The Role of Midwives in The Management OG High-Risk Pregnancy Care: Systematic Literature Review

Devy Lestari Nurul Aulia[1], Arum Dwi Anjani[2], Divani Salsa Billa[3,*], Selvi Andini Isna Ramadhani[4], Rini Rahmadhani[5], Aulia Rani[6], Yanti Febyola Purba[7], Nasha Aqeela[8]

[1-8]Universitas Batam, Jl. Uniba No. 5 Batam Center, Kota Batam, Kepulauan Riau 29432
dv.aulia87@univbatam.ac.id[1] ; arum.dwianjani05@univbatam.ac.id[2] ; divanisalsabilla@gmail.com[3,*];
selfyandini031103@gmail.com[4]; rinirahmadhani203@gmail.com[5]; auliaraniy15@gmail.com[6];
yantifebyola1@gmail.com[7]; nasyaaqeela74@gmail.com[8]

ABSTRACT

High-risk pregnancy represents a condition that increases the likelihood of complications for both the mother and the fetus and therefore requires appropriate and comprehensive management. Midwives, as frontline healthcare providers, perform strategic roles in early detection, continuous monitoring, health education, and referral coordination in the management of high-risk pregnancies. This study analyzes the role of midwives in high-risk pregnancy care management using a Systematic Literature Review (SLR) approach. The review examined scientific articles retrieved from national and international databases, including Google Scholar, PubMed, ScienceDirect, SINTA, and Garuda. The search process identified 275 articles published between 2019 and 2025. Application of predefined inclusion and exclusion criteria resulted in the selection of 10 relevant articles for detailed analysis. The findings indicate that midwives contribute to the reduction of pregnancy complications and the improvement of maternal and neonatal safety through early detection of risk factors, routine monitoring of maternal and fetal conditions, provision of health education, and coordination of referral services. Continuity of midwifery care improves adherence to antenatal care visits and supports earlier management of pregnancy complications. Educational interventions delivered by midwives increase pregnant women's knowledge, awareness, and healthy behaviors during pregnancy. Improved maternal understanding of pregnancy health contributes to prevention of delays in complication management and supports better pregnancy outcomes for both mothers and infants.

Keywords: Midwife Role; High-Risk Pregnancy; Midwifery Care; Antenatal Care; Systematic Literature Review (SLR).

1. INTRODUCTION

Pregnancy is a physiological process that generally takes place normally, but in certain conditions it can develop into a high-risk pregnancy that has the potential to cause serious complications for both mother and fetus. High-risk pregnancy is a pregnancy that is accompanied by certain factors that can increase the likelihood of morbidity and mortality, such as the mother's age is too young or too old, anemia, hypertension in pregnancy, gestational diabetes, bleeding, poor obstetric history, infections, and suboptimal socioeconomic and nutritional conditions. Until now, maternal mortality rates (AKI) and infant mortality rates (AKB) are still important indicators in assessing the degree of public health,

---

* Divani Salsa Billa
Tel.: -
Email: divanisalsabilla@gmail.com

so comprehensive efforts are needed in the early detection, prevention, and management of high-risk pregnancies in a sustainable manner (World Health Organization, 2020).

Midwifery services have a strategic role in reducing the risk of pregnancy complications through the provision of comprehensive, sustainable, and needs-based care for the mother. Midwives as frontline health workers play an important role in early detection of risk factors, monitoring maternal and fetal conditions, providing health education, and making appropriate clinical decisions in the management of high-risk pregnancies. In midwifery practice, the midwifery care management approach is carried out systematically through the stages of assessment, diagnosis enforcement, planning, implementation, and evaluation of care. This approach aims to ensure the safety of the mother and fetus and prevent more severe complications (Varney, 2018).

The management of high-risk pregnancy care demands clinical ability, thoroughness, and good communication skills from a midwife. Early detection through integrated antenatal services allows for early identification of risk factors so that interventions can be carried out quickly and appropriately. In addition, midwives also play a role in providing counseling to pregnant women regarding pregnancy danger signs, meeting nutritional needs, adherence to antenatal visits, and readiness to face childbirth and possible complications. This educational and promotive role is very important in increasing pregnant women's awareness of their health conditions and encouraging healthy behaviors during pregnancy (Kementerian Kesehatan RI, 2021).

Maternal health services in Indonesia assign midwives responsibilities that extend beyond clinical care. Midwives also facilitate family and community empowerment in maternal and child health programs. The continuity of care approach in midwifery practice enables midwives to monitor maternal conditions throughout pregnancy, childbirth, the postpartum period, and newborn care. Implementation of high-risk pregnancy care management still encounters several operational constraints. Health facilities often experience limited resources, referral delays, low compliance with antenatal care visits, and insufficient maternal awareness regarding danger signs during pregnancy. Such conditions increase the likelihood of delayed management of obstetric complications and may compromise maternal and fetal safety (UNICEF, 2020).

A number of studies show that the optimal role of midwives in early detection and management of high-risk pregnancies has a significant effect on reducing pregnancy complications and maternal mortality. Research conducted by (Sari, 2021), shows that the implementation of routine pregnancy risk screening by midwives can improve the early identification of obstetric complications. Similar results were reported by (Wulandari, 2020). which states that continuous obstetric care is able to improve the quality of high-risk pregnancy monitoring and speed up referral handling. International studies by (Tuncalp, 2019) and (World Health Organization, 2020) emphasized that quality antenatal services carried out by trained health workers, including midwives, are the main key in reducing maternal and infant mortality.

Studies that comprehensively examine the role of midwives in high-risk pregnancy care management remain limited, particularly those that emphasize the systematic dimensions of the midwifery care process. Existing literature predominantly examines specific clinical outcomes or individual risk factors, while the contribution of midwives across the full continuum of midwifery care management receives less analytical attention. This situation indicates a clear research gap that requires further investigation to generate a more comprehensive understanding of strategies that strengthen the role of midwives in managing high-risk pregnancies.

Previous research has addressed the involvement of midwives in antenatal services and high-risk pregnancy management. Many studies concentrate primarily on isolated clinical aspects or emphasize particular service outcomes. The literature rarely integrates the role of midwives within a structured framework of midwifery care management. A considerable portion of existing reviews also emphasizes global policy recommendations, including guidance from the World Health Organization, while limited discussion connects those recommendations with practical implementation in primary healthcare

72

settings. The gap becomes particularly evident in low- and middle-income countries, where midwives constitute the primary providers of maternal health services.

This research develops a more structured synthesis by integrating the role of midwives in the five main components of management of high-risk obstetric care, namely early detection of risk, pregnancy monitoring, health education, referral system, and continuity of care. This synthesis framework is expected to provide a more comprehensive understanding of the contribution of midwives in strengthening the primary maternal health system.

The novelty of this study lies in the development of a conceptual framework that synthesizes the role of midwives within an integrated approach to high-risk pregnancy care management. The framework provides an analytical perspective that extends beyond descriptive discussion and clarifies how midwifery roles contribute to the optimization of maternal and neonatal safety.

The present study examines several key dimensions of midwifery practice in the management of high-risk pregnancies. The analysis addresses the role of midwives in the early detection of high-risk pregnancies, the implementation of monitoring and management strategies for high-risk pregnancy care, the provision of education and counseling to prevent pregnancy complications, the coordination of referral systems for the management of high-risk cases, and the influence of midwives' roles on service quality and maternal safety.

The objectives of this study are to analyze the role of midwives in early detection of high-risk pregnancies, evaluate monitoring and management practices for high-risk pregnancy care, examine the contribution of education and maternal empowerment, assess the coordination of referral systems in the management of high-risk pregnancies, and evaluate the impact of midwifery roles on service quality and maternal safety. The findings are expected to contribute to the development of evidence-based obstetric practice and provide a reference for healthcare professionals and service institutions in strengthening the quality of high-risk pregnancy care management in a sustainable manner.

