Stress and Resilience Among Adolescents Experiencing Unintended Pregnancy: A Scoping Review

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ABSTRACT

Background: Unintended pregnancy (UP) among adolescents represents a global issue with profound psychological, social, and emotional consequences. Adolescents experiencing UP often face social stigma, family pressure, and uncertainty about their future, which can lead to prolonged psychological distress. This study aims to explore the experiences of stress and the resilience strategies employed by adolescents dealing with UP.

Subjects and Method: This research employs a scoping review methodology based on the Arksey and O'Malley framework, with the population consisting of adolescents, teenage girls, and young mothers. The concepts included stress, stress experience, resilience strategies, and coping mechanisms, and the context was applicable across various settings. Literature was sourced from databases such as PubMed and ScienceDirect. Inclusion criteria comprised scholarly publications in English or Indonesian, primary research articles or relevant reviews addressing similar themes, and studies published within the last 10 years to ensure relevance. The PRISMA Flowchart illustrated the selection process, while the critical appraisal of the selected articles followed the Joanna Briggs Institute (JBI) guidelines.

Results: UP is a significant contributor to psychological stress among adolescents, driven by social stigma, isolation, and a lack of emotional support. Nevertheless, resilience emerges as a crucial factor in managing such stress. Protective factors such as support from family and peers and emotional regulation training are pivotal in enhancing adolescent resilience.

Conclusion: Community-based interventions focusing on fostering resilience through the development of psychological skills and stress management strategies are essential for supporting the mental health of pregnant adolescents.

Keywords: Adolescent, pregnancy, stress, resilience, coping mechanisms, scoping review

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BACKGROUND

Unintended pregnancy (UP) among adolescents is a complex and pressing global health issue that demands comprehensive attention from various stakeholders. UP refers to circumstances in which an adolescent, whether married or unmarried, experiences a pregnancy that was neither planned nor desired. This phenomenon affects physical health and has profound psycho-

logical and social repercussions for adolescents. According to a 2022 report by the WHO, approximately 21 million pregnancies occur annually among adolescents aged 15–19 across different regions, with nearly half, around 50%, classified as unintended. Of these, approximately 55% result in abortion, which is often carried out under unsafe conditions (WHO, 2022). Data from the Guttmacher Institute in 2022 further highlights that sub-Saharan Africa has the highest UP rate, with 91 cases per 1,000 women aged 15–49 (Guttmacher, 2022). In Asia, the rate stands at 35 cases per 1,000 women of reproductive age, with the majority of cases concentrated in South and Southeast Asia (Hussain, 2013).

Governments must prioritize policies and intervention programs aimed at addressing adolescent pregnancies. In Indonesia, efforts to tackle this issue have intensified through partnerships with UNFPA and UNICEF under the Better Reproductive Health and Rights for All in Indonesia (BERANI) program, initiated in 2018 and continuing through 2023. This initiative focuses on improving the quality of life and safeguarding the sexual and reproductive rights of women and young people in Indonesia. Key focus areas include strengthening midwifery education and regulations, enhancing collaboration to improve access to family planning, providing youth-friendly sexual and reproductive health services, improving health sector responses to gender-based violence, and empowering communities to prevent adolescent pregnancies (UNFPA, UNIC, and UNICEF 2023).

The consequences of UP are diverse and often detrimental to adolescents. They frequently face social stigma, familial rejection, and condemnation from their communities, which can trigger deep feelings of shame and depression. These psychological burdens negatively impact their mental health and hinder their social development. Instead of experiencing a healthy transition to adulthood, many adolescents confronted with UP face harsh realities that drastically alter their lives (Siahaan et al. 2024). Adolescents in this situation often encounter difficult decisions, whether to seek an abortion, which may intensify feelings of guilt and increase social stigma, or to marry at an early age, potentially sacrificing their education and personal growth. These choices are frequently made without adequate support, exacerbating feelings of isolation and a loss of control over their lives. Therefore, it is crucial to gain a deeper understanding of the stress experienced by adolescents in these circumstances.

Resilience serves as a crucial factor in helping adolescents overcome the challenges associated with unintended pregnancies (UP). With appropriate support, such as emotional care from family and friends, alongside access to education and healthcare services, adolescents can better manage the stress and stigma they encounter. Programs focused on developing life skills, providing psychological support, and offering reproductive health education play a significant role in fostering mental resilience (Osmayeni and Taufik 2024). Resilience, the ability to adapt to and recover from adversity, enables adolescents to navigate the difficulties linked to UP. A study by Diana et al. (2024) revealed that adolescents with strong social support systems, particularly from family and friends, and well-developed emotional regulation skills tend to exhibit higher levels of resilience (Diana et al., 2024). This support system mitigates the effects of stigma and psychological stress, underscoring the importance of a positive social environment in promoting mental well-being.

Effective resilience strategies can empower adolescents to confront the cha-

llenges of becoming young mothers. Emotional and practical support from both family and community provides additional strength to overcome obstacles. Proactive approaches, such as stress management training and the development of emotional intelligence, further enhance adolescents' ability to cope with new and evolving challenges. Through resilience, adolescents are not only able to endure difficult circumstances but can also grow and thrive despite experiencing significant pressure (Putri and Laeli, 2024).

