

## The Relationship between Early Pregnancy and Postpartum Anxiety: A Systematic Review

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### ABSTRACT

**Background:** Anxiety in pregnancy has many adverse effects, both on maternal mental health and birth outcomes, as well as being a risk factor for maternal depression. The period of pregnancy and childbirth is said to be a period of life that has the potential for pregnant women to experience stress. Early pregnancy occurs in young women aged <20 years. This study aims to analyze and examine the relationship between early pregnancy and postpartum anxiety using a systematic review method.

**Subjects and Method:** This research is a systematic review with PICO including: (1) Population: pregnant women; (2) Intervention: Early pregnancy; (3) Normal age pregnancy; (4) Postpartum blues. The databases used are Google Scholar, PubMed, and GARUDA. Inclusion criteria include full text in Indonesian and English with research subjects being pregnant women with anxiety. The exclusion criteria in this study were articles published under the last five years.

**Results:** A total of 9 articles stated that there was a relationship between early pregnancy and postpartum anxiety. The average level of anxiety during pregnancy is quite high, and approaches a severe anxiety score. Anxiety levels decreased immediately after delivery, but there was no further decrease until the late postpartum period.

**Conclusion:** Early pregnancy affects postpartum anxiety. Anxiety levels decreased immediately after delivery, but there is no further decrease until the end of the postpartum period.

**Keywords:** early pregnancy, anxiety, postpartum

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### BACKGROUND

Early marriage is still a problem in the world, especially in several countries including Indonesia. The problem of early marriage in Indonesia occurs both in urban and rural areas with different economic backgrounds (Sanjaya, 2018). Based on the

2013 Health Research report, it was stated that 2.6% of women aged 10-54 years were married at <15 years of age. Among them, 23.95% were married <15 years and 23.9% were married at 15-19 years. Pregnancy at this early age represents that young women are vulnerable to experiencing pregnancy

disorders related to early pregnancy. Data shows that in 2014 the number of births to young mothers in Yogyakarta was 930 and in 2015 it was 1045.

UNICEF (2008) states that many factors contribute to early pregnancy, such as in developing countries there is a tradition of marrying at an early age, lack of education and lack of health information regarding sexual reproduction from parents, poverty, low ability and ambition to improve education, adolescent sexual behavior due to alcohol and drugs, and peer pressure to engage in sexual activity.

Anxiety in pregnancy has many adverse effects, both on maternal mental health and birth outcomes, as well as being a risk factor for maternal depression. Anxiety and stress during pregnancy are related to fetal heart rate and motor activity, preterm labor and infant behavior (Davis et al., 2004). Postpartum anxiety is associated with low maternal self-confidence, and has long-term negative consequences that cause mental development delays in children (Ali et al., 2013).

Pregnancy depression is a risk factor for premature birth and low birth weight, which can impact the baby's development (Jarde et al., 2016). Additionally, prenatal and postpartum depression appear to be associated with attachment difficulties, which play an important mediating role in child development (Lefkovich et al., 2014). Additionally, women who experience postpartum depression are less likely to choose to have more children. The period of pregnancy and childbirth is said to be a period of life that has the potential for pregnant women to experience stress. During this period, the mother experienced quite a lot of stress due to limited physical conditions and limited activities, which affected her psychological condition. There are times when mothers will experience prolonged

feelings of sadness and experience depression.

Depression in the context of childbearing is common, and its severity can range from mild to very severe. Often this condition is not identified and treated (Wylie, 2011). It is estimated that 8.5-11.0% of all pregnant women experience depression before giving birth, and 6.5-12.9% experience depression within one year after giving birth (Gavin, 2005). The prevalence of prenatal depression may not differ from the prevalence of depression in women in the same age group who are not pregnant or have recently given birth. However, the risk of new depression is higher in women with a history of prenatal or postpartum depression and postpartum depression has become a determinant of major depression in the DSM-5 or known as peripartum (American Psychiatric Association, 2013).

Early pregnancy occurs in young women under 20 years of age which is usually caused by intimate relations with boyfriends, husbands or rape or other factors that cause pregnancy. This teenage age is included in the reproductive category where it is recommended to postpone marriage or pregnancy. WHO believes that adolescent children are around 10-19 years old and healthy reproductive age for pregnancy and childbirth is 20-30 years old. If a pregnancy occurs below or above this age, it can cause a 2-4 times higher risk of death (Manuaba, 2010). It should be noted that early pregnancy tends to be at risk of anemia, CPD (sevalopelvic disproportion), hypertension and LBW. Irawati research (2014) stated that teenagers experience higher levels of postpartum anxiety.

