



Psychological Impact of Adolescent Pregnancy in Developing Countries: A Scoping Review

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ABSTRACT

Background: The increasing prevalence of adolescent pregnancy is a concern, as it affects 17% of the world's population. Adolescent pregnancy could potentially have significant psychological impacts, including shameful, fearness, depression, and even suicidal thoughts. **Purpose:** The aim of this scoping review was to analyze the psychological effects of adolescent pregnancy in developing countries based on evidences published previously. **Method:** This scoping review was using Arksey and O'Malley's approach. PEOS framework was used for identifying review question. The literature search was conducted by using three primary databases: PubMed, ScienceDirect, and Wiley Online Library. Gray literature was searched through Google Scholar, and included evidences were critically appraised by using JBI and MMAT critical appraisal tools. **Results:** Based on the search results of 542 articles, 7 were selected. This review focuses on the psychological impact of teenage marriage, including depression, stress, low self-efficacy in becoming parents, stigma or social pressure, and uncertainty about the future. Adolescent pregnancy leading to a negative impact on mental health, depression, stress, and low self-confidence among prospective parents. These issues arise due to a lack of psychological readiness to face the challenges of marriage, lack of family support, marital conflict, community stigmatization, ostracism, and shame. **Conclusion:** Adolescent pregnancy has adverse psychological impact for mother, thus it is necessary to initiate cross-sectoral work collaboration to provide health and social services as well as reducing stigma within family, peer, and community environment.

Keywords: Adolescent AND pregnancy AND Psychological impact

BACKGROUND

According to the WHO, adolescents are the population between the ages of 10 and 19 (UNICEF, 2018). Adolescence is a critical period of dynamic growth and development that involves the physical, psychological, and intellectual dimensions of individuals with a significant level of intensity (Fakhari et al., 2022; Sezgin & Punamäki, 2020). Adolescent marriage is a form of violence and a violation of children's rights that must be taken into account. The highest rates of early marriage have been reported in Asian and African countries, which can affect girls' psychological and physical well-being. According to a 2018 report by UNICEF, the proportion of young women married as children has fallen by 15 percent over the past decade. From one in four (25 %) to about one in five (21 %), this falls short of the Sustainable Development Goal target of ending this harmful practice by 2030 (Arksey & O'Malley, 2015).

Pregnancy is a normal stage of a woman's life which involves physical and emotional changes. Teenage pregnancy will have an impact on changes in physical, mental and social health which will be influenced by several things, one of which is psychological conditions during pregnancy. Some other factors that may influence the psychological impact of teenage pregnancy in developing countries are unwanted pregnancy, early marriage, and lack of knowledge about reproductive health. Studies have shown that pregnant adolescents in developing countries are at greater risk of psychological effects than adolescents in developed countries (Astuti & Putri, 2022).

Adolescent pregnancy not only affects the mental health of the mother but also poses high health risks for both the adolescent and her baby. Complications during pregnancy and childbirth are the main factors leading to high mortality rates among adolescent girls aged 15-19 years (Osok et al., 2018; Utami, 2019; Z Jamaluddin, 2016). To contextualize the issue within a broader sociocultural framework, it is essential to consider the role of education in equipping adolescents with the knowledge and skills necessary to navigate their reproductive health (Das et al., 2021). Education systems that include comprehensive sex education have been shown to delay the onset of sexual activity, reduce the number of sexual partners, and increase contraceptive use among adolescents. However, the implementation of such programs is often hampered by cultural resistance and political hurdles (Kartika Adyani¹, Alfiah Rahmawati, 2021).

Moreover, the intersectionality of poverty, education, and health cannot be overstated. Adolescent girls in impoverished regions are disproportionately affected by early pregnancy, which often results in truncated educational opportunities, perpetuating a cycle of poverty. These socioeconomic factors not only limit individual potential but also have far-reaching implications for national development (Aye et al., 2018; Bennett L R, 2014). Therefore, it is necessary to enhance awareness and social assistance for pregnant adolescents in developing nations to mitigate the psychological consequences and health impact that may arise.

OBJECTIVE

This scoping review aimed to determine the the psychological impact of adolescent pregnancy in developing countries based on evidences published previously.

