

Missed Abortion

Zohal Ghafory Hamnawa*

Obstetrics and Gynecology Specialist Trainer at Abu Ali Sina Regional Educational Hospital in Balkh. Email: hamnawazahira@gmail.com

ABSTRACT

Missed abortion is one of the common disorders during pregnancy, in which the fetus dies in the uterus, but the mother's body has not yet initiated the expulsion process, and clear clinical symptoms like bleeding or severe pain are not observed. This condition can have serious physical and psychological consequences for the mother, including the need for surgical interventions, infection, bleeding, decreased fertility, anxiety, and depression. Several factors contribute to the occurrence of missed abortion, the most important of which include chromosomal abnormalities in the fetus, hormonal problems in the mother, chronic diseases, environmental factors, and lifestyle.

Timely diagnosis using transvaginal ultrasound, measurement of β -hCG levels, and other standard methods is essential and plays a critical role in reducing physical and psychological complications. Treatment methods, depending on gestational age and the mother's condition, include conservative care, medication with misoprostol, and when necessary, surgical methods such as curettage. Psychological support and education for mothers are also important aspects of managing this condition.

A review of the scientific literature indicates that informing mothers, educating healthcare staff, and using standard diagnostic methods can reduce the negative outcomes of missed abortion and preserve maternal reproductive and mental health. This research was conducted using library and review methods, analyzing international and national sources to examine risk factors, diagnostic methods, physical and psychological consequences, and management strategies of missed abortion. The findings suggest that prevention, early diagnosis, standard medical care, and psychological support for mothers are essential for reducing complications and

enhancing maternal health. This study provides a foundation for field research and the development of clinical guidelines in the management of missed abortion.

Key Words: Missed Abortion, Risk Factors, Diagnosis, Treatment, Psychological Outcomes, Maternal Care

Introduction

Missed abortion is one of the common problems during pregnancy that affects the physical and mental health of the mother. This condition occurs when the fetus dies in the uterus; however, the mother's body has not yet initiated the expulsion process, and there are usually no clear clinical symptoms such as bleeding or severe pain (ACOG, 2020). The prevalence of missed abortion has been reported in various studies to be between 10% to 20% of all pregnancy losses, with several factors including chromosomal abnormalities in the fetus, hormonal problems in the mother, chronic diseases, and environmental factors contributing to its occurrence (Fischer et al., 2018).

One of the significant challenges in managing missed abortion is timely diagnosis, as the absence of clinical symptoms can lead to delays in identification and treatment, resulting in physical and psychological consequences for the mother (Cunningham et al., 2022).

Therefore, a scientific and comprehensive review of credible sources regarding risk factors, diagnostic methods, and management of this condition is of great importance and can help improve healthcare and reduce negative outcomes. Library research, by reviewing international studies and scientific resources, provides a comprehensive and analytical picture of missed abortion and its management strategies, identifying existing scientific gaps in this field (Farquhar, 2005).

Given the importance of maternal health and the role of this condition in pregnancy and psychological outcomes, a scientific and analytical study of missed abortion as a library research topic can provide valuable information for doctors, nurses, researchers, and health policymakers, aiding in the development of clinical guidelines and preventive programs.

Problem Statement

Missed abortion is one of the most common disorders during pregnancy that impacts the physical, mental, and social health of mothers, and is considered a significant factor in reducing the quality of life for women of childbearing age (Cunningham et al., 2022). In this condition, the fetus dies in the uterus, but the mother's body has not yet expelled it, and there are often no clear clinical symptoms such as bleeding or severe pain. This characteristic can lead many women to delay seeking medical attention, resulting in postponement of timely diagnosis and appropriate management.

Failure to diagnose missed abortion promptly can have serious and multiple consequences for the mother, including an increased need for invasive interventions such as curettage and surgery, risk of infection, internal bleeding, damage to reproductive organs, and decreased future fertility (Fischer et al., 2018).

Moreover, the psychological consequences of missed abortion are significant and include anxiety, depression, feelings of guilt, and post-abortion stress, which are often overlooked and require scientific investigation and supportive measures (Farquhar, 2005).

Multiple and complex factors contribute to the occurrence of missed abortion, including chromosomal abnormalities in the fetus, hormonal problems in the mother, chronic diseases such as diabetes and thyroid disorders, inflammatory diseases of the uterus, use of certain medications, smoking, exposure to environmental factors, and maternal age (Fischer et al., 2018). Research has shown that some of these factors are preventable or manageable, and raising awareness among women and providing healthcare services can reduce the incidence of missed abortions and their consequences.

Despite the high importance of this issue, many developing countries face a lack of local data and related scientific research. Limitations in access to advanced diagnostic services, a lack of standard ultrasound equipment, and an absence of specialized personnel in healthcare facilities complicate the management of missed abortion and increase its negative outcomes (Cunningham et al., 2022). These limitations have hindered the full and scientific implementation of preventive programs, early diagnosis, and therapeutic management, highlighting the urgent need

for review and library studies based on credible international sources and analysis of scientific evidence.