2. METHODS
2.1 Review Design and Reporting Standard

This study employed a Systematic Literature Review (SLR) design to synthesize scientific evidence regarding the role of midwives in the management of high-risk pregnancy care. The systematic review approach was selected to ensure a structured, transparent, and reproducible process in identifying, evaluating, and synthesizing findings from previous research related to midwifery practice in high-risk pregnancy management.

The review process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The PRISMA framework guided each stage of the review process, including identification, screening, eligibility assessment, and final inclusion of studies. The application of PRISMA ensured methodological rigor and allowed clear documentation of the study selection process.

Considering the diversity of research designs, contexts, and outcome indicators across the included studies, a meta-analysis was not conducted. Instead, the study adopted a narrative synthesis approach supported by thematic analysis to provide a comprehensive interpretation of the findings related to the role of midwives in high-risk pregnancy care.

2.2 Data Sources and Search Strategy

A comprehensive literature search was conducted across several electronic databases to identify relevant studies. The databases used in this study included PubMed, ScienceDirect, Google Scholar, SINTA, and Garuda. These databases were selected because they provide broad coverage of scientific publications in the fields of maternal health, obstetrics, midwifery practice, and antenatal care.

73

The literature search was conducted in January 2026 using a combination of keywords in English and Indonesian. The search strategy was constructed using Boolean operators AND and OR to ensure comprehensive retrieval of relevant studies.

The core search string used across databases was as follows: *("role of midwife" OR "midwife role") AND ("high-risk pregnancy" OR "pregnancy complications") AND ("antenatal care" OR "maternal health services") AND ("midwifery care management" OR "midwifery care").* Search terms were adapted according to the indexing system of each database, including Medical Subject Headings (MeSH) in PubMed where applicable. The search was limited to peer-reviewed research articles published between 2016 and 2025 to ensure the inclusion of recent scientific evidence on the role of midwives in managing high-risk pregnancies. All retrieved records were exported and compiled into a screening database. Duplicate records were identified and removed before the screening stage.

2.3 Eligibility Criteria

Eligibility criteria were defined before the screening process to maintain consistency and ensure alignment with the research objectives. The criteria guided the selection of relevant studies and ensured that the included literature addressed the scope of the review.

Inclusion Criteria

Studies qualified for inclusion when several requirements were fulfilled. The study had to be an original research article published between 2016 and 2025 and appear in a peer-reviewed national or international journal.

The study also had to examine the role of midwives in the management of high-risk pregnancies. The article needed to address at least one relevant aspect, including early detection of pregnancy complications, antenatal care services, midwifery care management, maternal health education, or referral systems in obstetric care.

The availability of the full text constituted another inclusion requirement. The study also had to be written in English or Indonesian to ensure accessibility and accurate interpretation of the findings.

Exclusion Criteria

Several conditions determined the exclusion of studies from the review process. Editorials, commentaries, opinion papers, conference abstracts, and publications lacking a clearly defined research methodology were excluded because they did not provide empirical evidence.

Articles that did not directly examine the role of midwives in the management of high-risk pregnancies were also excluded. Duplicate publications were removed during the screening process to maintain data integrity.

Articles containing incomplete or unverifiable data were not included in the final analysis. This step ensured that the synthesis relied on studies that presented reliable and sufficiently detailed information.

2.4 Study Selection Process

The study selection process followed the PRISMA 2020 framework to ensure transparency and methodological rigor. The process consisted of four sequential stages that guided the identification, screening, and final inclusion of relevant studies.

The identification stage involved a systematic search of several academic databases to locate potentially relevant articles. This stage aimed to compile a comprehensive set of studies related to the role of midwives in the management of high-risk pregnancies.

The screening stage involved an initial review of article titles and abstracts. This procedure determined the relevance of each study to the research topic and eliminated clearly unrelated publications.

74

The eligibility assessment stage involved a detailed evaluation of full-text articles. Each study was examined using the predefined inclusion and exclusion criteria to determine its suitability for the review.

The final inclusion stage involved the selection of studies that satisfied all eligibility requirements. Articles that met the criteria were included in the final synthesis and served as the primary sources for the analysis presented in this study.

The screening and eligibility assessment were conducted systematically to ensure consistency and transparency in the selection process. All screening decisions were documented to ensure traceability. The detailed process of article selection is presented in Figure 1 (PRISMA Flow Diagram).

2.5 Quality Appraisal

To ensure the reliability and credibility of the synthesized evidence, the methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools. The appraisal checklist was selected according to the design of each study, including qualitative studies, observational studies, and experimental designs.

The quality assessment evaluated several methodological aspects of the included studies. The appraisal examined the clarity of research objectives, the appropriateness of the research design, the adequacy of data collection procedures, the rigor of data analysis, and the transparency of result reporting.

The review did not exclude studies solely on the basis of quality appraisal outcomes. The appraisal results informed the interpretation of findings and supported the discussion of strengths and limitations within the body of evidence.

The methodological quality of the included studies ranged from moderate to high. Most studies demonstrated appropriate research design, sufficient analytical rigor, and clear reporting practices, which supported the reliability of the synthesized findings.

2.6 Data Extraction and Synthesis

Data extraction used a standardized framework to maintain consistency across the included studies. The framework guided the systematic collection of relevant information required for the synthesis process.

The extracted information included the author and year of publication, study location, research objectives, research design and methodology, and characteristics of study participants. The extraction process also documented aspects related to the role of midwives in the management of high-risk pregnancies and the principal findings associated with maternal and fetal outcomes.

The extracted data were then organized and categorized according to the main research themes. This categorization facilitated a structured synthesis of the evidence and supported the identification of patterns related to midwifery roles in high-risk pregnancy care management.

Variation in study designs and outcome indicators prevented the application of a meta-analysis. The review therefore applied thematic analysis based on the analytical framework described by Braun and Clarke (2021) to interpret the findings across the included studies.

The analytical procedure began with a comprehensive reading of each article to achieve familiarity with the study content. The review then identified recurring concepts and patterns related to the role of midwives in high-risk pregnancy management.

The next stage involved coding the extracted findings and grouping similar results into thematic categories. This process allowed the synthesis of relationships and trends that describe how midwives contribute to the management of high-risk pregnancies.

75

The synthesis focused on several key themes that emerged from the reviewed literature. These themes included early detection of pregnancy risk factors, monitoring and management of high-risk pregnancies, health education and maternal empowerment, collaboration within referral systems, and the continuity of midwifery care.

The thematic synthesis provided an integrated interpretation of the evidence. The analysis clarified how midwives contribute to strengthening maternal and fetal safety within the management of high-risk pregnancy care.

2.7 PRISMA Flow of Study Selection

The literature search identified 275 articles from five databases: Google Scholar, PubMed, ScienceDirect, SINTA, and Garuda. After removing 45 duplicate records, 230 articles remained for screening. Titles and abstracts were screened, resulting in the exclusion of 180 articles due to irrelevance to the research topic. The remaining 50 full-text articles were assessed for eligibility. After full-text evaluation, 40 articles were excluded due to methodological limitations or lack of relevance. Finally, 10 articles met the inclusion criteria and were included in the qualitative synthesis of this study.
The complete article selection process is illustrated in Figure 1 (PRISMA Flow Diagram).

3. RESULTS

3.1 Overview of Included Studies

Ten studies met the inclusion criteria and were included in the qualitative synthesis of this systematic literature review. The studies were published between 2019 and 2025, reflecting recent developments in research related to the role of midwives in the management of high-risk pregnancy care.

The included studies were conducted across several countries including the United States, Sweden, South Africa, Laos, and other international contexts, indicating growing global attention to the contribution of midwives in improving maternal and fetal outcomes, particularly in high-risk pregnancy management.

The studies employed a variety of research designs, including qualitative studies, scoping reviews, systematic reviews and meta-analyses, discussion papers, integrative reviews, and pilot quasi-experimental studies. These methodological variations demonstrate that the current body of evidence on midwifery roles in high-risk pregnancy care is largely based on observational and qualitative approaches, with limited experimental research.

The study selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). From the initial 275 identified records, a total of 10 studies were ultimately included after the screening and eligibility assessment stages. The detailed article selection process is presented in Figure 1.