METHODS

This scoping review focuses on the literature regarding the psychological impact of adolescents pregnancy in developing countries. The review was conducted following Arksey and O’Malley’s guidelines. The identification of relevant research, study selection, data charting, collation, summarizing, and reporting are included in this scoping review. The review was developed using the PEOs (population, exposure, outcome, and study design) frameworks. Relevant studies were identified through a thorough search strategy of databases, including Pubmed, Science Direct, and Wiley, as well as Google Scholar for searching gray literature. Using PRISMA and Flowchart to search the literature, 542 articles were screened and 7 articles were selected based on the inclusion and exclusion criteria (Arksey & O’Malley, 2015).

Article Search Strategy

The search for articles was conducted using three databases: Pubmed, ScienceDirect, and Wiley. Scoping literature review question based on PEOs framework table 1 is “What is the psychological impact on teenage pregnancy in developing countries?”

Table 1.
Framework

| <i>P</i> <i>(Population)</i> | <i>E</i> <i>(Exposure)</i> | <i>O</i> <i>(Outcome)</i> | <i>S</i> <i>(Study Design)</i> |
|---------------------------------|-------------------------------|------------------------------|--|
| Adolescents | Pregnancy | Psychological Impacts | It is quantitative, qualitative, and cohort studies discussing the psychological impact on adolescent pregnancy. |

Based on the PEOs framework above, the researchers’ scoping review question is: What is the psychological impact of adolescent pregnancy in developing countries?

Table 2.
Keywords

| <i>Population</i> | <i>Exposure</i> | <i>Outcomes</i> |
|-------------------------------|------------------------------------|--|
| Adolescent* OR Teen* OR Youth | Pregnant* OR Antenatal OR Prenatal | Psychological Impact OR Psychological Effect OR Mental health problems |

Table 3.
Article Criteria

| No | Components | Discussion |
|----|--------------------|--|
| 1 | Inclusion Criteria | 1. Articles published in the last 5 years 2. Research articles published in English and Indonesian 3. Original research article 4. Articles from developing countries |
| 2 | Exclusion Criteria | Review articles, articles that only contain abstracts, opinion articles, book chapters |