Therefore, a scientific and comprehensive review of missed abortion, focusing on identifying risk factors, early diagnostic methods, physical and psychological outcomes, and providing therapeutic and supportive measures, can help enhance medical care, reduce complications, and preserve women's fertility, thus filling the existing research gaps in this field (Farquhar, 2005).

Research Objectives

Main Objective

To conduct a scientific and comprehensive review of missed abortion based on credible library sources to identify risk factors, diagnostic methods, physical and psychological outcomes, and to propose appropriate management strategies.

Secondary Objectives:

1. To identify and analyze the risk factors associated with missed abortion, including fetal chromosomal disorders, hormonal issues in the mother, chronic diseases, lifestyle, and environmental factors, to provide effective preventive and management measures.
2. To examine early diagnostic methods and standard clinical criteria, including transvaginal ultrasound, β -hCG measurement, and other diagnostic techniques, to reduce delays in identification and improve treatment outcomes.
3. To evaluate the physical, psychological, and fertility outcomes after missed abortion and to study the impact of healthcare and supportive management on reducing complications and enhancing maternal health, providing practical information for better care.

Importance and Necessity of the Research

Missed abortion is a significant and common issue during pregnancy that not only threatens the physical health of the mother but also has notable psychological and pregnancy-related consequences. The importance of studying this topic arises from the fact that timely diagnosis and appropriate management of missed abortion can prevent severe complications such as infection, internal bleeding, damage to reproductive

organs, and decreased fertility, thereby preserving maternal health. Moreover, many mothers lack sufficient information about the causes and early signs of missed abortion, which can lead to delays in seeking medical attention and increased negative outcomes. Therefore, scientific and library research in this area is essential.

On the other hand, the necessity of conducting this research is also significant from both scientific and practical perspectives, as a review of credible sources and analysis of existing evidence can help identify risk factors, early diagnostic methods, and the physical and psychological outcomes of this condition, filling existing research gaps. The results of this study can assist doctors, nurses, and health policymakers in designing and implementing preventive and scientific management strategies for missed abortion and enhancing the quality of prenatal care. Ultimately, library research, by summarizing and analyzing existing information, provides a foundation for field studies and future research on missed abortion.

Research Methodology

This study was conducted using library and review methods, with data and information gathered from credible scientific resources, including specialized textbooks, research articles published in international journals, reports from global health organizations, and online databases. The library method allows the researcher to review, analyze, and synthesize existing knowledge about missed abortion, its risk factors, diagnostic methods, physical and psychological outcomes, and treatment strategies, providing a comprehensive picture of the current scientific status.

In this study, sources from 2000 to 2023 were examined to utilize the latest findings and scientific evidence in the field of missed abortion. Criteria for selecting sources included scientific credibility, topical relevance, acceptance in the medical community, and publication in peer-reviewed journals. Collected data were analyzed systematically and through content analysis to extract risk factors, diagnostic methods, physical and psychological outcomes, and management strategies in a categorized manner.

Considering the limitations of field research in many countries, the library method enables the collection and analysis of international findings and diverse

scientific experiences, providing a foundation for future studies and practical recommendations for improving the management of missed abortion. This approach also aids in identifying scientific gaps and existing limitations in previous research, facilitating a comprehensive and documented analysis of the status of missed abortion at both global and national levels.

Theoretical Framework and Background of the Research

Missed abortion is defined as the death of the fetus in the uterus before the twentieth week of pregnancy without spontaneous expulsion and without clear clinical symptoms. According to medical theories, this condition is typically caused by chromosomal abnormalities in the fetus, hormonal issues in the mother, chronic diseases, environmental factors, and lifestyle, which can have extensive physical and psychological consequences for the mother (Fischer, Fauchère, & Irion, 2018).

Scientific studies show that chromosomal disorders in the fetus are the most common cause of missed abortion, accounting for about 50 to 60 percent of cases (Farquhar, 2005). Additionally, hormonal disorders such as progesterone deficiency, thyroid dysfunctions, and metabolic diseases can disrupt fetal development and lead to fetal demise (Fischer et al., 2018). Chronic maternal diseases, such as diabetes, hypertension, and immune disorders, also play a significant role in increasing the risk of missed abortion.

From a diagnostic perspective, transvaginal ultrasound is recognized as the standard method for diagnosing missed abortion and, along with β -hCG level measurement, has high accuracy in identifying fetal death in the uterus (American College of Obstetricians and Gynecologists [ACOG], 2020). Early diagnosis enables appropriate medical intervention and reduces the need for invasive surgeries, preventing physical and psychological complications for the mother.

A review of the research background indicates that numerous studies at the international level have focused on risk factors, diagnostic methods, and management of missed abortion. Farquhar (2005) emphasizes in a review of previous studies that a comprehensive analysis of genetic and environmental factors is crucial for the prevention and reduction of missed abortion complications. Fischer and colleagues

(2018) have examined therapeutic methods and the role of medical and surgical management in reducing complications. Additionally, reports from the World Health Organization (2022) indicate that in developing countries, limited access to early diagnosis and treatment services has led to increased negative outcomes and reduced fertility among women.