Therefore, it is important to identify pregnant women who are at risk of experiencing postpartum depression, so that midwives and health workers can initiate supportive therapy or refer patients to

psychiatrists or psychologists. Several randomized controlled trials have examined psychosocial and psychological interventions for postnatal depression, and have found evidence of effectiveness in treatment and prevention. It is important that major depression is treated early in this group with interpersonal psychotherapy or medication (Aagaard et al., 2017).

Until now, there has been no definite cause for postpartum anxiety, but it has been stated in several studies that anxiety comes from many factors. These factors include unfavorable social status or economic conditions (Ibrahim, 2012). Internal factors that cause anxiety include changes in hormone levels and the mother's age. Too young an age certainly affects physically and psychologically during pregnancy (Rusli, 2011).

Mothers who become pregnant at an early age tend to experience higher physical fatigue, which triggers postpartum anxiety. Other physical factors that follow such as dehydration, decreased stamina, loss of a lot of blood and even result in the mother's emotions arising. Women <20 years old feel worried about changes in body shape and feel like they are getting a new role and feel afraid and anxious about not being ready to become a mother.

There are many impacts that affect pregnant teenagers at an early age, such as worrying about giving birth abnormally, teenage girls are generally afraid of experiencing complications during pregnancy such as bleeding, pregnancy infections, anemia and so on. Not only that, young women still have unstable emotions, this is influenced by the social environment, cultural background and rejection of attitudes towards pregnancy. This review aims to analyze and examine journals relating to the relationship between early pregnancy and the incidence of postpartum anxiety.

## SUBJECTS AND METHOD

### 1. Study Design

The research design used was a literature review. Literature review is a search through library research by examining published journals, books or other publications related to the research topic to produce writing related to that topic. The selected articles are research articles that have a similar correlation to the research topic.

#### 1. Steps of Systematic Review

Systematic reviews are carried out through the following 4 steps:

- 1) Formulate research questions using the PICO model
- 2) Search for key review articles from electronic databases such as Google Scholar, PubMed, and GARUDA.
- 3) Conduct screening and critical assessment of primary studies.
- 4) Interpret the results and draw conclusions.

#### 2. Inclusion Criteria

The inclusion criteria in this systematic literature review study were a population of pregnant women with postpartum anxiety who spoke Indonesian and English.

#### 3. Exclusion Criteria

The exclusion criteria in this systematic literature review study are publication periods under the last five years that do not discuss early pregnant women with postpartum anxiety or that are not in accordance with the research topic.

#### 4. Definition of Operational Research

**Early pregnancy** is a pregnancy that occurs in mothers under the age of 20 years. Age <20 years is included in the reproductive period where it is stated that it is recommended to postpone marriage and even pregnancy. It is stated that healthy reproduction for pregnancy & childbirth is >20-30 years and below or above that age the risk of death is 4x higher than healthy reproduction.

**Postpartum blues** is the postpartum period due to an event and the return of a woman's reproductive organs to a non-pregnant state after giving birth. During this period the mother experiences psychological adaptations such as changes in vital signs, cardiovascular, digestive, endocrine, urinary and reproductive organs. Postpartum anxiety is defined as a condition that occurs after the mother gives birth and occurs on the 3rd or 4th day, peaking on the 5th and 14th days. This anxiety is classified as a mild symptom or temporary depression which is caused by many factors, both internal and external.

### 5. Study Instrument

Research instruments are defined as tools that help researchers in collecting research data. This research instrument uses documentation. Documentation is a data collection method that produces important notes related to the problem being studied and then complete and valid data is obtained. Documentation in this research is by looking for published journals that contain outlines or categories according to the variables studied.

### 6. Analysis Data

The data was analyzed by grouping the data

according to variables and presenting the data studied to answer the research objectives. This research uses qualitative methods by organizing data, finding what is important and what can be interpreted. The data analyzed comes from the results of library research from journals taken from Google Scholar, PubMed and GARUDA, then researchers analyze the journals obtained to draw conclusions.

## RESULTS

Based on Figure 1 show that a total of 18,457 articles were identified through a Google Scholar database search, and 338 articles were sourced from PubMed and GARUDA. After screening based on inclusion and exclusion criteria, 9 articles were obtained that could be used for a systematic review.

Based on Table 1 explains that the results of the analysis show that from the five journals it was found that there was a relationship between early pregnancy and postpartum anxiety and mothers who experienced postpartum anxiety had a low level of education.