This study seeks to explore the stress experiences and resilience strategies employed by adolescents facing UP. The research uses a scoping review methodology to identify and analyze relevant literature to understand this issue comprehensively. The findings are expected to contribute to developing more effective policies and intervention programs to address adolescent UP, ultimately improving their quality of life. Additionally, this study aspires to offer practical recommendations for supporting adolescents in overcoming their challenges by gaining a deeper understanding of their experiences and coping mechanisms; more responsive and tailored programs can be designed to create a supportive environment that empowers adolescents to face these challenges more effectively and achieve a brighter future.

SUBJECTS AND METHOD

1. Study Design

This study examines the literature on stress experiences and resilience strategies among adolescents facing unintended pregnancies (UP) using a scoping review methodology. This method was selected because it enables researchers to compare key concepts, identify research gaps, and analyze existing evidence within the relevant literature. The approach follows the framework established by Arksey and O'Malley (2005), which offers a structured process for conducting scoping reviews. This process includes determining the review's focus using the PCC framework (Population, Concept, and Context), identifying relevant articles, describing the selection process, applying the PRISMA flowchart for literature identification, conducting data extraction, and performing mapping or scoping analysis.

The Population, Concept, and Context (PCC) model was applied to organize and clarify the focus of this review. This framework aids in pinpointing key concepts relevant to the study's objective, establishing appropriate search terms, and setting inclusion and exclusion criteria. The research question formulated for this review is: "What are the stress experiences and resilience strategies among adolescents experiencing unintended pregnancies?. The PCC (Population, Concept, Context) framework guided the formulation of the review focus. The population included adolescents, teenage girls, young mothers, and adolescents experiencing unwanted pregnancies. The concept centered on stress, stress experiences, resilience strategies, and coping mechanisms. The context was applicable across diverse settings without geographic or cultural limitations.

Relevant literature was identified through systematic searches in PubMed and ScienceDirect using Boolean and truncation operators. Search terms included combinations such as: ((adolescen* OR teen* OR youth*) AND (teen* girl* OR adolescen* female*) AND (young mother* OR teen* mother*) AND (unwant* pregnanc* OR unintend* pregnanc*)) AND ((stress OR anxiet* OR tension) AND (resilien* strateg* OR cop* skill* OR adapt* strateg*) AND (build* resilien* OR foster* resilien*) AND (cop* mechanis* OR emotion* regulat*))".

2. Inclusion Criteria

The inclusion criteria for this scoping review comprised scientific publications written in English or Indonesian, primary research articles or review papers with themes aligned to the research focus, and studies published within the last ten years to ensure relevance and contemporaneity.

3. Exclusion Criteria

The exclusion criteria included commentaries or editorial articles, non-peer-reviewed literature, general literature reviews lacking empirical data, and articles for which full-text access was unavailable.

4. Operational Definition of Variable

The following definitions are tailored to the specific context of adolescent unintended pregnancy, stress, resilience, and coping mechanisms.

Unintended Pregnancy (UP): A pregnancy that is either mistimed or unwanted at the time of conception among adolescents aged 10–19.

Stress: The psychological and emotional strain resulting from unintended pregnancy, including feelings of shame, anxiety, and fear of social stigma.

Resilience: The capacity to recover from stressors, characterized by coping skills, social support, and adaptive behaviors.

Coping Mechanisms: Behavioral and cognitive strategies adolescents use to manage emotional distress, including emotion-focused and problem-focused coping

5. Study Instruments

The researcher employed the PRISMA Flowchart to illustrate the article selection process. The PRISMA Flowchart is an evidence-based tool to enhance transparency and consistency in reporting systematic reviews and meta-analyses. It consists of a set of minimum reporting items that ensure clarity in documenting the selection process. This tool was deemed appropriate for the current study as it improves the quality of reporting in scholarly publications (PRISMA 2020 flow diagram for new systematic reviews, which includes searches of databases, registers, and other sources).

Once the article selection process was completed, the researcher conducted a feasibility assessment of the chosen articles using the Critical Appraisal method developed by the Joanna Briggs Institute (JBI). The JBI Critical Appraisal Tools are globally recognized instruments designed to evaluate research studies' methodological quality and ensure the evidence's reliability and validity (Porritt et al., 2020).

6. Data Analysis

The final stage involves compiling the review results into a well-structured report. This report includes a summary of findings from the selected articles, an analysis of identified patterns or trends, and recommendations or suggestions based on the gaps observed in the existing literature.

