



Experiences of Mothers with High-Risk Pregnancy

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Abstract: *High-risk pregnancy is a major global health issue, marked by high maternal and infant mortality rates, and poses both physical and psychological challenges for women. This study aimed to explore the experiences of women with high-risk pregnancies through a scoping and literature review using Medline, PubMed, and Scopus. The search utilized keywords related to maternal experiences in high-risk pregnancies and included qualitative and mixed-method studies published in English from 2016 to 2024. A total of 15 articles were reviewed, revealing six key experiences: continuous care, communication, psychological support, non-pharmacological therapies, understanding of risks, and technological advancements. Findings indicate that social support, ongoing healthcare access, and health technologies can reduce anxiety and improve well-being. Effective communication, continuous care models, and telemonitoring during the pandemic have shown positive impacts on managing high-risk pregnancies.*

Keywords: *Experience; High-Risk Pregnancy; Pregnant Women; Mother.*

I. Introduction

High-risk pregnancies continue to pose a significant global health challenge. It is estimated that over 20 million women worldwide experience this type of pregnancy, resulting in more than 800 deaths each day. This figure reflects a substantial increase, ranging from approximately 6% to 33%, depending on accompanying medical conditions. Around 830 deaths daily are attributed to high-risk pregnancies, particularly in developing countries and among women and adolescents residing in rural areas (Alkema et al., 2016). In fact, it has been reported that 22% of pregnant women experience high-risk pregnancies (James, 1995). As part of the Sustainable Development Goals (SDGs), countries around the world have committed to accelerating the reduction of maternal mortality rates by 2030. High-risk pregnancy is defined as a condition with an elevated risk of complications for both the mother and the baby, which can lead to illness or even death before or after childbirth (Kemenkes, 2014). The World Health Organization (WHO) regards high-risk pregnancy as a major public health challenge, making the provision of adequate healthcare services a top priority. The ambitious target set is to reduce the global maternal mortality rate to less than 70 per 100,000 live births and to ensure that no country has a maternal mortality rate more than double the global average (WHO, 2022).

Every pregnant woman may face risks during pregnancy, childbirth, and the postpartum period. Unexpected and dangerous medical or obstetric conditions can adversely affect the health of both the mother and the fetus, categorizing such situations as high-risk pregnancies (Nola Holness, 2018). Several factors that may elevate the risk of high-risk pregnancies include maternal age over 35 years, a height of less than 145 cm, a weight below 45 kg, a pregnancy interval of less than two years since the last child, and having more than four children (Dharmayanti et al., 2014).

Pregnant women who experience conditions such as early pregnancy at a young age (young primigravida), first pregnancy at an older age (old primigravida), having a youngest child under two years old, multiple pregnancies, hydramnios, or a history of previous surgeries face nearly three times the risk of complications compared to those without these risk factors (Jayanthi et al., 2017).

Women with high-risk pregnancies often encounter significant physical and psychological impacts. The potential complications for these women include serious issues such as miscarriage, difficulties during labor, antepartum hemorrhage, intrauterine fetal death, pregnancy-induced hypertension, premature birth, and low birth weight in infants (Manuaba et al., 2008). Furthermore, women with high-risk pregnancies frequently experience substantial psychological, emotional, and social stress. Their experiences encompass various aspects, ranging from concerns about fetal safety to feelings of isolation due to restrictions on daily activities (Ogueji, 2021). This scoping review aims to map the existing literature on the experiences of mothers with high-risk pregnancies, including the challenges they face, their support needs, and the potential psychological impacts. The findings of this study are expected to provide a comprehensive overview that can serve as a foundation for the development of maternal health interventions.

II. Research Methods

The research design is a methodology that enables researchers to control various factors that may influence the validity of research outcomes. In essence, the research design serves as a framework for researchers to plan and execute their studies in order to achieve specific objectives or address particular questions (Nursalam, 2020). This literature review employs a systematic mapping study (scoping review) approach, which is a structured method of literature review that follows predetermined steps. The research is conducted through the analysis of articles organized around the concept under investigation, specifically the experiences of high-risk pregnant women.