**Table 1. Summary of primary studies on the relationship between early pregnancy and postpartum anxiety**

Author (Year)	Population	Intervention	Comparison	Outcome	Conclusion
Rahayu (2022)	Postpartum mother who gave birth at PMB Ch Malla	Early pregnancy	Pregnancy of reproductive age	Postpartum blues	There is a significant relationship between early pregnancy and the incidence of postpartum blues
Balqis et al. (2022)	Early pregnant women experiencing postpartum in Pacarejo Village	Pregnancy of mothers who marry at an early age	Unpreparedness for reproductive age	Postpartum blues	There exists a correlation between the age at marriage and the age at birth with the occurrence of postpartum depression
Liani et al. (2022)	Pregnant teenage mothers experiencing postpartum blues in Sukowono	Teenage (early) pregnancy	Reproductive age is at risk	Kejadian <i>postpartum blues</i>	There is a relationship between age at marriage and age at birth and the incidence of postpartum depression.

Author (Year)	Population	Intervention	Comparison	Outcome	Conclusion
Oktavia et al. (2021)	Postpartum mother who experienced a postpartum incident at PMB "W" Magetan	Pregnancy at a younger age (teenage)	Risk of immature reproductive organs	Postpartum blues	As many as 88% of pregnant women aged less than 20 years experience postpartum blues syndrome and there is a significant influence between maternal age and the occurrence of postpartum blues.
Sefryani et al. (2022)	Pregnant women with teenage pregnancies in the Rantau Pandan Community Health Center Working Area, Bungo Regency	Teenage pregnancy	Immature reproductive organs	Postpartum blues	The majority of postpartum mothers who experience postpartum blues are mothers aged <20 years, primiparous parity and the majority of 79.91% show a significant relationship with postpartum blues
Noer Endah et al. (2020)	Postpartum mothers in their early teens and late teens who gave birth	Pregnancy in adolescence	Unpreparedness of reproductive organs	Postpartum blues	There is a relationship between teenage gestational age and the incidence of postpartum blues
Laure et al. (2021)	Pregnant teenage mothers under 20 years old in Yaoundé, Cameroon	Early pregnancy	Risk of pregnancy on reproductive organs	Postpartum blues	Middle adolescents (15-18 years) are 1.5% more susceptible to depression which can lead to postpartum blues compared to middle adults (35-60 years)
Christin et al. (2022)	Teenage postpartum mothers during postpartum blues at PMB Neneng Hayati	Teenage pregnancy	The reproductive organs are still not in prime condition	Postpartum blues	The prevalence of depressive disorder symptoms in a sample of teenage mothers or young pregnant women in Yaoundé was 70.0%.
Rina et al. (2023)	Postpartum blues in postpartum teenage mothers in the Nalumsari District of Jepara	Pregnancy in teenage mothers	Reproductive age is at risk	Postpartum blues	45% of postpartum blues mothers are at risk (adolescents).

## DISCUSSION

These nine articles state that there is a relationship between early pregnancy and postpartum anxiety. Postpartum is defined as the event or condition of the return of a woman's reproductive organs to a non-pregnant condition after undergoing birth, which takes about six weeks. Based on research by Rahayu (2022), pregnancies under 20 years of age experience postpartum anxiety as much as 16.7% or 4 times greater risk than mothers who experience

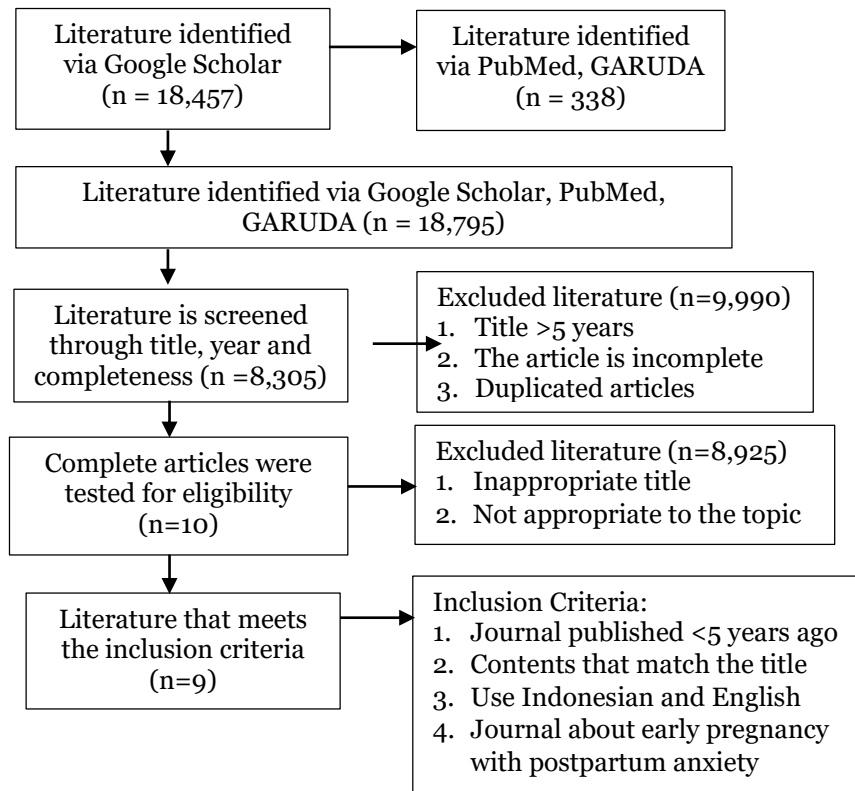
pregnancies over 20 years of age.