As illustrated in Figure 1, a total of Table 1. Characteristics of Included Studies 275 records were identified through electronic database searching across Google Scholar, PubMed, ScienceDirect, SINTA, and Garuda. After removing 45 duplicate records, 230 articles remained for title and abstract screening. During this stage, 180 articles were excluded because they did not meet the inclusion criteria. The most common reasons for exclusion included lack of relevance to midwives' roles in high-risk pregnancy care, focus on general maternal health without specific midwifery roles, and studies unrelated to antenatal or obstetric management. A total of 50 full-text articles were then assessed for eligibility. Following a detailed evaluation, 40 articles were excluded for several reasons, including methodological limitations, lack of empirical data, or insufficient discussion of midwives' roles in managing high-risk pregnancies. Ultimately, 10 studies met all inclusion criteria and were included in the final qualitative synthesis.
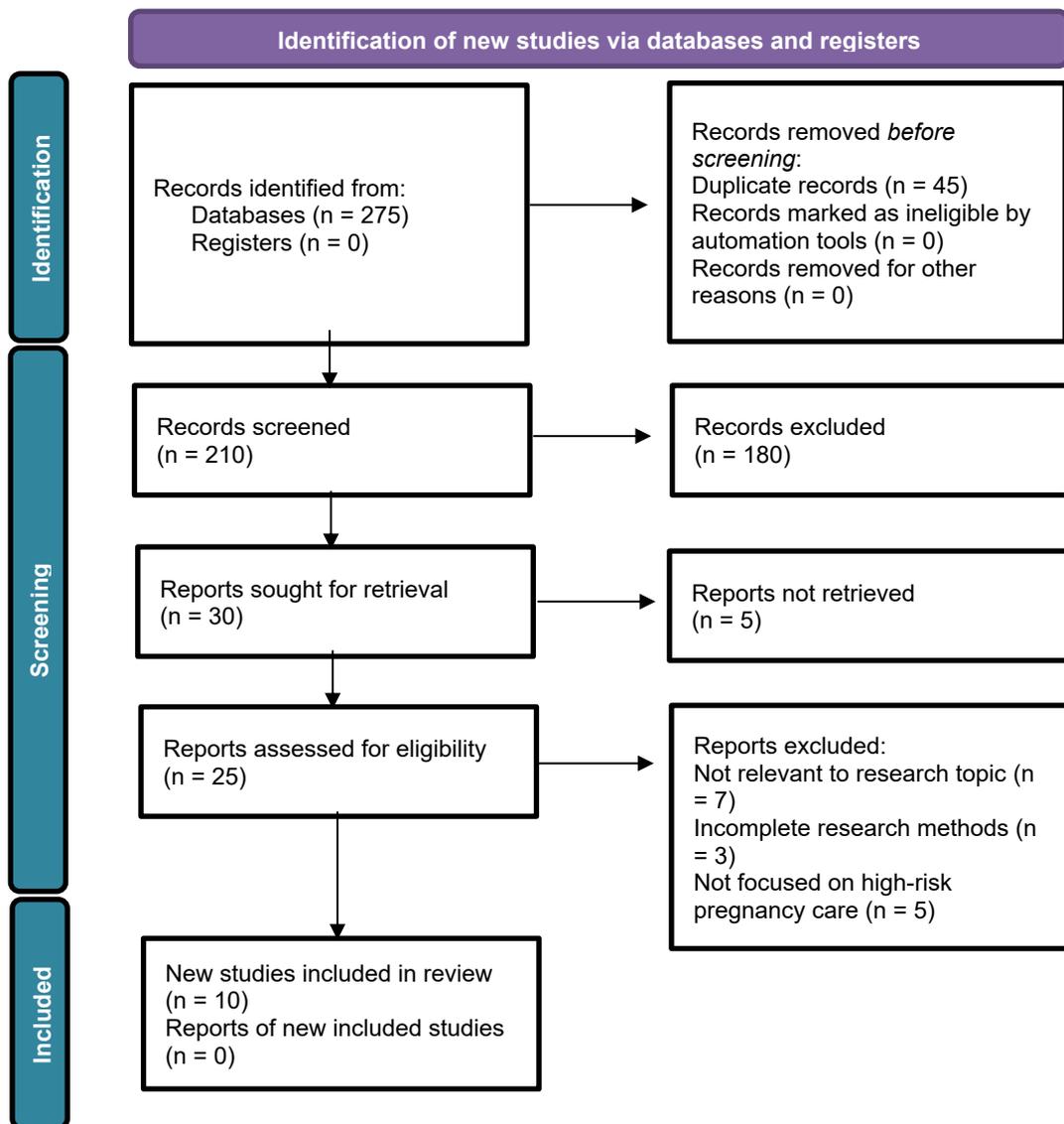
76

Fig. 1. PRISMA Selection Process

3.2 Characteristics of Included Studies

The main characteristics of the included studies appear in Table 1. The studies demonstrate substantial variation in research design, study population, and investigative focus.

Most studies examined the role of midwives in the early detection of pregnancy complications, monitoring of maternal and fetal conditions, management of high-risk pregnancies, provision of maternal health education, and coordination of referral systems. The distribution of research topics indicates a broad interest in the contribution of midwives across different stages of maternal healthcare services.

The majority of the included studies employed qualitative or observational research approaches. One study applied a quasi-experimental design to evaluate the effectiveness of simulation-based training in improving midwives' competencies in the management of high-risk pregnancies.

The literature indicates that midwives play an important role in improving maternal health outcomes. Preventive care practices, early identification of risk factors, and coordinated management of pregnancy complications represent key components of midwifery contributions to maternal and fetal safety.

77

Table 1. Characteristics of Included Studies

No	Title, Author, Year	Purpose	Method	Result
1.	Midwifery Care and Medical Complications: The Role Risk Screening (Decler, 1995)	To analyze the medical risk profile of pregnant women, obstetric procedures performed by midwives in different birth settings, and birth outcomes of midwife-attended deliveries in the United States.	Secondary data analysis of 147,293 births attended by midwives using the revised and expanded standard national certificate of a live birth, which records prenatal medical risks, intrapartum complications, obstetric procedures, and birth outcomes.	The findings show that midwives in birth centers and home settings generally serve mothers with lower-than-average medical risk. In hospitals, however, nurse-midwives often attend mothers whose risk profiles are comparable to or even higher than the national average. Despite this, the outcomes of midwife-attended births are better than the national average. In addition, mothers attended by midwives tend to have a different prenatal care pattern, characterized by later initiation and fewer visits, but with greater emphasis on self-care, resulting in lower smoking and alcohol consumption and greater maternal weight gain.
2.	Swedish Midwives Care of Women Who are at High Obstetric Risk or Who Have Obstetric Complications (Marie Berg, 2001)	To describe how midwives experience caring for women who are at high obstetric risk or who experience obstetric complications during pregnancy, childbirth, and early parenthood.	A qualitative study using a phenomenological approach. Participants consisted of 10 Swedish midwives who were recognized as highly skilled clinicians with at least five years of clinical experience, working in four different hospitals.	The study found that the essence of midwifery care for women at high obstetric risk is a "struggle for the natural process." Midwives strive to support and preserve the natural physical and emotional transition of women during pregnancy, childbirth, and early parenthood. Their care involves balancing medical and natural perspectives, supported by professional experience, sensitivity to spontaneous interaction with women, and continuous presence. The findings highlight the importance of promoting natural processes even in high-risk situations and can serve as a basis for reflection on the professional role of midwives and the organization of modern maternity care.
3.	Midwives Knowledge of Pre-eclampsia Management: A	To identify and describe what midwives around the	Scoping review using the Joanna Briggs Institute	The review identified four main themes: (1) foundational knowledge of