The theoretical foundations of this research are derived from international articles aimed at exploring the experiences of high-risk pregnant women. Among the 15 studies included, 7 utilized descriptive qualitative design, 2 employed thematic phenomenological analysis, 2 were based on mixed methods, 1 conducted a meta-analysis, 1 performed a scoping review, 1 utilized inductive thematic analysis, and 1 was a cross-sectional study. The research process involves several stages, including defining the objectives of the literature review, data searching, screening, quality assessment, data extraction, data analysis, and writing the results of the literature review.

2.1 Literature Search Strategy

Protocol and Registration

The literature review concerning the experiences of high-risk pregnant women was developed using a protocol and evaluation based on the PRISMA checklist. This checklist serves as a guide for filtering and selecting studies that align with the objectives of the literature review, as recommended by (Nursalam, 2020).

2.2 Database Search

The researcher conducted a literature search in October 2024 utilizing three electronic databases: PubMed, Medline, and Scopus. The data employed in this study consists of

secondary data derived from the extraction of information from previously conducted research. A total of 15 international articles were identified from the three databases through searches in PubMed, Medline, and Scopus, which were selected based on inclusion criteria.

2.3 Keywords

This literature review study utilized keywords and Boolean operators (AND, OR, NOT, or AND NOT) during the article search process. The keywords for this literature review were aligned with the Medical Subject Headings (MeSH). The keywords used included Pregnant Women AND (Experience or Maternal Experience or Mother Experience) AND (High Risk Pregnancy or Complicated Pregnancy).

2.4 Inclusion and Exclusion Criteria

According to Nursalam (2020), the strategy employed for sourcing articles in literature reviews and scoping reviews utilizes the PCC Framework, which comprises:

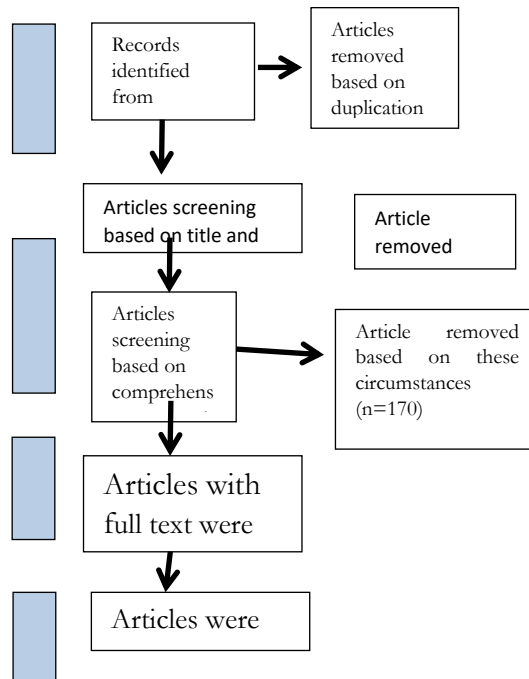
1. Population, referring to the group or characteristics of subjects that are the focus of the research. In this study, the population consists of high-risk pregnant women.
2. Concept, which pertains to the main idea or topic to be explored in the research. This concept serves to narrow the research focus, ensuring that the findings are more in-depth and relevant. The concept in this study revolves around the experiences associated with high-risk pregnancy conditions.
3. Context, representing the situation or conditions under which the research is conducted. Context may include geographical, cultural, or specific situational aspects that influence the concept being examined. In this study, the context is based on the articles reviewed, specifically qualitative studies, full-text articles, research conducted within the last ten years, and articles published in English.

2.5 Selection of Studies and Quality Assessment

Results of Search and Quality Selection

A literature search was conducted across three databases using keywords aligned with MeSH (Medical Subject Headings). The search yielded 50 articles, which were then subjected to a duplication check. Upon identifying duplicate articles, 15 were found to be identical, resulting in the exclusion of these duplicates and leaving a total of 35 articles. The researcher subsequently performed a screening process based on titles relevant to the literature study, full texts that aligned with the research objectives, publication years, and the languages used. Inclusion criteria were also applied to eliminate any articles that did not meet the necessary requirements. The final assessment resulted in 15 international articles that corresponded to the research questions or topics, deemed suitable for the literature review based on the established inclusion and exclusion criteria.

Table 1. Prisma



2.6 Quality Assessment

The researcher conducts an evaluation by reviewing the title, abstract, and full text, as well as the publication year and the language used. The instrument employed is a checklist for Critical Appraisal from The Joanna Briggs Institute (JBI), with no specific date limitations set for the article search. The identified titles and abstracts are filtered to select original reports, which are then re-examined to check for any case overlap.

