016). These are recommended to be used for screening depression in all pregnant women at least one time.

In addition, screening for individual characteristics was a vital issue, as demonstrated by the number of studies found an association of major depressive disorders with adolescent pregnancies (Coelho et al., 2013), physical and mental abuse (Tzilos et al., 2012), and the limited support from spouse, family and the community (Buzi et al., 2015). The relationship between pregnant women with mothers and their partners can prevent and treat depressive disorder in adolescents during pregnancy (Pires et al., 2013).

2. Planning to care for high risk cases: Self-esteem has a significant negative correlation with depression, and it can likely predict depression in pregnant adolescents (Kasak, Serisathien, & Bangpichet, 2013). Self-esteem is an important factor and is negatively impacted by high levels of stress (Jesse et al., 2014). In addition, Sowislo and Orth (2012) studied in non-pregnant adults and found low self-esteem can also predict depression for them.

Respecting and accepting the mistakes that come up despite utmost care are important in taking care of pregnant adolescents because it reduces stress, anxiety, and depression. In addition to promoting self-esteem, it can decrease the likelihood of antenatal depression. Promoting self-esteem correlates with acceptance from others. It is the responsibility of the family, community, and health care providers to provide support to pregnant adolescents (Jesse et al., 2014).

Promoting family and spouse support is especially important. Adolescents are usually ashamed of being unmarried and pregnant. Society considers them a bad role model for other adolescents in their families and communities. Therefore, adolescent pregnancies are seen as a bad model for younger children (Watts et al., 2015). Support from spouse and family is necessary for adolescent pregnancy because the spouse must provide good care to pregnant women with understanding and attention. Pregnant women who are neglected have a higher risk of depression (Watts et al., 2015). It is similar to some women who are abandoned after pregnancy. Families, especially parents, must understand the problem and accept the error stress, anxiety, and depression. These factors contribute to the quality of health during pregnancy (Watts et al., 2015).

Family support affects the perception of pregnant adolescents, and helps in providing proper care needed for a good quality of life for the women and the child. If they are ignored, they will become a burden for the family and society (Watts et al., 2015). Providing accessible health service encourages pregnant women to take care of themselves properly because accessing safety and reliable sources of information will lead proper self-care. The necessary information also requires effective communication skills to manage stress (Phipps et al., 2013).

3. Providing specific health care services: a service system that facilitates access is very important for teenagers who get pregnant because teenage pregnancy is considered a critical period of their lives. They need people who understand them and are willing to give them opportunities and help. Moreover, the qualifications of health service officers are also important. The officials must be available, understand the problems of recipients, and respect them. Due to the importance of connecting to recipients and providing efficient services, relevant people must be trained because training is important for the effectiveness and satisfaction of providing the services (Meadows-Oliver et al., 2010).

4. Cooperation of all stakeholders: community and school support are important sources for both adolescents and fetuses. Staying healthy and coordinating with the hospital are important to provide care for pregnant women in antenatal and postpartum period, such as guide to healthy pregnancy, fetal development, nutrition, and preparation for labor (Phipps et al., 2013). Moreover, blame and disgust should not be shown because they will lead to stress and depression. Depression, which eventually affect the community, needs family, communities, and professionals (including physicians, nurses, and health educators) to work together to support adolescents and solve this problem (Kumar et al., 2017).

According to a study, it suggested that the cooperation of obstetricians, pediatricians, psychiatrists, pediatric psychiatrists, midwives, and social workers is a team that manages the various areas of adolescent pregnancies by monitoring, improving, and reducing risk (Debras et al., 2014 as cited in Goossens, Kadji, & Delvenne, 2015).

Apart from promoting family and spouse support, providing specific health care services are associated with social support in the behavioral science theory. The social support theory is related to the emotional support, social welfare, and education support. Providing access to the services requires the cooperation (family, spouses, professionals and the communities, as well as schools) especially in case of pregnant women who are students.

Multiple sources of support are important for providing effective health care services. Health service professionals must improve attitudes and provide the opportunity for them when the adolescents make mistakes.

Conclusions

There are many factors that cause stress including individual factors: physical and mental abuse, addiction, rejection or acceptance of pregnancy by spouse and family including obstetric history such as abortion history in this pregnancy or prior pregnancy, psychological support. Stress is caused of low self-esteem and that related to depression (Jesse, Kim, & Herndon, 2014). Therefore, promoting self-esteem is important as female adolescent should be well recognized, and coping management should be counted as it can reduce stress that causes depression. At the same time, providing self-care knowledge in antenatal and postnatal period; providing preparation for labor, motherhood role; and providing care for the infant postpartum planning that includes family planning to prevent the recurrent pregnancy in adolescents which are the most important for new mother.

Adolescent pregnancy is early motherhood that is often linked to low socioeconomic status, social difficulties, and low academic achievement (Wendland, 2014 as cited in Goossens, Kadji, & Delvenne, 2015). When mistakes occur in adolescences, these should not be aggravated because that will be the cause of further damage. Planning for the pregnant adolescents and the babies in order to let them have a good quality of life will reduce the severity of the problem in the society, economy, and human development.

Early management of depression in adolescent pregnancy is necessary for preventing and decreasing the severity of depression. The first trimester of pregnancy is important in pregnant women for the adaptation in both physical, mental, and fetal developmental. To reduce the impact that affects the women themselves and fetuses, changing behavior of a person must be related to the theories of behavioral science in cognitive behavioral theory and interpersonal theory.

Adolescent pregnancy problems are inevitable, especially adolescent pregnancies with depression. This crisis will have a severe impact on both the development of the fetus and the physical and mental health of pregnant women, so the problems must be solved at the early stage. There are many factors that will indicate the health status of pregnant women and the fetus during pregnancy and childbirth. Screening for all pregnant women at antenatal clinic is the first step as well as the availability of various depression assessments tools.

Adolescents, who have personal attitudes towards pregnancy such as loss of self-esteem from unwanted pregnancy need self-esteem and social support as they are the strength of pregnant adolescents who can prevent the depression. The pregnant adolescents need to be encouraged and need to receive knowledge for self-care and the care of their fetuses. These encouragement and knowledge can reduce anxiety and grief that possibly lead to depression at the end. In addition, pregnant women have the need of loving and caring from people around them, such as spouses, parents, and relatives. Moreover, health care providers and community members have to provide information and supporting resources such as accessing to services, medical fee, and advising on health care during pregnancy and postpartum period.

Moreover, in changing behaviour for preventing the depression in the case of adolescent pregnancy, their self-esteem and empowerment are needed to get promoted by their family and social support (Records, 2011). However, the effective resolution will require the cooperation of parents to understand the adolescent. Health care team members need to understand the quality and equality of their services, and people in the community must cooperate to provide a good care for these adolescents, the benefits of health services, and the sources of learning that is easily accessible.

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