RESULTS

Data charting was conducted for the 11 selected articles to identify key elements from each study, including research objectives, study design, sample size, and the results or findings obtained. Among these articles, 5 employed qualitative research designs, 1 used a randomized controlled trial (RCT) design, 2 utilized a cohort study design, and three applied cross-sectional study designs. All articles originated from developing countries. After analyzing and evaluating these key elements, the relevant findings for this scoping review are as follows.
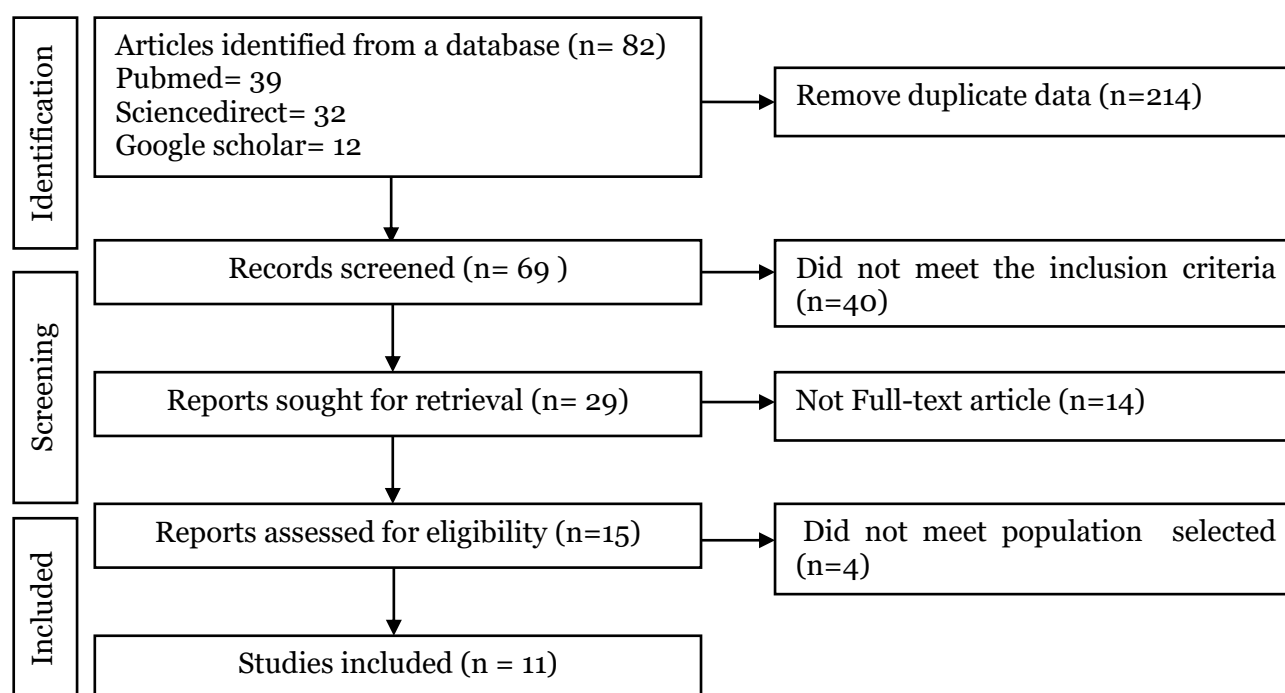
Figure 1. PRISMA-ScR Flow Diagram

Following an extensive search across all available databases, 83 articles were initially identified as relevant to the research question posed in this scoping review. After screening based on titles and abstracts, the number of articles meeting the established criteria was reduced to 69. A subsequent in-depth full-text review was conducted, resulting in the exclusion of articles that did not align with the study's focus. Specifically, articles were excluded for reasons such as targeting a population outside the adolescent age range, not addressing the concept of resilience or stress, lacking empirical data, or falling outside the predetermined publication year range. Ultimately, 11 articles were selected for independent review based on the predetermined inclusion and exclusion criteria.

The researcher employed the PRISMA Flowchart to illustrate the article selection process. The PRISMA Flowchart is an evidence-based tool designed to enhance transparency and consistency in reporting systematic reviews and meta-analyses. It consists of a set of minimum reporting items that ensure clarity in documenting each stage of the selection process, including the number of records identified, screened, excluded, and finally included. This tool was deemed appropriate for the current study as it improves the quality of reporting in scholarly publications (PRISMA 2020 flow diagram for new systematic reviews, which includes searches of databases, registers, and other sources).

A critical appraisal method was employed to evaluate the quality of the selected articles. This process assessed the research methodology by examining aspects such as internal validity, generalizability, and relevance to determine each study's credibility, value, and contextual significance. The Joanna Briggs Institute (JBI) checklist served as the primary tool for assessing the quality of the articles (Porritt et al., 2020).

Through this rigorous appraisal process, eleven articles were deemed relevant to the topic and met the inclusion criteria.

These articles encompassed a variety of research designs, including qualitative studies, cross-sectional analyses, cohort studies, and randomized controlled trials (RCTs). Each research design was evaluated using distinct critical appraisal criteria. The researchers utilized a grading system categorized into three quality levels, such as Excellent (Grade A), Good (Grade B), and Fair (Grade C), to assess the eleven articles that passed the critical appraisal stage.