Article Selection

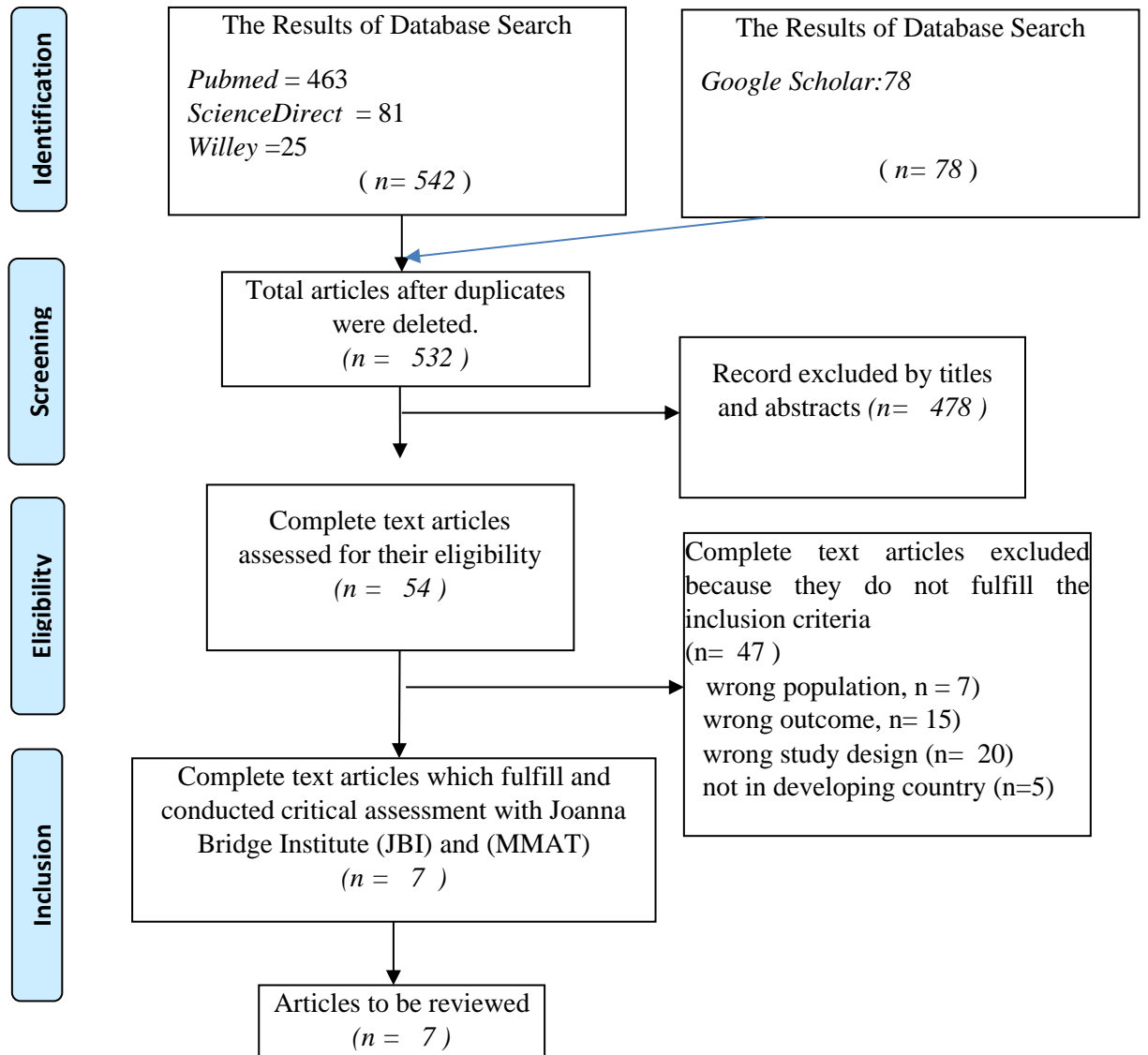


Figure 1. PRISMA-ScR Flow chart

**Table 4.
Data Charting**

| No | Title /Writer/ Year/ | Country | Aim | Research Type, Participant/ Sample Size, Data Collecting Technique, DataAnalysis | Result |
|-----------|---|-----------|--|--|--|
| A1 | Adverse maternal outcomes of adolescent pregnancy in Northwest Ethiopia: A prospective cohort study (Kassa et al., 2021) | Ethiopia | Conducted to assess the adverse maternal outcomes of adolescent pregnancy in Northwest Ethiopia. | This is a cohort study that involved 418 adolescents (aged 15-19 years) and 836 adult women (aged 20-34 years). The study utilized multistage sampling, and data was collected using the Edinburgh Postnatal Depression Scale. Data analysis was conducted using EpiData (version 3.1 Denmark) and STATA software (version 14 StataCorp, College Station, TX). | According to the study, adolescent girls are less likely than adult women to receive their first antenatal care before reaching 16 weeks' gestation (58.4% vs. 71.2%). This puts them at a higher risk of postpartum depression, which can negatively impact the mother's ability to care for the baby and have broader effects on the mother, family, and community, such as poor educational achievement and school dropout. |
| A2 | Indonesian adolescents' experiences during pregnancy and early parenthood: a qualitative study (Astuti et al., 2019) | Indonesia | Explored female and male Indonesian adolescents' experiences during pregnancy and early parenthood, as a consequence of premarital pregnancy | This is an exploratory qualitative research study. The study included 20 participants who were selected using purposive and snowball sampling techniques. Data was collected through interviews, which were recorded and transcribed verbatim. The data was analyzed using Collaizi thematic analysis and N-Vivo software. | The research results indicated that adolescent pregnancy is socially stigmatized due to limited access to education and employment. Additionally, female participants often face significant pressure, stress, and psychological burdens, such as considering ending a pregnancy or even suicide. |
| A3 | Child marriage and psychological wellbeing in Niger and Ethiopia (John et al., 2019) | Ethiopia | To test the relationship child marriage with overall psychological well-being and its sub-domains | Type of research is mixed method. The study utilized a mixed-methods approach and focused on ever-married women aged 18-45 years in Niger (n=2764) and Ethiopia (n=4149). Stratified sampling was employed, and data was collected through questionnaires, in-depth interviews, and FGDs. The data was analyzed using multivariate linear regression with Stata 14 software. | The quantitative research results indicated that early marriage (marriage at age 15 or earlier) is significantly associated with a decrease in overall psychological well-being in Nigeria and Ethiopia. The qualitative research results reveal that child brides in Ethiopia reported experiencing emotional stress and depression due to the burden of marriage responsibilities at an early age. |