One in three women who were anxious during pregnancy continued to be anxious in the early postpartum and one in two women who were anxious in the early postpartum continued to be anxious in the late postpartum. Moreover, of the women who were anxious during pregnancy, only one in five women reported anxiety at both postpartum examinations (Radoš et al., 2018), meaning that these women experienced temporary anxiety in the peripartum period. However,



it was found that many respondents reported anxiety in a prominent aspect of psychological stress, namely in the peripartum. In addition, the majority (75%) of women who were anxious late postpartum also reported

previous anxiety. Research similar to Heron et al. (2004) shows that anxiety in the postpartum period must receive full attention from the surrounding environment.



**Figure 1. PRISMA Flow Diagram**

Seven of the nine articles found that the average level of anxiety during pregnancy was quite high, and approached a severe anxiety score. Anxiety levels decreased immediately after delivery, but there was no further decrease until the late postpartum period. The fact that postpartum anxiety levels were lower than anxiety levels during pregnancy is consistent with previous findings.

This decrease may be due to various worries and concerns during pregnancy and after delivery. As has been mentioned, anxiety during pregnancy includes fear of childbirth and worry about the health of the fetus, both of which become lighter after

giving birth (Huizink et al., 2004).

Pregnancy-related pain in the first trimester can be a marker of a psychologically vulnerable woman, who needs attention and care. Most of this is due to confusion and mental health problems present in the first trimester. However, general practitioners should be alert to the fact that pain in pregnancy is associated with underlying psychiatric or psychological vulnerabilities. Additionally, women who show symptoms of depression, anxiety, and difficulty sleeping in the first trimester may be at risk for postpartum depression.

Pregnancy that occurs at an early age is the result of premarital sex or unwanted

pregnancy. In general, women will feel guilty, guilty and cause excessive anxiety. Too young an age is not good for getting pregnant because it creates risks for both the pregnant mother and the child being born from a physical and psychological perspective during pregnancy and childbirth.

Postpartum anxiety occurs in women who have given birth on the third or fourth day and peaks on the fifth and fourteenth day (Bobak, 2005). Many internal factors cause postpartum anxiety, such as changes in hormone levels and age.

At an early age, early pregnancy is said to increase biomedical risks and result in suboptimal behavior patterns for both the mother giving birth and the babies and children who will later be raised. As the mother's age increases, her emotional maturity should also increase, thereby increasing her involvement and satisfaction in her role as a parent and forming optimal maternal behavior patterns as well.

Based on the results of the review, it was found that there is a relationship between early pregnancy and postpartum anxiety. Mothers who become pregnant at an early age tend to experience physical fatigue after giving birth, experience dehydration, decreased stamina and lose a lot of blood. Postnatal anxiety in mothers also includes fear during childbirth and worry about the condition of the baby. Generally, at an early age (<20 years) they still experience unstable emotions so they will experience anxiety very easily compared to mothers who are old enough. The author's advice is to avoid early pregnancy so as to avoid incidents of postpartum anxiety because at an early age they are generally not ready physically and mentally.

#### **AUTHOR CONTRIBUTION**

In preparing this journal, Nabilah Zhafirah and Shifa Nabila collaborated to sort the

journals to be used according to predetermined inclusion and exclusion criteria. Nabilah Zhafirah, Shifa Nabila, and Farida Fitriana collaborated to analyze the research results.

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#### **CONFLICT OF INTERESTS**

There is no conflict of interest in this study.

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