Table1. Critical appraisal of included studies

Author (Year)	Study Design	Score	Max Score		Grade
Olajubu et al. (2021)	Cross-Sectional Analytical Study	32	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 25-32 = 17-24 = 9-16 = 0-8	A
Kishore et al. (2018)	Prospective Cohort Study	42	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 33-34 = 25-32 = 17-24 = 0-16	A
Damayanti et al. (2022)	Qualitative Case Study	39	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 30-40 = 20-29 = 10-19 = 0-9	A
Alves et al. (2023)	Prospective Cohort Study	38	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 33-34 = 25-32 = 17-24 = 0-16	A
Sejati et al. (2023)	Descriptive Qualitative Study	40	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 30-40 = 20-29 = 10-19 = 0-9	A
De Andrade et al. (2022)	Cross-Sectional Study	32	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 25-32 = 17-24 = 9-16 = 0-8	A
Naderpour et al. (2024)	Randomized Clinical Trial	43	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 40-52 = 27-39 = 14-26 = 0-13	A
Anta and Hendriani (2023)	Quantitative Explanatory Study	32	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 30-40 = 20-29 = 10-19 = 0-9	A
Wainaina et al. (2021)	Qualitative Study	38	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 30-40 = 20-29 = 10-19 = 0-9	A
Amalia and Azinar (2017)	Descriptive Qualitative Study	33	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 30-40 = 20-29 = 10-19 = 0-9	A
Mukuna and Aloka (2021)	Qualitative Interpretative Phenomenological Study	38	A(Very Good) B (Fairly Good) C (Moderate) D (Poor)	= 30-40 = 20-29 = 10-19 = 0-9	A

Table 2 presents a comprehensive overview of various studies exploring the relationship between resilience, stress, coping strategies, and social support among adolescents and pregnant women in different countries. Each study examines how these factors influence maternal health and well-being in specific contexts. For instance, Olajubu et al. (2021) conducted a cross-sectional study in Nigeria, focusing on pregnant adolescents and found that a significant percentage experienced moderate stress and low resilience, with key stressors being shame, partner rejection, and lack of parental support. In contrast, Kishore et al. (2018) in India explored the role of depression, resilience, and social support among pregnant women, showing that social support mitigated depression, but resilience did not have the same effect.

Damayanti et al. (2022), in a qualitative case study from Indonesia, highlighted how protective factors such as competence, coping, and social support, alongside the lack of early family support, shaped the resilience of adolescents with premarital pregnancies. Similar findings were seen in the study by Sejati et al. (2023), where adolescents used support from family, friends, and partners, as well as emotional regulation and future planning, to cope with stigma surrounding unintended pregnancies.

The studies by Alves et al. (2023a) and De Andrade et al. (2022) further emphasized the importance of social support in fostering resilience. Alves et al. found that low resilience was associated with social vulnerability and low education in Nigerian pregnant women. In contrast, De Andrade et al. found that positive social interaction helped adolescent mothers cope in Brazilian community settings.

Other studies, such as that by Naderpour et al. (2024), focused on the effect of interventions. Their randomized clinical trial in Iran showed that resilience training significantly improved both mental health and resilience scores among women with unwanted pregnancies. Additionally, Anta and Hendriani (2023) found that peer support had a significant positive effect on resilience among adolescents with out-of-wedlock pregnancies in Indonesia.

Studies from Kenya (Wainaina et al., 2021) and Indonesia (Amalia and Azinar, 2017) illustrated the emotional challenges and risky behaviors experienced by pregnant and adolescent mothers, including stigma, substance abuse, and poor reproductive health knowledge. Mukuna and Aloka (2021), in South Africa, showed how resilience in teenage mothers was nurtured through education and support from family and schools, emphasizing the role of psychosocial adjustment.

Together, these studies underline the complex interaction of individual, familial, and societal factors in shaping the resilience and mental health of adolescent mothers and pregnant women across different cultural contexts. They also highlight the importance of targeted interventions, peer support, and social support networks in promoting positive outcomes for this vulnerable population.

Table 2. Summary of Included Studies in the Scoping Review: stress and resilience among adolescents experiencing unintended pregnancy