| | | | | | |
|-----------|---|------------|---|---|--|
| A4 | Physical and Psychological Vulnerability of Adolescents during Pregnancy Period as Well as Post Traumatic Stress and Depression after Child Birth (Akter, 2019) | Bangladesh | To find out the physical impacts and The main psychology of adolescents during pregnancy and after giving birth. | It is qualitative research. The participant of this study was a adolescent mother. Data was collected through case study and interviews. | The research findings indicated that adolescent mothers are at risk of experiencing various health complications, including preeclampsia, anemia, premature birth, and postpartum depression. Additionally, they are more likely to face social and psychosocial stress, negatively impacting their education and employment opportunities. Furthermore, they may not receive adequate care and support from their families. |
| A5 | Adversities and mental health needs of pregnant adolescents in Kenya: identifying interpersonal, practical, and cultural barriers to care (Osok et al., 2018) | Kenya | To understand depression and barriers to mental health care associated with teenage pregnancy and highlights the factors Negative social determinants of health | It is a qualitative research using grounded theory method. The research participants were 12 pregnant adolescents (aged 15-19 years) attending antenatal services at health facilities in Nairobi. The data collection method was through in-depth semi-structured interviews. Data analysis was done thematically according to Collaizi. | The results of the study explained that adolescent pregnancy causes mental health problems such as depression, anxiety and stress around pregnancy caused by feelings of insecurity about the future, feeling very defeated, sad about the pregnancy, feeling unsupported and helpless in caring for the baby, and limited educational or livelihood opportunities for postnatal personal development. |
| A6 | Hubungan Dampak Pernikahan Dini Dengan Gangguan Psikologis Pada Kehamilan Remaja (Correlation of Early Marriage Impact on Psychological DIssorded among Pregnant Adolescents) (Astuti et al., 2020) | Indonesia | To analyze the influence of the impact of early marriage on psychological changes in teenage pregnancy | It is quantitative research type with cross sectional approach. The research sample was 55 pregnant adolescent mothers in North Luwu Regency area. The sampling technique uses accidental sampling, data collection methods use questionnaires and interviews. Data analysis used univariate and bivariate using SPSS 21.0. | The results of the research explained that there is a significant influence between social and psychological disorders with a P value of $p=0.008$. This is because adolescent pregnancies are unable to accept changes in the unfavorable social environment, so they experience psychological disorders such as anxiety, stress, depression or post-traumatic stress disorder, which results in the pregnancy becoming a risky pregnancy (such as miscarriage, pre-eclampsia, eclampsia and LBW and death of pregnant women). |
| A7 | Adolescent pregnancy and young motherhood in rural Zimbabwe: Findings from a baseline study (Woollett et al., 2021) | Zimbabwe | To understand pregnant adolescents and young mothers in rural Zimbabwe by explaining their risk profile and providing contextually meaningful advice | Quantitative research type with a Cross Sectional approach. The research sample of pregnant adolescents and young mothers was 422 women aged 14-24 years. Data collection methods use questionnaires and interviews. Data analysis using STATA v14. | The research findings explained that the majority of participants experienced an identity crisis, changes in their self-esteem, and uncertainty about the future due to adolescent pregnancy, resulting in a lack of motivation to express themselves. Unwanted pregnancy, coupled with the enormous burden of caregiving responsibilities and minimal social support, can significantly increase stress levels. |

Article Quality Assessment with Critical Appraisal Tool

Article quality assessment is carried out carefully and systematically using the Joanna Bridge Institute (JBI) (Peter M, et.al 2015) with the following criteria:

- 2 : Answers are narrated fully and in detail
- 1 : Answers are narrated but incomplete
- 0 : No answer

The article underwent a thorough and systematic quality assessment using Mixed Methods Appraisal Tools (MMAT) with the following criteria:

- 2 : Answers are narrated fully and in detail (Yes)
- 1 : Answers are narrated but incomplete (No)
- 0 : No answer (Not answered)

Based on the assessment results, there were 7 in-depth articles using the Joanna Bridge Institute (JBI) on articles (A1, A2, A4, A5, A6, A7). The next step is to classify the quality into four predetermined criteria/values, namely:

Table 5.
Article Quality Rating

| Score | Scale |
|-----------------------|--------------------|
| A = very good (21-30) | 0 = No |
| B = good (11-20) | 1 = Not applicable |
| C = low (0-10) | 2 = Not clear |
| | 3 = Yes |

The results of all articles, obtained 4 quality A (A1, A2, A6) and 3 quality B (A5, A4, A7). One article (A3) utilized mixed method research and employed the MMAT Assessment tool. The results indicated that all question items were answered “Yes”, meeting the A requirement.