The methodological quality analysis of each selected study is deemed acceptable as it aligns with the Critical Appraisal criteria from The Joanna Briggs Institute (JBI), which provides several questions to assess the quality and eligibility of the studies. The assessment criteria are rated as “Yes,” “No,” “Unclear,” and “Not Applicable,” with each criterion marked “Yes” receiving one point, while the others receive zero. The scores are then calculated and totaled. The Critical Appraisal of studies meeting the eligibility criteria is conducted by the researcher. If the assessment score meets at least 50% of the Critical Appraisal criteria, the study is included in the inclusion criteria.

2.7 Data Collection

The data collection method refers to the approach utilized by the researcher to gather the necessary information to achieve the research objectives. In this study, the method employed is a literature survey. The data sources consist of scholarly articles that discuss concepts relevant to the research topic.

The literature search strategy is derived from databases that provide scientific articles, including Pubmed, Medline, and Scopus. Keywords are used according to MeSH (Medical Subject Headings), and full texts are selected. Each finding is collected and filtered according to the research topic, following the PCC Framework.

2.8 Data Analysis

The analysis is conducted by comparing or identifying similarities and differences in the content of each article, aligned with the formulated research questions. This involves processing the summaries obtained regarding the experiences of high-risk pregnant women, followed by a discussion aimed at drawing conclusions or conducting a thorough examination.

III. Results and Discussion

The initial selection phase of this study yielded a total of 1,005 articles. Subsequently, the author refined the selection by evaluating the titles, abstracts, and predetermined inclusion criteria, resulting in 15 studies that were then subjected to analysis based on the full text of the articles. Ultimately, these 15 studies were assessed using the JBI methodology.

Table1. utilizing JBI studies.

No	Author and Year	Purpose	Country	Method	Sample	Results
1	Brigante et al., (2023)	Exploring the perspectives and experiences of women identified as being at high risk for premature birth and receiving continuous care from midwives throughout pregnancy, childbirth, and the postpartum period.	United Kingdom	A qualitative study	Sixteen women identified as being at high risk for premature delivery received care from the same midwife throughout their pregnancy and postpartum period.	The mother's experience during her care indicates that the familiar midwife was consistently present, which made her feel heard and actively involved in clinical decision-making. This contributed to a reduction in stress and anxiety for women during pregnancy, childbirth, and the initial stages of parenthood.
2	Jepsen et al., (2024)	Exploring the perspectives of pregnant women who utilize telemonitoring to track their fetal heart rates, including the benefits and challenges they encounter.	Denmark	A qualitative study	11 women with type 1 diabetes or gestational diabetes.	Mothers perceived telemonitoring as a way to save time and reduce stress. Telemonitoring also supported positive collaboration with health workers. Mothers also perceived a lack of coordination of consultations between departments in the hospital, as well as challenges of waiting times, feedback, and technical issues.
3	Bendix et al., (2024)	Exploring how women with high-risk pregnancies perceive the process of health monitoring from home.	Denmark	A qualitative interview study	15 high-risk pregnant women undergoing telemonitoring in Denmark.	Experiences of pregnant women with high-risk pregnancies in this study included: Experiences to help mothers in growing

						self-confidence, experiences of being better connected with health care providers , gaining comfort because they can avoid traveling to the hospital , and, experiences of technical challenges, such as problems with equipment or applications.
4	(Mirza khani et al., 2023) Mirzak hani et al., (2023)	Investigating the well-being experiences of Iranian women during high-risk pregnancies.	Iran	A qualitative study	26 women with high-risk pregnancies	women's experiences of controlled physical conditions, controlled moods, emotions, and affections, perceived threats, self-efficacy, and competence to carry out various roles, maintain social relationships, seek meaning and connection with the Creator, and positive marital relationships.
5	Mirzak hani & Khadiv zadeh, (2020)	Exploring pregnant women's experiences of conditions that influence marital well-being in high-risk pregnancies	Iran	A qualitative study	24 women with high-risk pregnancies	This study explores marital well-being in women with high-risk pregnancies, as influenced by three main categories: emotional closeness to partner amidst the dangerous conditions, husband's commitment to managing the difficult pregnancy conditions, and sexual relations during the high-risk pregnancy.
6	Mirzak hani et al., (2022)	explores the experiences of women with high-risk pregnancies receiving prenatal care during the COVID-19 pandemic.	Iran	A qualitative study	31 women with high-risk pregnancies	The experiences of high-risk pregnant women during the Covid-19 pandemic show various emotional challenges, adaptation, and interactions with health services, including: negative psychological responses, adaptive behavior, and adjustments to health services.
7	Munch	Examining women's	United	phenomenology	16 women	The experiences of