Author (Year)	Country	Study Design	P (Population)	C (Concept)	C (Context)	Key Notes
Olajubu et al. (2021)	Nigeria	Cross-Sectional Analytical Study	Pregnant Adolescents	Stress, Resilience	Antenatal Clinics	80.5% experienced moderate stress; 77.2% had low resilience; negative correlation between stress & resilience; key stressors: shame, partner rejection, lack of parental support.
Kishore et al. (2018)	India	Prospective Cohort Study	Pregnant Women	Depression, Resilience and Social Support	Maternal Health Service	Depression is linked to adverse life events and low resilience/social support; social support moderated depression, but resilience did not.
Damayanti et al. (2022)	Indonesia	Qualitative Case Study	Adolescents with premarital Pregnancy	Resilience, Protective & Risk Faktors	Family and Peer Environment	Protective: competence, coping, social support; Risk: lack of early family support; personal networks crucial to resilience.
Alves et al. (2023)	Nigeria	Prospective Cohort Study	Pregnant Women (nulliparous)	Stress, Resilience	Public Antenatal Services	Low resilience is common, associated with social vulnerability and low education; stress is inversely related to resilience.
Sejati et al. (2023)	Indonesia	Descriptive Qualitative Study	Adolescents With Unintended	Resilience, Coping Strategies	Family and Social Context	Resilience developed through family/ friend/partner support, emotional regulation, and future planning helped cope with stigma.
De Andrade et al. (2022)	Brazil	Cross-Sectional Study	Adolescent Mothers	Social Support, Resilience	Community setting	Affective support was linked negatively with independence; positive social interaction aided coping and problem-solving.
Naderpour et al. (2024)	Iran	Randomized Clinical Trial	Women With Unwanted Pregnancy	Resilience, Mental Health	Health Facility	Resiliency training improved mental health and resilience scores significantly in the intervention group.
Anta and Hendriani (2023)	Indonesia	Quantitative Explanatory Study	Adolescent with an out-of-wedlock Pregnancy	Peer Support, Resilience	Online/Self-Report Context	Results indicated a significant effect of peer social support on resilience among adolescents with out-of-wedlock pregnancies. The significance value of 0.003 (p<0.050) suggested that peer support contributed 35.5% to the increase in resilience levels.
Wainaina et al. (2021)	Nairobi	Qualitative Study	Pregnant and Postpartum Adolescents	Stress, Coping Strategies	Informal Settlements	Adolescents experience feelings of shame, hopeless-ness, and suicidal thoughts during pregnancy and early motherhood. Coping strategies included social

| Author (Year)	Country	Study Design	P (Population)	C (Concept)	C (Context)	Key Notes
						withdrawal, associating with other pregnant women or adolescents, and engaging in risky behaviors such as substance abuse, alcohol consumption, and unsafe sexual activities.
Amalia and Azinar (2017)	Indonesia	Descriptive Qualitative Study	Adolescents with Unintended Pregnancy	Risk Behavior, Unintended Pregnancy	Community/family setting	Findings revealed that unintended pregnancies resulted from risky premarital sexual behavior, insufficient knowledge about reproductive health, permissive attitudes toward sexuality, exposure to pornographic media, parental attitudes, and peer influence.
Mukuna and Aloka (2021)	South Africa	Qualitative Interpretative Phenomenological Study	Teenage Mothers	Resilience, Psychological Adjustment	School/family support	The study revealed that teenage mothers exhibited resilience by continuing and completing their education through self-motivation and support from schools and families. The research recommended that the South African Department of Education develop training programs focused on psychosocial adjustment mechanisms to assist adolescent mothers in overcoming their challenges.
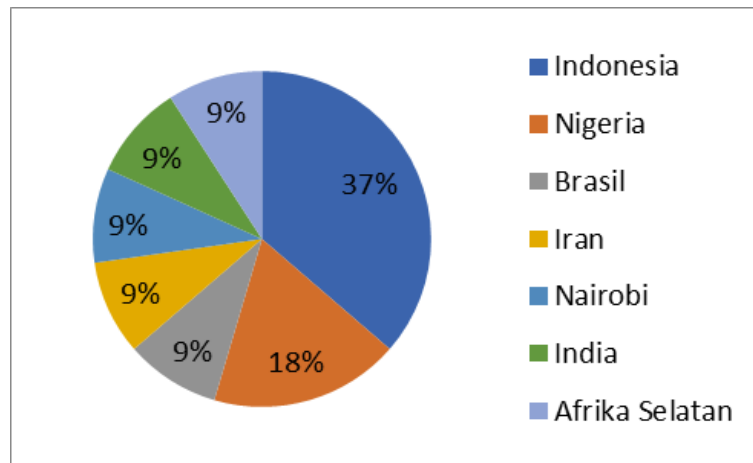
Figure 2. Diagram of stress and resilience among adolescents experiencing unintended pregnancy articles by country

As illustrated in Figure 2, all selected articles in this scoping review originate from developing countries, including Nigeria, India, Indonesia, Brazil, South Africa, and Iran. This concentration on developing nations highlights a significant gap in the literature, as most studies focus on contexts where maternal and adolescent health challenges are more prevalent due to socio-economic conditions, limited access to health-care, and cultural factors. The implications of this trend suggest that findings from these studies may be more applicable to regions facing similar developmental challenges and may not fully reflect the situation in developed countries. Additionally, this regional pattern emphasizes the need for further research in developed countries to compare and contrast the findings and assess whether similar trends exist across different socio-economic contexts.
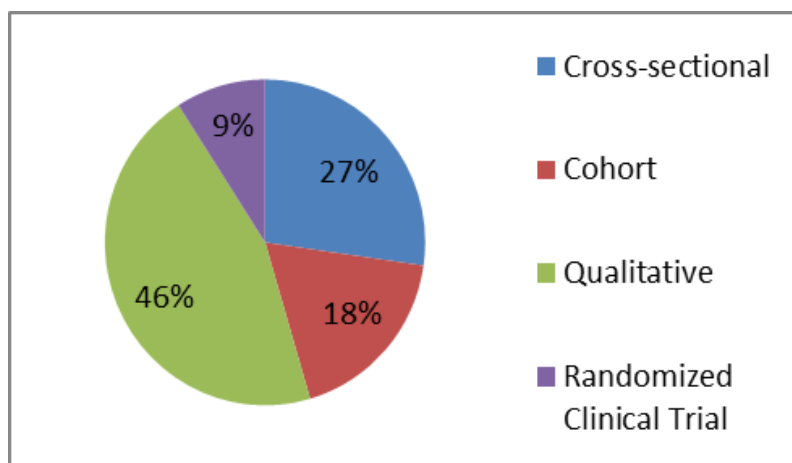