Table 6.
JBI Critical Appraisal Cohort Study

| No | Question items | No item A-1 |
|----|--|----------------|
| 1 | Were the two groups similar and recruited from the same population? | 2 |
| 2 | Were the exposures measured similarly to assign people to both exposed and unexposed groups? | 2 |
| 3 | Was the exposure measured in a valid and reliable way? | 2 |
| 4 | Were confounding factors identified? | 2 |
| 5 | Were strategies to deal with confounding factors stated? | 2 |
| 6 | Were the groups/participants free of the outcome at the start of the study (or at the moment of exposure)? | 1 |
| 7 | Were the outcomes measured in a valid and reliable way? | 2 |
| 8 | Was the follow up time reported and sufficient to be long enough for outcomes to occur? | 2 |
| 9 | Was follow up complete, and if not, were the reasons to loss to follow up described and explored? | 2 |
| 10 | Were strategies to address incomplete follow up utilized? | 2 |
| 11 | Was appropriate statistical analysis used? | 2 |
| | Score | 21/A |

Table 7.
JBI Critical Appraisal Cross-Sectional Study

| No | Question items | No item | |
|--------------|--|-------------|-------------|
| | | A-6 | A-7 |
| 1 | Were the criteria for inclusion in the sample clearly defined? | 2 | 2 |
| 2 | Were the study subjects and the setting described in detail? | 2 | 2 |
| 3 | Was the exposure measured in a valid and reliable way? | 2 | 1 |
| 4 | Were objective, standard criteria used for measurement of the condition? | 2 | 2 |
| 5 | Were confounding factors identified? | 2 | 1 |
| 6 | Were strategies to deal with confounding factors stated? | 2 | 1 |
| 7 | Were the outcomes measured in a valid and reliable way? | 2 | 2 |
| 8 | Was appropriate statistical analysis used? | 2 | 1 |
| Score | | 16/A | 12/B |

Table 8.
JBI Critical Appraisal Qualitative

| No | Question items | No item | | |
|--------------|---|-------------|-------------|-------------|
| | | A-2 | A-4 | A-5 |
| 1 | Is there congruity between the stated philosophical perspective and the research methodology? | 2 | 1 | 2 |
| 2 | Is there congruity between the research methodology and the research question or objectives? | 2 | 2 | 2 |
| 3 | Is there congruity between the research methodology and the methods used to collect data? | 2 | 2 | 2 |
| 4 | Is there congruity between the research methodology and the representation and analysis of data? | 2 | 0 | 2 |
| 5 | Is there congruity between the research methodology and the interpretation of results? | 2 | 1 | 2 |
| 6 | Is there a statement locating the researcher culturally or theoretically? | 2 | 1 | 1 |
| 7 | Is the influence of the researcher on the research, and vice-versa, addressed? | 2 | 2 | 2 |
| 8 | Are participants, and their voices, adequately represented? | 2 | 1 | 1 |
| 9 | Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body? | 2 | 1 | 1 |
| 10 | Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the Data? | 2 | 1 | 2 |
| Score | | 20/A | 12/B | 17/B |

Table 9.
Mixed Methods Assessment (MMAT), 2018 version

| No | Study | No Item |
|--------------|---|-------------|
| 1. | Clear research questions | 2 |
| 2. | The data collected makes it possible to answer the research questions | 2 |
| 3. | There are sufficient reasons to use a mixed methods design | 2 |
| 4. | Research components were effectively integrated to answer the research questions | 2 |
| 5. | The output from the integration of qualitative and quantitative components is interpreted adequately | 2 |
| 6. | Discrepancies and inconsistencies between quantitative and qualitative results have been adequately addressed | 2 |
| 7. | The research components adhere to the quality criteria of each method tradition used | 2 |
| Score | | 14/A |

| Article Assessment Score | Grade Classification |
|----------------------------|-------------------------|
| If the answer is "Yes" = 2 | A = 11 – 14 (Very Good) |

| | |
|-----------------------------------|--------------------|
| If the answer is "No" = 0 | B = 7 – 10 (Good) |
| If the answer is "Don't know" = 1 | C = 3 – 6 (Enough) |
| Highest score = 2 | D = < 3 (Less) |
| Total assessment = 7 questions | |
| Total Score = 2 x 7 = 14 | |