	et al., (2019)	perceptions of the patient-healthcare provider relationship in the context of medically high-risk (MHRP) pregnancy	States of America		hospitalized for high-risk pregnancies	women with high-risk pregnancies who were treated in the inpatient ward in this study regarding: Experiences During Health Care, Connectedness with Doctors, and Perceptions of Health Workers.
8	Anolak et al., (2023)	Exploring the experiences of hospitalized pregnant women in participating in MDN (music, drawing and narrative) therapy sessions as a non-pharmacological therapy for mental health.	Australia	A qualitative study	12 pregnant women are being treated in hospital because they have high-risk pregnancies.	Mothers are supported to acknowledge the positive and challenging aspects of pregnancy and build meaningful relationships through shared experiences. MDN allows for better communication of feelings, validation of emotions, engagement in positive distractions, development of greater relationships, increased optimism, experience calm, and learning from others.
9	Bellho use et al., (2022)	Exploring the experiences of high-risk pregnant women participating in the STAR Mums program.	Australia	A qualitative study	16 pregnant women considered high risk, who attended at least three of the five program sessions.	The experiences of pregnant women with high-risk pregnancies who participated in the STAR Mums program in this study included connectedness and social support, mindfulness practice, self-reflection and identity transition, and mental preparation for motherhood.
10	Bonsaf foh et al., (2023)	Exploring the perspectives and lived experiences of women with hypertension in pregnancy (HDP) regarding the care they received during their hospital stay.	Ghana	A qualitative study	72 women with HDP, gestational age between 26 and 34 weeks, who received maternal care services.	The experiences of pregnant women with high-risk pregnancies with HDP in this study included three main themes obtained: Mixed Experiences in Maternal Care in this case women with HDP experienced care that included positive qualities, Health System Barriers, and the Importance of Social and Informational Support: Support from

						health workers and adequate information about HDP.
1 1	Aldrich i et al., (2018)	Exploring the experiences of pregnant women of advanced age (35 years and above) undergoing high-risk prenatal care, with a focus on aspects they experience during pregnancy.	Brazil	A qualitative study	21 pregnant women aged 35 years or older undergoing high-risk prenatal care.	The experiences of pregnant women with high-risk pregnancies aged 35 years or older in this study include six main themes, namely: emotional ambivalence, the role of planning and spiritual beliefs, family reorganization, maturity as a maternal facilitator, perceptions of risk and health, and physical limitations due to advanced age.
1 2	Khadiv zadeh et al., (2022)	Exploring the experience of risk management in high-risk pregnant women.	Mashhad, Iran	A qualitative study	25 High risk pregnant women	The experiences of pregnant women with high-risk pregnancies in this study include three main themes. First, emotional excitement which includes feelings of worry, hopelessness, excitement below expectations, and inactivity and helplessness. Second, self-contemplation , where mothers analyze how to reduce risk with cognitive denial and ignoring risk. Third, witnessed action , which focuses on problems rationally, avoidance, and inefficient involvement.
1 3	Ray et al., (2022)	Exploring women's experiences in obtaining information related to pregnancy complications from health workers and their interactions with various professionals and services during pregnancy.	Sydney	A qualitative study	20 pregnant women with complications were recruited during antenatal care at 2 hospitals in Sydney.	Women's experiences of receiving information about pregnancy complications, in this study, include: reactions to diagnosis of complications, seeking information, communication needs to be improved, fragmentation of health services, and experiences of the importance of