	Scoping Review (Isabella Garti, Michelle GrayTan & Bromley, 2021)	world know about the diagnosis and management of pre-eclampsia.	(JBI) three-step search strategy. Databases searched included PubMed, CINAHL, Cochrane, Web of Science, and Scopus. A total of 20 research articles and 9 guidelines were analyzed and synthesized using a metasynthesis thematic approach.	pre-eclampsia, (2) knowledge of diagnosis and management according to guidelines, (3) preparedness for emergency procedures and management, and (4) contextual factors influencing knowledge. The findings indicate that many practicing midwives worldwide still lack adequate knowledge in several aspects of diagnosing and managing pre-eclampsia, highlighting the need for improved training programs and innovative educational methods.
4.	Cardiac conditions in pregnancy and the role of midwives: A discussion paper (Sandra Millington, Judith Magarey, Gustaaf A. Dekker, 2019).	To provide an overview of cardiovascular conditions in pregnancy (both congenital and acquired) and to explain the role of midwives in assessment, monitoring, and management throughout the childbirth continuum.	Discussion paper based on a review of international literature collected from computerized databases and existing evidence.	The study highlights that cardiovascular disease is a major global cause of maternal morbidity and mortality. Women who delay pregnancy and have risk factors are more likely to experience cardiovascular complications. Midwives play a critical role in early risk assessment, detection of cardiac conditions, monitoring during pregnancy and labor, and collaboration within multidisciplinary teams to improve maternal and neonatal outcomes. The study highlights that cardiovascular disease is a major global cause of maternal morbidity and mortality. Women who delay pregnancy and have risk factors are more likely to experience cardiovascular complications. Midwives play a critical role in early risk assessment, detection of cardiac conditions, monitoring during pregnancy and labor, and collaboration within multidisciplinary teams to improve maternal and neonatal outcomes.
5.	Midwife-led continuity models versus other	To compare the effectiveness and	Systematic review and meta-analysis	The findings indicate that women who received

models of care for childbearing women (Devane, 2016)	outcomes of midwife-led continuity models of care with other maternity care models for pregnant women and their infants, focusing on maternal and neonatal outcomes, medical interventions during childbirth, and overall satisfaction with care.	of randomized controlled trials (RCTs). The researchers searched the Cochrane Pregnancy and Childbirth Group Trials Register and analyzed 15 trials involving 17,674 women. Data extraction and risk-of-bias assessments were conducted independently by two reviewers, and the quality of evidence was evaluated using the GRADE approach.	midwife-led continuity of care were less likely to experience medical interventions such as epidural analgesia, instrumental vaginal birth, episiotomy, and preterm birth compared with those receiving other models of care. Additionally, women in the midwife-led model were more likely to experience spontaneous vaginal birth and higher satisfaction with their care. Importantly, no increase in adverse outcomes for mothers or infants was observed. The study suggests that midwife-led continuity care can improve maternal experiences and clinical outcomes while potentially reducing healthcare costs.
6.	Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care (Mary J Renfrew, Alison McFadden, Maria Helena Bastos, James Campbell, 2014)	To examine comprehensively and systematically the contribution of midwifery to improving the quality of maternal and newborn care worldwide, and to clarify the role of midwives and other health professionals in providing effective midwifery care.	Mixed-methods study combining evidence synthesis from systematic reviews of women's experiences, effective maternal and newborn care practices, and the roles of care providers. The researchers developed a conceptual framework describing what care should be provided, how it should be delivered, and who should provide it within the scope of midwifery practice.	The study identified more than 50 outcomes that could be improved through midwifery care, including reductions in maternal and neonatal mortality, stillbirth, and preterm birth, as well as fewer unnecessary medical interventions and improved psychosocial outcomes. The findings also show that midwifery care is associated with more efficient use of health resources when provided by well-educated, trained, licensed, and regulated midwives. The study emphasizes the importance of shifting maternal health systems from a pathology-focused approach to a model that supports normal reproductive processes, preventive care, respectful relationships, and interdisciplinary collaboration to improve maternal and newborn health outcomes globally.
7.	Midwives' perceived role in up referral of	To explore midwives'	Qualitative research with an exploratory	The study found that midwives clearly understand

	high-risk pregnancies in primary healthcare settings, eThekwini district, South Africa (Siyabonga W. Ximba, Olivia B. Baloyi, 2021)	perceptions of their role in referring high-risk pregnant women from primary health care clinics to specialized or expert-centred healthcare facilities.	and descriptive design based on a social constructivism paradigm. Purposive sampling was used to select primary health care clinics and registered midwives. Data were collected through four focus group discussions and analysed using content analysis while ensuring research trustworthiness.	their responsibility in referring high-risk pregnant women but encounter multiple barriers during the referral process. Four main themes emerged: support from clinic teams that strengthens the referral process, restrictions in transferring patients to expert-centred facilities, social determinants that hinder referral, and the importance of midwives' competence in facilitating effective referral. The findings highlight that although global health initiatives aim to reduce maternal and neonatal mortality, challenges faced by midwives in the healthcare system can hinder the effective implementation of referral systems.
8.	Midwives' knowledge of pre-eclampsia management: A scoping review (Garti et al., 2021)	To identify and describe the extent of knowledge that midwives around the world have regarding the diagnosis and management of pre-eclampsia.	Scoping review using the Joanna Briggs Institute (JBI) three-step search strategy. Literature was searched in PubMed, CINAHL, Cochrane Database, Web of Science, and Scopus, along with grey literature from Google Scholar. A total of 20 research articles and 9 clinical guidelines were included. The findings were synthesized using a metasynthesis approach and organized into thematic categories.	The review identified four major themes: foundational knowledge of pre-eclampsia, knowledge of guideline-based management, preparedness for emergency procedures, and contextual factors influencing knowledge. The findings indicate that many practicing midwives globally have insufficient knowledge in several aspects of diagnosing and managing pre-eclampsia. The study emphasizes the need for improved in-service training programs and innovative educational methods, such as blended learning and simulation-based training, to strengthen midwives' competence and improve maternal health outcomes.
9.	Enhancing the competencies of obstetrical nurses and midwives in high-risk pregnancy management through simulation-based training in Lao	To examine the effect of simulation-based training using low-fidelity mannequins on obstetrical nurses' and midwives' knowledge, attitudes,	This study used a pilot study design with a single group pretest–posttest approach. The participants were 25 obstetrical nurses	The results showed a significant improvement in knowledge, attitudes, and clinical skills of nurses and midwives after the simulation-based training. The overall performance

	people's democratic republic: A pilot study (Ratree Sirisomboon & Leetheeragul, Jarunee, Metpapha Sudphet, Kanjana Pimol, Sudhathai Sirithepmontree, 2024).	and clinical skills in managing high-risk pregnancies in a low-resource setting.	and midwives from five tertiary hospitals in Vientiane, Lao PDR. They attended a three-day simulation-based training workshop (12 hours) that combined simulation learning and problem-based learning. Data were collected using questionnaires measuring knowledge and attitudes, as well as observational checklists for clinical skills, and were analyzed using descriptive statistics and paired statistical tests.	scores increased significantly (p = 0.000). The highest improvement was observed in postpartum hemorrhage management skills, followed by neonatal resuscitation and gestational diabetes management. The study concluded that simulation-based training is an effective educational method to enhance the competencies of nurses and midwives in managing high-risk pregnancies, especially in low-resource healthcare settings, and may contribute to improved maternal and neonatal outcomes.
10.	Healthcare professionals' perceptions of risk management on pregnancy and childbirth: An integrative review (Khayla Timothy, Barbara Lloyd, 2025)	To evaluate healthcare professionals' perceptions of how risk management influences pregnancy and childbirth, particularly how it affects decision-making and the quality of maternity care.	This study used an integrative review approach following a five-stage methodological framework: problem identification, literature search, data evaluation, data analysis, and presentation. A comprehensive database search was conducted in CINAHL, EMBASE, MEDLINE (PubMed), PsycINFO, and Scopus for studies published between 2016 and 2024. The review followed the PRISMA-ScR guidelines and included five primary research studies from four countries (England, Germany, Iran, and Ireland). Data were	The review identified two major themes: (1) the influence of the dominant medical model on risk management and decision-making in maternity care, and (2) similarities and differences in healthcare professionals' perceptions of risk management. The findings show that the increasing medicalisation of pregnancy and childbirth, along with fear of legal liability, leads healthcare professionals to focus more on documentation and defensive practices rather than woman-centred care. This situation often results in unnecessary medical interventions and reduced autonomy of midwives. The study concludes that education, training, and a better balance between medical and social models of care are necessary to ensure safe, high-quality, and woman-centred maternity services.

			analysed using thematic analysis based on Braun and Clarke's framework.	