RESULT AND DISCUSSION

Characteristics of Articles

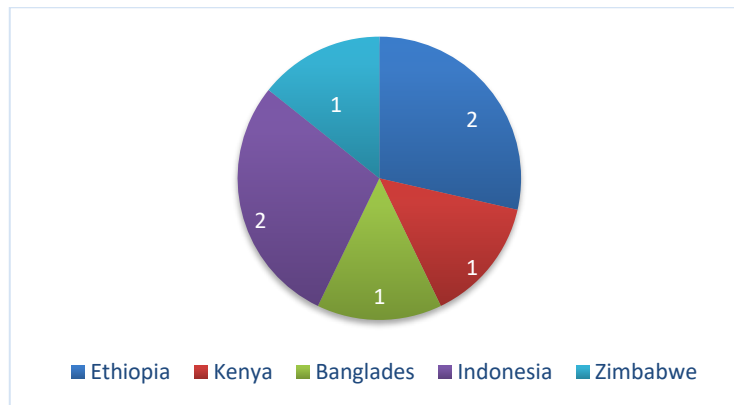


Figure 2. Article Characteristics by Country

Based on the diagram above, it can be concluded that the characteristics of 7 articles are from several developing countries including (2) Indonesia, (2) Ethiopia, (1) Kenya, (1) Bangladesh, and (1) Zimbabwe.

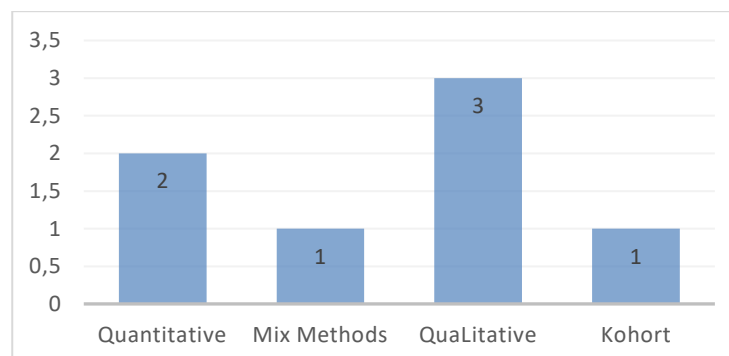


Figure 3. Article Characteristics Based on Research Design

Based on the diagram above, it can be concluded that the characteristics of articles based on research design are (2) quantitative research articles with cross-sectional design, (1) mix method articles, (3) qualitative research articles, and (1) cohort research articles.

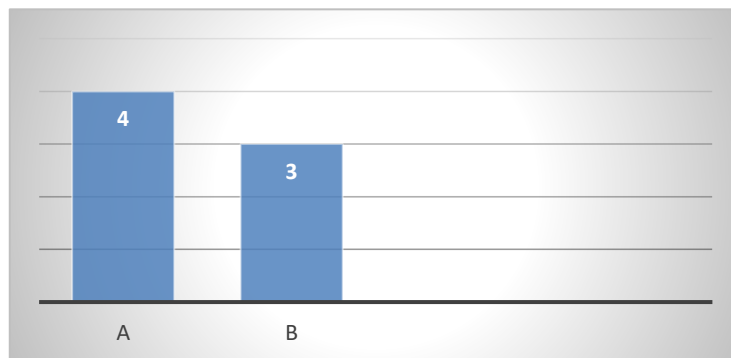


Figure 4. Characteristics of Articles Based on Quality

Based on the diagram above, it can be concluded that out of the 7 assessed articles, 4 articles showed A quality (A1, A2, A3, A6) and 3 articles showed B quality (A4, A5, A7).