Figure 2. Diagram of stress and resilience among adolescents experiencing unintended pregnancy articles by research type

Figure 3 categorizes the research designs employed in the 11 selected articles of the studies, 5 utilized qualitative methods, focusing on in-depth exploration of personal

experiences, coping strategies, and the social contexts of pregnant adolescents and young mothers. These qualitative designs are particularly valuable in understanding the nuanced, individual-level experiences and the subjective nature of resilience, stress, and social support. Three studies employed cross-sectional designs, which allow for a snapshot of variables like stress and resilience at a single point in time, providing useful data but limiting causal interpretations. Two studies were cohort designs, which follow participants over time, offering better insights into the long-term effects of stress and resilience on maternal health. Finally, one study used a randomized controlled trial (RCT) to assess the efficacy of a specific intervention—resilience training—highlighting its potential as a robust method for testing cause-and-effect relationships in health interventions. This variety in research methods enriches the review by providing both broad observational data and detailed, cause-specific insights.
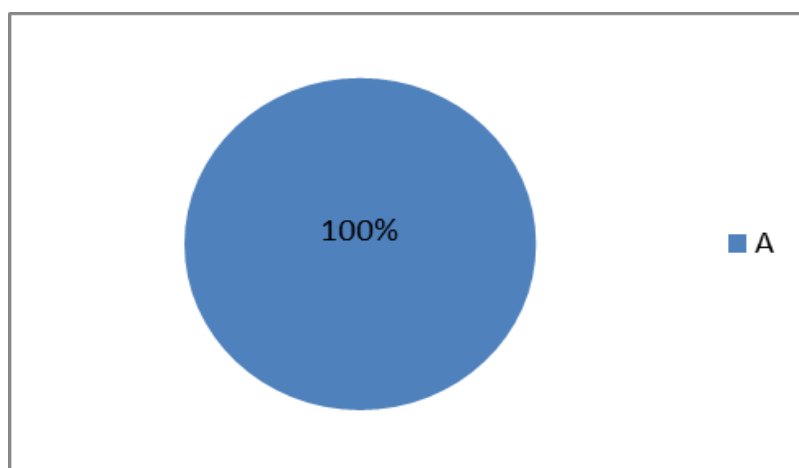

Figure 2. Diagram quality articles of stress and resilience among adolescents experiencing unintended pregnancy included in study

As presented in Figure 4, all 11 selected articles were critically appraised using the Joanna Briggs Institute (JBI) assessment tool. The results indicate that all articles received a Grade A, signifying high-quality research. This is a noteworthy strength of the review, as it ensures the reliability and validity of the findings discussed. However, it is important to note that high-quality research is not synonymous with methodological uniformity. The varied study designs, although of high quality, bring different strengths and limitations to the review's conclusions. The consistency in high quality across studies suggests that the research community is increasingly producing reliable data on the mental health and resilience of adolescent mothers, especially in the context of developing countries. This consistency also reinforces the relevance of the findings in understanding common themes such as the importance of social support and resilience-building interventions.

Table 3 outlines the thematic mapping derived from the scoping review on stress and resilience among adolescents experiencing unintended pregnancy (UP). The themes are categorized based on key issues identified in the literature, and the articles associated with each theme provide a deeper understanding of the various factors contributing to the experiences of adolescent mothers. The first theme, Risky Sexual Behavior in Adolescents, explores the unde-

rlying factors contributing to unintended pregnancy and its impacts. The sub-themes highlight contributing factors such as lack of sexual education, limited access to contraception, and peer pressure. The impact of UP on adolescents is also discussed, including how unintended pregnancies may affect their emotional, psychological, and social well-being. The articles by Sejati et al. (2023) and Amalia and Azinar (2017) provide comprehensive insights into these issues.

The second theme, Stress During Adolescent Pregnancy, addresses the stress levels faced by adolescents during pregnancy. The sub-themes in this category focus on the factors that influence stress, such as socio-economic challenges, lack of social support, and personal fears about motherhood. Psychosocial challenges that exacerbate stress are also considered, including the stigma of teenage pregnancy and changes in social dynamics. The impact of this stress on both the adolescent mothers and their pregnancies is examined in the works of Olajubu et al. (2021), Kishore et al. (2018), and Wainaina et al. (2021).

In the third theme, Resilience in Adolescent Mothers, the role of resilience in helping adolescent mothers cope with the challenges they face is explored. Resilience is seen as a key factor in overcoming adversity,

and the sub-themes examine how resilience is fostered and the various supporting factors that can enhance it, such as strong family support, social networks, and personal determination. The articles by Damayanti et al. (2022), Alves et al. (2023), and others provide evidence of the importance of resilience in navigating the difficulties of adolescent pregnancy.