The main characteristics of the included studies are presented in Table 1. The selected studies were conducted across various countries, including the United States, Sweden, South Africa, Lao People's Democratic Republic, and several other international contexts. The studies applied diverse methodological designs, including secondary data analysis, qualitative phenomenological studies, scoping reviews, systematic reviews and meta-analyses, mixed-methods research, pilot studies, and integrative reviews.

Many studies examined the role of midwives in the management of high-risk pregnancies and obstetric complications. The literature addressed several conditions, including pre-eclampsia, cardiovascular disease during pregnancy, and other obstetric risk factors that require close clinical monitoring.

The reviewed studies describe active involvement of midwives in several components of maternal healthcare. Midwives conduct risk screening, perform early detection of complications, monitor maternal conditions, participate in referral decision-making, and provide supportive care during pregnancy, childbirth, and the early parenting period..

Across the studies, midwives were consistently positioned as key healthcare providers in maternal care systems, particularly in supporting early identification of obstetric risks and ensuring appropriate referral to higher-level healthcare facilities when complications arise. Several studies also emphasized the importance of collaborative and multidisciplinary approaches, where midwives work together with obstetricians and other healthcare professionals to optimize maternal and neonatal outcomes.

Reported outcomes across the literature include improved maternal and neonatal health outcomes, reduced unnecessary medical interventions, increased patient satisfaction, and strengthened continuity of care. In addition, educational interventions such as simulation-based training and professional development programs were shown to significantly enhance midwives' knowledge, attitudes, and clinical competencies in managing high-risk pregnancy conditions.

Multiple challenges also emerged from the reviewed studies. The literature reports limitations in midwives' knowledge related to specific complications such as pre-eclampsia, structural barriers within referral systems, and the increasing medicalization of maternity care that may influence midwives' professional autonomy and clinical decision-making.

The identified challenges indicate the need to strengthen training programs, supportive healthcare policies, and collaborative maternity care models. Strengthening educational preparation and institutional support can improve the capacity of midwives to manage high-risk pregnancies effectively.

The available evidence demonstrates that midwives play an essential role in high-risk pregnancy care management. Midwives contribute to risk assessment, early detection of complications, maternal education, and coordination of care within multidisciplinary maternity healthcare systems.

Strengthening midwifery competencies and improving healthcare system support remain important priorities. Such improvements contribute to better maternal and neonatal health outcomes at the population level.

3.3 Synthesis of Midwives Roles in Hight-Risk Pregnancy Management

Based on the synthesis of the included studies, several key aspects of the role of midwives in the management of high-risk pregnancy care were identified. These roles include early detection of pregnancy risks, monitoring of maternal and fetal conditions, health education, referral coordination, and continuity of care. The findings suggest that midwives play a central role in improving maternal

83

and fetal safety through preventive, promotive, and collaborative approaches in maternity care services. The synthesis of the main roles of midwives identified across the literature is presented in Table 2.

Table 2. Findings of the Role of Midwives in High-Risk Pregnancy Management

No	Aspects of The Midwifes Role	Management Focus	Impact
1.	Early detection of risk	Screening factor risk	Lowers diagnosis delays
2.	Pregnancy monitoring	Monitoring of the condition of the mother and fetus	Prevent complications
3.	Health education	Nutrition counselling, a red herring	Increase maternal awareness
4.	Collaboration & referral	Cooperation of health workers	Faster and more accurate handling
5.	Continuity of care	Continuos care	Improve maternal & fetal safety

3.4 Roles of Midwives in Early Detection of High-Risk Pregnancy

Early detection of pregnancy complications was identified as one of the most critical roles performed by midwives. Several studies reported that systematic screening conducted during antenatal care enables the early identification of risk factors that may lead to maternal or fetal complications. Risk screening conducted by midwives typically includes the assessment of maternal health history, monitoring of blood pressure, evaluation of nutritional status, hemoglobin testing, and identification of pregnancy danger signs. Commonly identified risk factors include preeclampsia, anemia, hypertension during pregnancy, antepartum hemorrhage, infections, and previous obstetric complications. Early identification of these conditions allows healthcare providers to implement timely interventions and prevent the progression of complications. The literature consistently indicates that early detection conducted by midwives contributes significantly to reducing delays in diagnosis and improving pregnancy outcomes.

Most studies report that early detection is a fundamental role of midwives in lowering the risk of pregnancy complications. Screening of risk factors carried out systematically through antenatal services has been proven to be able to identify various pathological conditions from the early stages of pregnancy. The most common risk factors found include preeclampsia, anemia, hypertension in pregnancy, antepartum hemorrhage, infections, as well as previous obstetric conditions such as a history of premature labor and recurrent miscarriages.

Research conducted by (Sari, 2021) showed that routine screening using antenatal service standards was able to increase the early detection of complications by more than 60%. In addition, (Fitriani, 2023) found a significant relationship between early detection by midwives and a reduction in the incidence of maternal complications, especially in cases of hypertension and pregnancy anemia.

Several studies also emphasize the importance of using a comprehensive approach in screening, such as maternal health history assessment, complete physical examination, blood pressure monitoring, hemoglobin level check, and nutritional status assessment. Consistent early detection allows for faster interventions, preventing the progression of complications and lowering the risk of obstetric emergencies.

3.5 Monitoring and Management of High-Risk Pregnancy Care

The results of the synthesis show that regular monitoring of the condition of the mother and fetus is a key factor in preventing complications and improving maternal safety. Midwives play an active role in conducting clinical monitoring through blood pressure, weight, nutritional status, uterine fundus height, fetal heart rate, and identification of pregnancy danger signs.

Research conducted by (Lee, 2023) reported that midwife-based antenatal care significantly improved adherence to pregnancy visits and accelerated the management of complications. In addition,

84

the study showed that pregnant women who received routine monitoring had a lower risk of delaying complications than mothers who did not receive regular monitoring.

A number of articles emphasize the importance of continuity of care in midwifery practice. Continuity of care enables midwives to monitor pregnancy progression comprehensively, recognize changes in maternal condition more rapidly, and provide appropriate clinical interventions when necessary.

Continuous care also contributes to improved service quality and higher satisfaction among pregnant women. Sustained monitoring and consistent interaction between midwives and patients support early recognition of complications and reduce the occurrence of adverse pregnancy outcomes.

Continuous monitoring of maternal and fetal conditions constitutes another essential component of midwifery practice in the management of high-risk pregnancies. Antenatal monitoring performed by midwives includes routine assessment of maternal blood pressure, evaluation of maternal weight, measurement of uterine fundal height, monitoring of fetal heart rate, and identification of pregnancy danger signs.

Systematic monitoring during antenatal care allows early recognition of abnormal clinical findings. Early identification of risk conditions facilitates timely referral and appropriate clinical management to protect maternal and fetal health.

Regular monitoring enables midwives to detect changes in maternal or fetal conditions early and initiate appropriate care or referral when necessary. Several studies also emphasized the importance of continuity of care, where midwives provide ongoing care throughout pregnancy. This approach allows midwives to observe pregnancy progression more closely and respond promptly to emerging complications.

3.6 Education and Empowerment of Pregnant Women

Most studies show that health education provided by midwives has an important role in increasing awareness and healthy behavior of pregnant women. Education includes the recognition of pregnancy danger signs, the importance of antenatal visits, the fulfillment of balanced nutrition, the consumption of blood-boosting tablets, childbirth preparation, and the prevention of complications.

Pregnant women who received intensive education from midwives reported that pregnant women who received intensive education had a higher level of knowledge and a lower risk of complications than the non-educated group (Rahmawati, 2022). Education has also been proven to increase maternal compliance in conducting routine checkups and speed up decision-making when pregnancy warning signs appear.