Table 10
Mapping Themes

| No | Theme | Sub-theme | Article |
|----|-------------------|-----------------------------|-------------------|
| 1. | Impact Psychologi | Depression | A1,A2,A3,A4,A5,A6 |
| | | Stress | A2,A3,A6,A7 |
| | | Low Parenting self efficacy | A1,A6,A7 |
| | | Stigma/Social Pressure | A2,A4,A7 |
| | | Uncertainty of the Future | A1,A2,A4,A5,A7 |

Theme Analysis

Based on the results of a review of 7 articles that are in accordance with the purpose of the scoping review, several articles were obtained that discuss related themes as follows:

I. Psychological Impact of Adolescent Pregnancy

Based on the results of a review of 7 articles in accordance with the purpose of the scoping review, several articles were obtained that discussed the impact of adolescent marriage on psychology or mental well-being of women including:

1. Depression

Depression is a mental health disorder characterized by persistent feelings of sadness, guilt, hopelessness, and worthlessness. Adolescent marriage can lead to increased vulnerability to marital conflict, stigmatization, ostracism, and shame for women. Additionally, many teenage girls face economic and physical challenges and may experience depression during pregnancy and postpartum. According to Articles 1, 2, 3, 5, and 6, adolescent women have twice the likelihood of experiencing postpartum depression compared to adult women. It is in line with a study which showed that unplanned pregnancy is associated with increased risk factors for postpartum depression and is associated with a higher risk of morbidity and suicide risk among adolescents.

2. Stress

Stress is a natural psychological response to threatening situations or unpleasant pressures, tensions, and disturbances that originate externally. Early marriage occurs when

a person marries under the age of 19. At this stage, they are often not fully prepared for the complex role of motherhood, resulting in greater challenges in carrying out family obligations and responsibilities. Articles 2, 3, 6, and 7 stated that physical, psychological unpreparedness in dealing with social or economic problems, inability to foster marriage and problems of domestic violence that cannot be resolved properly in marriage will affect the quality of marriage decreasing so that it has an impact on individual mental health (stress) . In line with research, the impact of early marriage on adolescents from the psychological aspect is that anxiety and stress arise where stress can also cause depressive neuritis due to experiencing a protracted disappointment process and because there are feelings of excessive pressure.

3. Low Parenting Self-Efficacy

Parenting self-efficacy refers to parents' confidence in their ability to organize and perform tasks related to parenting . The implication of early marriage is that couples in such circumstances are more likely to experience difficulties in fulfilling or fully understanding their rights and obligations as a couple . Articles 1, 6, and 7 suggested that the absence of social support from peers, family, and spouses can have a significant impact on the psychology of adolescent girls. This is due to their limited knowledge about how to fulfill their roles as mothers and wives, which can damage their self-confidence and trigger negative emotions such as anxiety, worry, and emotional stress.

4. Stigma/Social Pressure

Adolescents who become pregnant often face social stigma and discrimination, as well as pressure from various parties including the community, peers, and even family. Stigma is a negative trait that arises due to environmental influence and can result in discriminatory or unfair treatment of a person . Articles 2, 4, and 7 stated that adolescent girls who experience pregnancy may feel shame, guilt, and discomfort due to societal criticism, which can negatively impact their psychological well-being. Women who marry before the age of 18 face the risk of being subordinated in society. They are often considered less valuable and subjected to demeaning treatment. Marriage at a young age can increase vulnerability to discriminatory treatment in the community, which may lead to mental health issues

5. Uncertainty about the Future

Adolescents who become pregnant often face social stigma and discrimination, as well as pressure from various parties including the community, peers, and even family. Articles 1, 2, 3, 4, 5, and 7 stated that adolescent pregnancy is often stigmatized, leading to restricted access to education and employment. The stud showed that the consequences of adolescent pregnancy include dropping out of school, limited education and employment opportunities, and increased stress, anxiety, and uncertainty about the future (Aye et al., 2018; Wulandari et al., 2023).

II. Limitation

In conducting this scoping review, there were weaknesses in the incomplete review. Some articles did not provide adequate explanation of inclusion criteria, data analysis, confounding factors, and control strategies.

III. Conclusion and Suggestion

Adolescent pregnancy could potentially have negative effects on psychological well-being, including depression, stress, low self-efficacy in parenting, social stigma, and uncertainty about the future. These challenges often stem from a lack of psychological preparedness to face social and economic obstacles, difficulties in maintaining a marriage, minimal family support, marital conflict, community stigmatization, ostracism, and shame. These factors can all contribute to a negative impact on mental health. Therefore, to protect the rights of pregnant adolescents, cross-sectoral cooperation is necessary. This can be achieved by providing assistance from health workers who are competent in the field of mental health, while simultaneously reducing stigma in the family, peers, and society.

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