						continuity of care.
1 4	Rajban shi et al., (2021)	Exploring the perceptions of women with high-risk pregnancies regarding high-risk factors.	Morang district, nepal	Phenomenology. Thematic analysis	14 women.	The perceptions of women with high-risk pregnancies about the risks they face and the factors that influence their decisions in undergoing childbirth in this study regarding: knowledge and understanding of risk and normalization and denial of risk.
1 5	Pullian en et al., (2019)	To describe how women with pregnancies at risk of preterm birth undergo interactive 3/4-dimensional ultrasound examination and the need for psychological support during the antenatal period.	Finland in 2017	Descriptive qualitative. experiences were explored using semi-structured interviews. Data were analyzed using inductive thematic analysis.	12 Women with singleton pregnancies of 26–32 weeks gestation were included in the study. Interactive 3/4D ultrasound included joint observation of the baby, based on the mother's wishes, with an obstetrician and a psychologist.	The mother's experience as an active and equal participant, the mother's experience of being able to see the fetus' face in 3D/4D, and the experience of seeing the fetus in a more realistic form helps the mother form a clearer mental image of the fetus.

Numerous studies on the experiences of high-risk pregnant women indicate that various factors, ranging from social support to access to healthcare technology, significantly influence their experiences.

3.1 Experiences of Mothers in Continuous Care

Research conducted in the United Kingdom by Brigante et al. (2023) reveals that pregnant women who receive consistent continuous care from healthcare professionals, particularly from the same midwife, feel safer, more comfortable, and more engaged in clinical decision-making, leading to a stronger sense of attachment. Similarly, the "STAR Mums" program in Australia (Bellhouse et al., 2022) offers comparable benefits by promoting social connections, mindfulness practices, and self-reflection to prepare for motherhood. This model of continuous care is deemed highly effective in enhancing mothers' trust in healthcare providers. Furthermore, the program aids mothers in recognizing the importance of psychological preparation for parenting and provides support in managing the anxiety that often arises, as also noted in a study by Ray et al. (2022) in Sydney. High-risk pregnant women acknowledge the necessity of having consistent healthcare providers to better understand patient needs and foster deeper communication.

3.2 Experiences of Mothers Regarding Communication Needs

The necessity for effective communication and consistent care emerges as another critical aspect. According to research by Ray et al. (2022), pregnant women feel that good communication from healthcare providers can alleviate anxiety, particularly concerning high-risk diagnoses. However, the language used must be carefully considered to avoid adding

pressure on patients. Additionally, the fragmentation of services in certain countries, as highlighted in a study by Munch et al. (2020), poses challenges in establishing a continuous relationship between patients and healthcare providers.

Psychological support is a crucial factor in the well-being of high-risk pregnant women. A study conducted in Iran (Mirzakhani et al., 2023) highlights the emotional challenges faced by expectant mothers, which include threats to their mental well-being such as feelings of fear, anxiety, and despair. These emotions often arise from uncertainties regarding their health conditions and the potential risks that may affect both their safety and that of the fetus. Additionally, there is a significant need for social support and the search for meaning in difficult situations. Many find solace in seeking a deeper purpose in life and maintaining connections with spiritual strength. In Ghana, research (Adu-Bonsaffoh et al., 2023) indicates that pregnant women with hypertension greatly benefit from adequate information and social support from healthcare providers and family, as this is vital for navigating their pregnancies. Furthermore, emotional closeness with partners during challenging circumstances, spiritual beliefs, and a range of emotional experiences—including worry, despair, joy amidst hope, as well as feelings of inactivity and helplessness—are essential for supporting the psychological health of mothers. The commitment of husbands to manage the difficulties of high-risk pregnancies and the role of sexual intimacy during this period are also significant (Aldrighi et al., 2018; Khadivzadeh et al., 2023; Mirzakhani et al., 2020). Similar findings were reported in a study in the United States by Kinser et al. (2021), where women acknowledged the importance of social support from both family and online networks in helping them cope with uncertainties during the pandemic. Additionally, research by Pulliainen et al. (2019) revealed that the experience of seeing the fetus through 3D/4D ultrasound technology not only strengthens emotional bonds but also provides inner peace for mothers. Despite these supports, many pregnant women often feel the need for additional assistance, such as counseling. Particularly in coping with emotional stress during high-risk pregnancies, the experiences of mothers in non-pharmacological therapy have been highlighted. Anolak et al. (2023) conducted a study in Australia that revealed the effectiveness of non-pharmacological therapies such as music, drawing, and narrative (MDN) in supporting the mental health of high-risk pregnant women. These therapies facilitate mothers in expressing both positive and negative emotions, alleviating stress, and fostering meaningful connections with other expectant mothers facing similar challenges. Furthermore, such therapies can enhance feelings of hope and self-acceptance when navigating high-risk pregnancies.