Empowerment of pregnant women through individual and family counseling contributes to increased readiness for childbirth. Counseling activities encourage active participation of pregnant women and their families in maternal health management during pregnancy.

Family support strengthened through education provided by midwives promotes the adoption of healthy behaviors during pregnancy. Strong family involvement assists mothers in maintaining recommended health practices and reduces the likelihood of pregnancy complications.

Health education represents another key component of midwives' professional responsibilities identified in the literature. Educational activities aim to improve pregnant women's knowledge and awareness regarding pregnancy health and potential obstetric complications.

Educational content delivered during antenatal services commonly includes recognition of pregnancy danger signs, the importance of regular antenatal visits, balanced nutrition during pregnancy, iron supplementation, birth preparedness, and prevention of pregnancy complications. Structured education supports informed decision-making and encourages adherence to recommended maternal health practices.

Evidence from the reviewed studies indicates that pregnant women who receive consistent education from midwives demonstrate higher levels of knowledge and improved health behaviors. Counseling combined with family involvement also strengthens maternal readiness for childbirth and contributes to improved maternal health outcomes.

3.7 Collaboration and Referral Systems in the Handling of High-Risk Pregnancy

The results of the study show that midwives have a strategic role in determining the right referral in cases of high-risk pregnancies. The accuracy of referral decision-making has a great influence on the safety of the mother and fetus, especially in obstetric emergency conditions such as severe preeclampsia, bleeding, and fetal growth disorders.

Collaboration between midwives, doctors, and referral health facilities has been proven to increase the effectiveness of handling complications. A well-functioning referral system is able to reduce treatment delays and reduce the risk of maternal morbidity and mortality. Global studies also show that coordination between health workers is an important factor in the success of high-risk pregnancy management.

The literature also emphasizes that the readiness of health facilities plays an important role in the effectiveness of referral systems in obstetric care. Availability of referral transportation and effective communication among healthcare workers also influence the timeliness and success of referral decisions in high-risk pregnancy management.

Adequate coordination between primary healthcare providers and higher-level facilities supports prompt clinical response when complications occur. Efficient referral pathways allow pregnant women with high-risk conditions to receive advanced medical care without delay.

The synthesis of the reviewed literature indicates that the role of midwives contributes positively to the management of high-risk pregnancy care. Midwifery practice supports early identification of pregnancy risk factors, continuous monitoring of maternal and fetal conditions, provision of maternal health education, coordination within referral systems, and maintenance of continuity of care.

The literature describes several central functions performed by midwives in high-risk pregnancy management. Midwives conduct systematic early detection of pregnancy risk factors, perform regular monitoring of maternal and fetal health conditions, provide health education and empowerment for pregnant women, coordinate collaboration with other healthcare professionals and referral services, and maintain continuity of care throughout pregnancy and childbirth.

This role has been proven to be able to improve maternal and fetal safety, reduce the incidence of pregnancy complications, and improve the quality of maternal health services. However, the effectiveness of high-risk pregnancy management is greatly influenced by several factors, including the clinical competence of midwives, the availability of health service facilities, the effectiveness of referral systems, and the level of compliance of pregnant women in participating in antenatal services. Overall, the results show that optimizing the role of midwives is an important component in efforts to improve maternal health and prevent high-risk pregnancy complications.

3.8 Impact of Midwives' Roles on Maternal Health Outcomes

Based on the results of the literature synthesis analyzed, it was found that the role of midwives in the management of high-risk pregnancies has a significant impact on improving the quality of maternal health services and maternal and fetal safety. The role of midwives is not only limited to clinical aspects, but also includes improving access to services, strengthening the complication prevention system, and improving the overall quality of antenatal services.

Most of the literature shows that midwives as frontline health workers have a strategic position in maternal health services, especially at the primary and community service levels. The involvement of

midwives in antenatal services has been proven to increase the coverage of pregnancy visits, accelerate the detection of risk factors, and improve the continuity of maternal health services. This condition directly contributes to the reduction in delays in the treatment of obstetric complications.

The results of the study also show that the optimization of the role of midwives has an impact on improving the quality of midwifery services, which is characterized by increased compliance of pregnant women with antenatal visits, increased early detection of complications, and increased effectiveness of the referral system. The improvement in the quality of services is related to a decrease in the incidence of maternal complications and an increase in maternal and fetal safety during pregnancy.

Some studies confirm that quality midwifery services, especially in high-risk pregnancies, contribute to a reduction in maternal morbidity and mortality. Midwives play a role in strengthening the prevention system through early detection, continuous monitoring, health education, and timely referral coordination. Thus, optimal obstetric services not only improve the clinical outcomes of pregnant women, but also strengthen the maternal health service system as a whole.

The synthesis results also indicate that improvement in the quality of maternal health services depends on multiple structural and professional factors. Clinical competence of midwives, availability of healthcare facilities, effectiveness of referral systems, and access of pregnant women to antenatal care services influence the success of high-risk pregnancy management.

Evidence from the reviewed studies shows that regions with strong midwife involvement in community-based services demonstrate better maternal safety outcomes. Greater availability of midwifery personnel in primary healthcare settings supports earlier identification of pregnancy risks and more consistent monitoring of maternal conditions.

The findings of this study demonstrate that midwives contribute directly to the management of high-risk pregnancies through preventive care, clinical monitoring, education, and coordination of care. Midwifery practice strengthens the quality of maternal health services and supports improvements in maternal and fetal safety.

The results also confirm that optimization of midwives' professional roles represents an essential component of maternal healthcare systems. Strengthening midwifery capacity and institutional support contributes to improved service quality and reduction of pregnancy complications and maternal mortality..

4. DISCUSSION

This systematic literature review examined the roles of midwives in the management of high-risk pregnancy care across different healthcare contexts. The findings indicate that midwives play a central role in maternal healthcare systems, particularly in early risk detection, continuous monitoring of maternal and fetal conditions, and coordination of care during pregnancy. Across the included studies, midwives were consistently identified as frontline healthcare providers who contribute significantly to the prevention and management of pregnancy complications through antenatal care services and collaborative clinical practices.

The literature highlights that early detection of pregnancy risk factors is one of the most essential components of midwifery practice. Routine antenatal screening performed by midwives enables the identification of maternal health problems such as hypertension in pregnancy, anemia, preeclampsia, and other obstetric complications at an early stage. Early identification allows timely intervention and appropriate referral to higher-level healthcare facilities when necessary. These findings align with previous studies indicating that systematic antenatal screening can significantly reduce delays in diagnosis and improve maternal and neonatal outcomes.

Monitoring and continuous assessment of maternal and fetal health were also identified as key responsibilities of midwives in the management of high-risk pregnancies. Regular monitoring activities

87

including blood pressure measurement, assessment of maternal weight and nutritional status, evaluation of uterine fundal height, and monitoring of fetal heart rate enable midwives to detect clinical changes early and respond promptly to potential complications. The concept of continuity of care, frequently emphasized in the reviewed literature, allows midwives to observe the progression of pregnancy more closely and provide timely interventions when needed.

Another important role identified in this review is the provision of health education and empowerment of pregnant women. Midwives play a significant role in increasing maternal awareness regarding pregnancy health, potential complications, and the importance of routine antenatal care visits. Educational interventions related to nutrition, iron supplementation, birth preparedness, and recognition of danger signs have been shown to improve maternal knowledge and encourage healthier behaviors during pregnancy. This educational role contributes to increased compliance with antenatal care and faster decision-making when complications arise.

The findings also highlight the importance of collaboration and referral systems in the management of high-risk pregnancies. Midwives frequently serve as the first point of contact within primary healthcare settings and therefore play a strategic role in identifying cases that require specialized care. Effective referral systems and collaboration with obstetricians and other healthcare professionals are essential to ensure timely management of complications. Studies included in this review indicate that well-functioning referral mechanisms can significantly reduce treatment delays and improve maternal and fetal safety.