The final theme, Interventions to Improve Resilience and Mental Health, discusses various interventions aimed at improving resilience and mental health among adolescent mothers. Resilience training programs, along with education and self-motivation initiatives, are highlighted as strategies that can help build the coping mechanisms necessary to manage stress and enhance mental well-being. The studies by Naderpour et al. (2024) and Mukuna and Aloka (2021) suggest that such interventions are critical in empowering adolescent mothers to overcome challenges and lead healthier lives.

Overall, Table 3 synthesizes the findings from the literature and illustrates the complex interplay of factors affecting adolescents who experience unintended pregnancies, as well as the importance of resilience and targeted interventions in promoting better outcomes for these young mothers.

Table 3. Thematic mapping in the scoping review: stress and resilience among adolescents experiencing unintended pregnancy

Theme	Sub-theme	Article(s)
Risky sexual behavior in adolescents	a. Contributing Factors of Unintended Pregnancy (UP) b. Impact of UP	(Sejati et al., 2023) ; (Amalia and Azinar,2017)
Stress during adolescent pregnancy	a. Stress Level Factors b. Psychosocial Challenges c. Impact of Stress During Pregnancy	(Olajubu et al., 2021); (Kishore et al.,2018); (Wainaina et al., 2021)
Resilience in adolescent mothers	a. Role of Resilience b. Influence of Resilience c. Supporting Factors of Resilience	(Damayanti et al., 2022); (Alves et al., 2023); (Sejati et al., 2023); (De Andrade et al., 2022); (Naderpour et al., 2024); (Anta Kumalasari and Hendriani, 2023); (Wainaina et al., 2021); (Mukuna and

Theme	Sub-theme	Article(s)
		Aloka, 2021)
Interventions to improve resilience and mental health	a. Resilience Training b. Education and Self-Motivation	(Naderpour et al., 2024); (Mukuna and Aloka, 2021)

DISCUSSION

Research conducted by Amalia and Azinar, (2017) highlights several factors influencing premarital sexual behavior among adolescents, including weak self-control, environmental influences, and a lack of family supervision. Adolescents with poor self-regulation often struggle to manage sexual urges or avoid risky situations. Peer pressure also plays a significant role, as adolescents tend to conform to social groups to gain acceptance or attain a certain social status. Additionally, easy access to pornographic content can heighten curiosity and encourage deviant sexual behavior (Hartati et al., 2025) A lack of familial attention and supervision further exacerbates the issue, making adolescents more vulnerable to risky decision-making (Moniz et al., 2024) Another crucial contributing factor is the low level of understanding regarding reproductive health (Astuti and Lestari 2024). Adolescents often remain unaware of the consequences of engaging in unprotected sexual activities, such as the risks of unintended pregnancies or the transmission of sexually transmitted infections (STIs) (Fatimah and Astuti 2022).

Risky sexual behavior among adolescents can result in severe consequences, particularly when it leads to unintended pregnancies. According to Sejati et al. (2023) adolescents who experience pregnancy at a young age frequently encounter significant psychological stress, including anxiety and depression. Unintended pregnancy among adolescents represents a global concern due to its far-reaching impact on various aspects of life, including physical, economic, and social dimensions, all of which can significantly affect their prospects (Fitri et al., 2022). Physically, adolescents with unintended pregnancies face a heightened risk of health complications such as anemia, preeclampsia, hypertension, and gestational diabetes. Furthermore, infants born to these mothers are at an increased risk of experiencing intrauterine growth restriction (IUGR), low birth weight (LBW), and premature birth (Fitri et al., 2022). Adequate social support is essential for helping pregnant adolescents cope with psychological pressures and improve their overall well-being (Anta and Hendriani, 2023).

Stress among pregnant adolescents represents a critical issue, as it not only affects the mother's mental health but also has implications for fetal development. Various studies have shown that stress levels in pregnant adolescents are often triggered by a combination of psychosocial and environmental pressures (Rendra et al., 2021). The stress experienced by pregnant adolescents primarily stems from a variety of factors. According to research by Olajubu et al., (2021), the majority of pregnant adolescents face high levels of stress, with key contributing factors including rejection from their partners, feelings of shame due to social pressures, and a lack of family support. These factors generate significant emotional distress, leaving adolescents feeling isolated and unable to cope with the challenges of pregnancy.

In addition to experiencing heightened stress levels, pregnant adolescents also encounter complex psychosocial challenges. Research conducted by Wainaina et al., (2021) reveals that social stigma, shame, and

pressure to meet societal expectations often make adolescents feel isolated. The study further explains that some adolescents attempt to cope with stress through unhealthy mechanisms, such as substance abuse, which only exacerbates their condition. This social isolation prevents them from accessing the support necessary to alleviate stress and improve their overall well-being.