In terms of understanding risk, the perception of varying risks plays a crucial role in health decision-making for women experiencing high-risk pregnancies. In countries with strong cultural beliefs, the adaptation to pregnancy risks is often influenced by traditional perceptions. For instance, research by Rajbanshi et al. (2021) in Nepal indicates that pregnancy is frequently viewed as a natural event, with associated risks perceived as fate. Some mothers demonstrate a solid understanding of their conditions, while others may normalize or even deny the risks involved (Khadivzadeh et al., 2023). This situation underscores the necessity for effective communication from healthcare providers to enhance mothers' understanding of risks, enabling them to make informed decisions regarding their care and delivery. Additionally, Pulliainen et al. (2019) found that viewing 3D/4D images of the fetus during ultrasound examinations helps mothers develop a clear mental image of their baby, which can support better decision-making related to antenatal care. The COVID-19 pandemic has significantly impacted the psychological well-being of high-risk pregnant women, particularly those who are anxious about the risk of infection. Research conducted in Iran by Mirzakhani et al. (2022a) indicates that expectant mothers have experienced considerable psychological

distress during this period. During the Covid-19 pandemic, individuals faced various emotional challenges, including anxiety and fear regarding their own health and that of their unborn child. Many expectant mothers adapted by seeking information to alleviate their fears and complied with health protocols while also seeking spiritual support to mitigate anxiety. This situation underscores the necessity for healthcare services to adapt in order to meet the emotional and physical needs of high-risk pregnant women during emergencies. The pandemic also highlighted the significance of telemedicine as a solution to reduce barriers to healthcare access, although some mothers felt that the attention from healthcare providers was shorter compared to in-person care.

3.3 Experiences of Mothers in Technological Development

The advancement of technology, such as telemonitoring, has also provided significant benefits in managing high-risk pregnancies. Research conducted in Denmark by Jepsen et al. (2024) and Bendix et al. (2024) indicates that the use of telemonitoring during the COVID-19 pandemic offered greater flexibility and freedom to expectant mothers. The implementation of telemonitoring presents a complex interplay of benefits and challenges. It facilitates the health monitoring of high-risk mothers without the need for direct hospital visits, thereby saving time and reducing stress levels. However, there are technical issues that pose challenges, such as unstable connections, lack of interdepartmental coordination, and delays in feedback, which need to be addressed to alleviate any anxiety that may arise.

Overall, high-risk pregnancies present various challenges, encompassing physical, psychological, and social dimensions. Consistent social support, access to ongoing healthcare services, and health technologies such as telemonitoring have been shown to alleviate anxiety and enhance the quality of life for mothers during pregnancy. Non-pharmacological interventions have also proven effective in promoting maternal mental health. Furthermore, a better understanding of health risks is essential for making informed decisions, particularly in emergency situations like the COVID-19 pandemic. In times of crisis, healthcare services must adapt to provide responsive care that supports the well-being of high-risk pregnant women, especially in managing anxiety and maintaining their mental health.

IV. Conclusion

The experiences of high-risk pregnant women can be categorized into several types, including social support, access to continuous healthcare services, and the utilization of health technology. Continuous care models and social support programs, such as STAR Mums, can enhance the sense of safety and comfort for pregnant women. The implementation of effective and consistent communication, along with psychological support from healthcare professionals, has been shown to alleviate anxiety and emotional challenges faced by these women. Additionally, non-pharmacological therapies, such as music, drawing, and narrative therapy (MDN), have proven effective in supporting the mental health of high-risk pregnant women. A mother's understanding of risks is influenced by cultural factors and communication from healthcare providers. Technology, such as telemonitoring, offers benefits, although it may encounter technical issues at times. During the pandemic, healthcare services needed to adapt to provide both emotional and physical support for high-risk pregnant women. Therefore, social support, continuous healthcare services, the use of technology, and non-pharmacological interventions play a crucial role in reducing anxiety and enhancing the well-being of high-risk pregnant women.

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