Important challenges appear in the literature regarding the implementation of high-risk pregnancy care by midwives. The literature reports limitations in midwives' knowledge related to specific obstetric complications, barriers within referral systems, and increasing medicalization of maternity care. Excessive reliance on medicalized models of care in some healthcare settings may reduce midwives' professional autonomy and influence clinical decision-making. Strengthening midwifery education, continuous professional development, and supportive health policies remains necessary to ensure that midwives can perform their roles effectively in complex pregnancy cases.

Evidence from the reviewed studies indicates that improvement of midwives' competencies through structured training programs can strengthen the management of high-risk pregnancies. Training initiatives such as simulation-based education and clinical skill development improve clinical performance and preparedness in obstetric emergency situations. Educational interventions also increase professional confidence and decision-making capacity among midwives. Strengthening midwifery competencies therefore represents an important strategy for improving maternal health services and reducing pregnancy-related complications.

The findings of the review demonstrate that midwives perform a critical role in the management of high-risk pregnancies. Midwives contribute to early detection of risk factors, continuous monitoring of maternal and fetal conditions, provision of maternal health education, and coordination of referral systems within maternity care services. Effective integration of midwifery practice within maternal healthcare systems supports improvements in maternal and neonatal health outcomes and strengthens the quality of maternity care services.

The synthesis conducted in this study provides a structured interpretation of midwives' contributions based on integrated components of midwifery care management. The analysis presents a systematic overview of how midwives support high-risk pregnancy management, particularly within primary healthcare settings where midwives represent the frontline providers of maternal health services.

4.1 The Role of Midwives in Early Detection of High-Risk Pregnancy

Early detection is a key component in the management of high-risk pregnancy care carried out by midwives. Theoretically, early detection aims to identify maternal and fetal risk factors from the beginning of pregnancy so that interventions can be carried out quickly and appropriately. In midwifery practice, risk screening includes assessing the mother's medical history, physical examination,

monitoring blood pressure, nutritional status, and identifying pregnancy danger signs. Optimal early detection allows for the prevention of complications such as preeclampsia, anemia, bleeding, and fetal growth disorders.

The results of this study reinforce the findings (Sari, 2021) which states that risk screening carried out by midwives is routinely related to a decrease in the incidence of pregnancy complications. It is also reported that early detection by midwives increases the chances of faster treatment, thereby reducing maternal morbidity (Fitriani, 2023). These findings are in line with the concept of primary prevention in obstetrics services that emphasizes the importance of identifying risks before complications develop into more serious conditions.

The findings indicate that midwives' competence in conducting early detection of pregnancy risk factors represents a key determinant of maternal and fetal safety in high-risk pregnancies. Early identification of complications enables timely clinical intervention, appropriate referral decisions, and continuous monitoring that reduces the likelihood of adverse maternal and neonatal outcomes.

The discussion section should not repeat the presentation of research results. The discussion must provide a concise synthesis of the principal findings, supported by analytical arguments and comparison with relevant studies in the existing literature.

A well-developed discussion also explains how the findings contribute to the advancement of knowledge and practice in maternal healthcare. Interpretation of the results should clarify the implications of midwives' roles in improving high-risk pregnancy care and demonstrate how the findings support the development of evidence-based midwifery practice and healthcare services for society..

4.2 Implementation of Midwives in Monitoring and Management of High-Risk Pregnancy Care

Continuous monitoring of maternal and fetal conditions constitutes an essential component of high-risk pregnancy management. Monitoring occurs through regular antenatal care visits that include blood pressure measurement, assessment of fetal growth, evaluation of maternal nutritional status, and identification of pregnancy danger signs. Systematic monitoring enables midwives to detect changes in maternal condition at an early stage and determine appropriate clinical management.

The findings align with the study conducted by Lee (2023), which reported that antenatal care led by midwives improves adherence to scheduled antenatal visits and facilitates earlier management of pregnancy complications. Research conducted by Braun (2021) also reported that continuity of midwifery care is associated with a lower risk of pregnancy complications and improved maternal safety.

The evidence supports the concept of continuity of care in obstetric services. Continuous and consistent care throughout pregnancy strengthens service quality and contributes to the prevention of complications in high-risk pregnancies.

4.3 The Role of Education and Empowerment of Pregnant Women

Health education represents a strategic component of midwifery practice in the management of high-risk pregnancies. Educational activities include counseling on pregnancy danger signs, balanced nutritional intake, adherence to antenatal care visits, and the importance of family support during pregnancy.

Educational interventions aim to strengthen maternal awareness and capacity to maintain maternal and fetal health during pregnancy. Counseling sessions conducted by midwives encourage pregnant women to adopt preventive health practices and improve engagement with maternal healthcare services.

89

The findings of this study indicate that pregnant women who receive intensive education from midwives demonstrate higher adherence to antenatal care visits and a lower risk of pregnancy complications. Evidence from other studies also reports that health education delivered by midwives contributes to improved maternal health behaviors and reduces delays in the management of obstetric complications.

The findings correspond with health promotion theory, which explains that increased knowledge and awareness can influence individual health behavior. Educational interventions therefore affect not only cognitive understanding but also behavioral changes that support safer pregnancy outcomes..

4.4 The Role of Collaboration and Referral Systems in Handling High-Risk Pregnancy

High-risk pregnancies often require multidisciplinary treatment. Therefore, midwives have an important role in determining timely referrals and collaborating with other health workers, such as obstetricians and referral health facilities. An effective referral system can prevent delays in the treatment of complications and improve the safety of the mother and fetus.

The results of this study are in line with the recommendations (WHO, 2020) which emphasizes that an effective referral system is the main component in maternal services to reduce maternal mortality. Research conducted by (Johnson, 2020) also shows that the right referral decision by midwives is related to improved outcomes pregnancy. Thus, the ability of midwives to make clinical decisions and coordinate referrals is an important factor in the successful management of high-risk pregnancies.

4.5 The Impact of the Role of Midwives on Service Quality and Maternal Safety

In addition to the clinical aspect, the role of midwives in the management of high-risk pregnancies also has an impact on the overall quality of maternal health services. Midwives as frontline health workers have a strategic position in increasing access to antenatal services, strengthening the complication prevention system, and improving maternal and fetal safety.

UNFPA research (2021) states that improving the quality of obstetric services contributes significantly to reducing maternal mortality globally. These findings are relevant to the context of midwifery services in Indonesia, where midwives have an important role in maternal health services at the community level. Thus, the role of midwives in the management of high-risk pregnancies not only impacts the individual pregnant woman, but also on improving the quality of the maternal health care system as a whole.

SYNTHESIS OF RESEARCH FINDINGS, NOVELTIES, AND LIMITATIONS

The novelty of this study lies in the presentation of a comprehensive synthesis of the role of midwives in the management of high-risk pregnancy care using a Systematic Literature Review approach. The analysis integrates empirical findings related to early detection of pregnancy risk factors, monitoring of maternal and fetal conditions, health education, collaborative care, and continuity of midwifery services.

The synthesis demonstrates that midwives contribute substantially to improving maternal and fetal safety. Early identification of pregnancy risks, systematic monitoring, and patient education strengthen preventive care and support timely clinical intervention during pregnancy.

This study also identifies several limitations that influence the interpretation of the findings. Variation in research design, differences in healthcare service contexts, and heterogeneity of outcome indicators across the reviewed studies limit the generalizability of the synthesis results.

Another limitation arises from the limited number of studies that evaluate the long-term impact of midwifery roles on maternal and neonatal outcomes. The literature predominantly reports short-term outcomes related to antenatal care adherence, complication detection, and service quality.

Future research should examine the effectiveness of midwifery care management models for high-risk pregnancies through longitudinal or experimental study designs. Empirical investigation using

stronger methodological approaches can strengthen scientific evidence and support the development of more effective midwifery service models.

CONCLUSION

This systematic literature review examines the role of midwives in the management of high-risk pregnancy care. The findings indicate that midwives contribute substantially to early detection of pregnancy risk factors, continuous monitoring of maternal and fetal conditions, provision of health education, and coordination of referral systems. Such roles support early identification of complications and facilitate timely clinical intervention to ensure appropriate maternal care.