The effects of stress on pregnant adolescents extend beyond emotional well-being, potentially affecting their physical health and fetal development. Research by Kishore et al. (2018) demonstrates that stressful life events can trigger depression during pregnancy, particularly among those with low resilience scores and minimal social support. The study found that pregnant women exposed to a higher number of stressful life events exhibited lower resilience scores and higher levels of depression, as measured by the Edinburgh Postnatal Depression Scale (EPDS). Additionally, while social support was shown to moderate the relationship between life stress and depression, individual resilience did not exhibit the same moderating effect.

Resilience in adolescent mothers refers to the ability to endure and recover from the various pressures associated with pregnancy and the new role of being a young mother. Existing research highlights that resilience plays a crucial role in helping adolescent mothers overcome the social, psychological, and emotional challenges that arise during pregnancy and after childbirth (Wimanda and Herdiana 2022).

Research by De Andrade et al. (2022) emphasizes the significant role of social support in enhancing resilience among adolescent mothers. Emotional support, such as attention from family and partners, enables these young mothers to navigate challenges more effectively. The study also found that while there is a negative corre-

lation between social support and independence, positive social interactions provide additional strength to combat stigma and social pressure. Furthermore, research by Mukuna and Aloka (2021) highlights that self-motivation, combined with support from family and educational institutions, empowers adolescent mothers to continue their education despite facing severe stigma. The study recommends implementing psychosocial adjustment training programs to help teenage mothers address various challenges more effectively.

Research conducted by (Alves et al., 2023) reveals that low resilience among adolescent mothers is closely associated with heightened stress levels. Adolescents who struggle with stress management are more vulnerable to negative mental health outcomes and adverse pregnancy outcomes. Factors such as young maternal age, low educational attainment, and limited family income further increase susceptibility to social pressures. Conversely, adolescent mothers with high resilience are better equipped to manage stress, maintain mental well-being, and mitigate adverse pregnancy outcomes.

One of the most significant challenges faced by adolescent mothers is social stigma. According to Sejati et al. (2023), support from family, partners, and peers plays a critical role in strengthening their resilience. Emotional regulation also emerges as a key element in building resilience. Supporting this notion, research by Anta and Hendriani (2023) found that peer support contributes 35.5% to enhancing resilience among pregnant adolescents.

Protective factors such as personal competence, adaptive coping styles, and social support from the surrounding environment play a pivotal role in fostering resilience among adolescent mothers (Damayanti et al. 2022). These elements help young

mothers remain resilient and capable of managing various stressors. Conversely, risk factors, such as limited family support during early pregnancy and poor social relationships, can heighten vulnerability to stress and psychological pressure. Research by Wainaina et al., (2021)highlights that some adolescent mothers attempt to cope with stress through unhealthy behaviors, such as substance abuse or engaging in risky activities, which further exacerbate their condition.

The importance of interventions aimed at strengthening protective factors and mitigating risk factors is underscored by Naderpour et al. (2024). Their study demonstrates that resilience training can significantly enhance resilience scores while reducing mental health issues among adolescent mothers. The findings reveal a marked improvement in resilience scores, reaching up to 84.36 in the intervention group, alongside a significant reduction in mental health problems ($p < 0.001$).

Resilience serves as a crucial mechanism for adolescent mothers in navigating social pressures, pregnancy-related stress, and the stigma they often encounter (Anta and Hendriani, 2023). Protective factors such as social support, personal competence, and emotional regulation play vital roles in reinforcing resilience (Junilia et al., 2023). On the other hand, risk factors like social isolation and a lack of family support can hinder its development (Azmy and Hartini 2021). Therefore, integrated interventions, including resilience training, strengthening social support networks, and reducing stigma, are essential. These strategies not only help adolescent mothers cope with current challenges but also lay a stronger foundation for their future well-being (Anta and Hendriani, 2023).

Various interventions have been developed to support pregnant adolescents in coping with psychological and social pressures while simultaneously strengthening their resilience. The primary aim of these interventions is not only to reduce stress levels but also to improve quality of life and assist them in managing the challenges associated with pregnancy more effectively (Supriyadi and Kartini 2022). Research findings highlight the following approaches as effective in enhancing both resilience and mental health among adolescent mothers.

Naderpour et al. (2024) demonstrate that resilience training significantly impacts pregnant adolescent mothers, particularly in enhancing their capacity to manage stress and overcome emerging challenges. These programs help reduce stress levels while improving young mothers' overall quality of life. Through structured training, participants learn emotional regulation skills, develop a positive mindset, and adopt constructive coping strategies to handle various difficulties. By focusing on individual capacity-building, resilience training fosters greater self-confidence and strengthens the psychological resilience of adolescent mothers as they navigate the complexities of pregnancy.

As recommended by Mukuna and Aloka (2021), educational programs and self-motivation training have proven highly effective in helping pregnant adolescents develop self-confidence and perseverance to overcome psychosocial challenges. These programs provide fundamental knowledge about reproductive health while fostering optimism and encouraging adolescents to remain focused on their future goals. Additionally, these initiatives aim to improve personal skills, such as time management, goal setting, and communication abilities—skills essential for navigating the pressures associated with social stigma and the transition to motherhood.

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CONFLICT OF INTEREST

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