The involvement of midwives in antenatal services also strengthens maternal and fetal safety through systematic screening, regular monitoring, and continuity of care. Educational support delivered by midwives increases pregnant women's awareness of pregnancy health and encourages adherence to antenatal care schedules.

The literature also identifies several factors that may influence the effectiveness of midwives in managing high-risk pregnancies. Variation in clinical competencies, limited healthcare resources, and structural barriers within referral systems can affect the quality and timeliness of maternal care.

Strengthening midwifery education, clinical training, and supportive health policies remains essential to improve the capacity of midwives in maternal healthcare services. Improved professional preparation and institutional support can enhance the quality of care provided to pregnant women with high-risk conditions.

ACKNOWLEDGEMENTS

DECLARATION OF GENERATIVE AI

The author also uses the help of Artificial Intelligence (AI) technology on a limited basis to help with language editing, grammar, and improving the clarity of academic writing. AI technology is not used in the process of data analysis, interpretation of results, or the preparation of research conclusions. The entire content of the article is the result of the author's thoughts and analysis based on the scientific literature that has been reviewed.

REFERENCES

Braun, V., & Clarke, V. (2021). *Thematic Analysis: A Practical Guide*. Sage Publication.

Devane, J. S. S. G. S. (2016). Midwife-Led Continuity Models Versus Other Models of Care for Childbearing Women. *Cochrane Database of Systematic Reviews*, *4*. https://doi.org/10.1002/14651858.CD004667.pub5

Erna Yovi Kurniawati, E. I. (2025). The Role of Midwives in the Early Detection of Infertility Risk Factors Among Women of Reproductive Age. *PubHealth Jurnal Kesehatan Masyarakat*, *4*(1), 95–101. https://doi.org/10.56211/pubhealth.v4i1.1064

Eugene R Decler. (1995). Midwifery Care and Medical Complications: The Role of Risk Screening. *Journal Birth Issues in Perinatal Care*, *22*(2), 68–73. https://doi.org/10.1111/j.1523-536X.1995.tb00562.x

Garti, I., Gray, M., Tan, J.-Y., & Bromley, A. (2021). Midwives' Knowledge of Pre-Eclampsia Management: A Scoping Review. *Journal Women and Birth*, *34*(1), 87–104. https://doi.org/10.1016/j.wombi.2020.08.010

91

Indonesia, K. K. R. (2021). *Pedoman Pelayanan Antenatal Terpadu Edisi Terbaru*.

Isabella Garti, Michelle GrayTan, J.-Y., & Bromley, A. (2021). Midwives' Knowledge of Pre-Eclampsia Management: A Scoping Review. *Journal Women and Birth*, *34*(1), 87–104. https://doi.org/10.1016/j.wombi.2020.08.010

Khayla Timothy, Barbara Lloyd, C. B. (2025). Healthcare Professionals' Perceptions of Risk Management on Pregnancy and Childbirth: An Integrative Review. *Jounal Midwifery*, *145*. https://doi.org/10.1016/j.midw.2025.104376

Marie Berg, K. D. R. (2001). Swedish Midwives' Care of Women Who Are at High Obstetric Risk or Who Have Obstetric Complications. *Journal Midwifery*, *17*(4), 259–266. https://doi.org/10.1054/midw.2001.0284

Mary J Renfrew, Alison McFadden, Maria Helena Bastos, James Campbell, A. A. C. (2014). Midwifery and Quality Care: Findings From A New Evidence-Informed Framework for Maternal and Newborn Care. *Journal The Lancet*, *384*(9948), p1129-1145. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)60789-3/abstract

Murtiningsih, Lita Lestari, H. F. (2021). The Effect Of Iron And Vitamin C Supplements on Hemoglobin Levels of Pregnant Women with Anemia: Systematic Literature Review. *Journal of Maternity Care Reproductive Health*, *4*(1). https://doi.org/10.36780/jmcrh.v4i1.166

Nina Herlina, Sri Nawangsari, Robby Kurniawan Harahap, Erik Ekowati, A. I. A. (2021). Pengembangan Skrining Deteksi Resiko Kehamilan Berdasarkan Kriteria Keadaan dan Kondisi Ibu Hamil. *Jurnal Aisyah: Jurnal Ilmu Kesehatan*, *6*(3), 439–446. https://doi.org/10.30604/jika.v6i3.536

Organization, W. H. (2020a). *Trends in Maternal Mortality 2000–2017*.

Organization, W. H. (2020). *WHO Recommendations on Antenatal Care for A Positive Pregnancy Experience*.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., et al. (2021). The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews. *BMJ*, *1*(7), 372. http://dx.doi.org/10.1136/bmj.n71

Ratree Sirisomboon, S. N., & Leetheeragul, Jarunee, Metpapha Sudphet, Kanjana Pimol, Sudhathai Sirithepmontree, L. S. (2024). Enhancing The Competencies of Obstetrical Nurses and Midwives in High-Risk Pregnancy Management Through Simulation-Based Training in Lao People's Democratic Republic: A Pilot Study. *Journal Midwifery*, *137*. https://doi.org/10.1016/j.midw.2024.104132

Sandra Millington, Judith Magarey, Gustaaf A. Dekker, R. A. C. (2019). Cardiac Conditions in Pregnancy and The Role of Midwives: A Discussion Paper. *Journal Nursing Open*, *6*(3), 722–732. https://doi.org/10.1002/nop2.269

Siyabonga W. Ximba, Olivia B. Baloyi, M. A. J. (2021). Midwives' Perceived Role in Up Referral of High-Risk Pregnancies in Primary Healthcare Settings, Ethekwini District, South Africa. *Health Sa Gesondheid*, *26*, 1025–9848. https://doi.org/10.4102/hsag.v26i0.1546

Snyder, H. (2019). Literature Review as A Research Methodology: An Overview and Guidelines. *Journal of Business Research*, *104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Tekoa L. King, Mary C. Brucker, Kathryn Osborne, C. M. J. (2018). *Varney's Midwifery*. Jones & Bartlett Learning. https://books.google.co.id/books/about/Varney_s_Midwifery.html?id=tGNaDwAAQBAJ&redir_esc=y

Theodora Hei Tung Lai, T. T. L. (2024). Antenatal Screening – The Roles of Medical and Family History, Routine Tests, and Examination Findings. *Journal Best Practice & Research Clinical Obstetrics & Gynaecology*, *97*(24), 345–352. https://doi.org/10.1016/j.bpobgyn.2024.102540

Tri Sunarsih, P. (2020). Asuhan Kebidanan Continuity of Care di PMB Sukani Edi Munggur Srimartani Piyungan Bantul. *Midwifery Jurnal Kebidanan*, *5*(1), 39–44. https://media.neliti.com/media/publications/515023-none-6e4daa6c.pdf

UNICEF. (2020). *Maternal and Newborn Health Disparities Report*.

Xiao, Y., & Watson, M. (2019). Guidance on Conducting A Systematic Literature Review. *Journal of Planning Education and Research*, *1*(39), 93–112. https://doi.org/10.1177/0739456X177239

Yang Xu, Yingying Han, Li Wang, Hui Xue, Yue Liu, Yanyan Men, Yinxin Chen, Xiaoyun Zhou, Q. L. (2026). Effect Of Antenatal Education And Midwifery-Led Care on Maternal Anxiety, Depression, and Birth Outcomes: A Meta-Analysis of Clinical Trials. *Journal W*, *39*(1). https://doi.org/10.1016/j.wombi.2025.102138

Ö Tunçalp, JP Pena-Rosas, T Lawrie, M Bucagu, OT Oladapo, A Portela, A. M. G. (2017). WHO Recommendations on Antenatal Care For A Positive Pregnancy Experience, Going Beyond Survival. *BJOG: An International Journal of Obstetrics & Gynaecology*, *124*(6), 860–862. https://doi.org/10.1111/1471-0528.14599