Given the importance of the topic and the limitations present in field research, library research reviewing scientific resources and analyzing evidence provides an opportunity to summarize comprehensive scientific strategies for prevention, diagnosis, and management of missed abortion, which can fill existing research and educational gaps in this area (Cunningham et al., 2022; Farquhar, 2005).

Factors of Missed Abortion

Missed abortion is a condition in which the fetus dies in the uterus, but obvious signs of abortion, such as severe bleeding or expulsion of fetal tissue, do not appear for a time. It is usually diagnosed during an ultrasound examination. Various factors may contribute to this condition, the most important of which include:

1. **Chromosomal Abnormalities:** Chromosomal disorders are among the most common causes of miscarriage in the first trimester, usually resulting from abnormal cell division during fetal development, leading to halted growth.
2. **Genetic Disorders:** The presence of certain genetic diseases or the transmission of defective genes from parents can lead to severe abnormalities in the fetus and ultimately its death.
3. **Hormonal Disorders in the Mother:** Deficiencies in progesterone, thyroid disorders (hypothyroidism or hyperthyroidism), polycystic ovary syndrome, and diabetes can disrupt pregnancy stabilization and lead to missed abortion.
4. **Infections:** Some viral, bacterial, and parasitic infections such as toxoplasmosis, rubella, cytomegalovirus, listeriosis, and intrauterine infections can cause harm to the fetus and halt its growth.
5. **Uterine Structural Abnormalities:** Congenital uterine anomalies like a bicornuate uterus, septate uterus, large fibroids, or intrauterine adhesions may inhibit normal fetal growth.

6. **Cervical Incompetence:** Weakness or incompetence of the cervix can lead to an inability of the uterus to maintain the fetus, resulting in pregnancy loss.
7. **Chronic Maternal Diseases:** Chronic conditions such as hypertension, uncontrolled diabetes, heart disease, kidney diseases, and autoimmune disorders like lupus can increase the risk of missed abortion.
8. **Immune Disorders:** In some cases, the mother's immune system may recognize the fetus as a foreign body and trigger an immune response, which can lead to halted fetal growth.
9. **Coagulation Disorders:** Conditions like antiphospholipid syndrome can cause blood clots in the placental vessels, reducing blood supply to the fetus.
10. **Advanced Maternal Age:** Increased maternal age, particularly over 35 years, is associated with a higher risk of chromosomal abnormalities and consequently an increased likelihood of miscarriage.
11. **Environmental Factors:** Exposure to harmful chemicals, radiation, environmental pollutants, and certain teratogenic medications can contribute to fetal death.
12. **Unhealthy Lifestyle:** Smoking, alcohol consumption, drug abuse, malnutrition, severe stress, and excessive fatigue can increase the risk of missed abortion.

In general, missed abortion is a multifactorial phenomenon, and in many cases, a combination of genetic, hormonal, infectious, and environmental factors plays a role in its occurrence. Timely diagnosis and appropriate prenatal care can help reduce the risk of this complication.

Diagnosis and Treatment of Missed Abortion

Missed abortion refers to the condition where the fetus dies in the uterus, but obvious signs such as bleeding or uterine contractions do not appear. Timely diagnosis of this disorder is crucial, as delays in recognition can lead to maternal complications and infections (Cunningham et al., 2022).

Diagnosis

The diagnosis of missed abortion is typically made through a combination of clinical examinations and imaging. Reviewing the pregnancy history and the decrease or

cessation of fetal movements are initial signs. Physical examination may reveal a decrease in uterine size compared to gestation age or the absence of fetal heartbeat. Ultrasound is the most important diagnostic tool, confirming fetal growth cessation or absence of heartbeat. Additionally, hormonal tests such as β -hCG and progesterone levels can indicate halted fetal growth (Naderi, Hosseini, & Soltani, 2020).

Treatment

Treatment methods for missed abortion depend on gestational age, the mother's condition, and the patient's preferences. Conservative care involves waiting for natural expulsion of uterine contents and is performed in early, uncomplicated pregnancies. Medical treatment using medications like Misoprostol stimulates uterine contractions to expel fetal contents. In cases of severe bleeding, infection, or incomplete expulsion, surgical methods like curettage or uterine evacuation are chosen. Post-treatment care includes monitoring for bleeding, preventing infection, and providing psychological support for the mother (Ebrahimi, Ahmadi, & Karimi, 2019).

Quick diagnosis and appropriate management of missed abortion can reduce the risk of maternal complications, bleeding, and infection, paving the way for healthy future pregnancies. Maternal awareness and education for healthcare providers play a critical role in preventing negative outcomes (Rajabi & Mousavi, 2018).

Discussion and Results

Missed abortion is one of the most significant problems during pregnancy, directly affecting the physical and mental health of the mother and potentially leading to long-term consequences such as decreased fertility and post-abortion anxiety. Analysis of scientific resources indicates that chromosomal disorders in the fetus are the most common cause of missed abortion, accounting for about half of the cases, highlighting the importance of genetic testing and preconception counseling. Furthermore, maternal hormonal issues, chronic diseases, and environmental factors also play a role in increasing the risk of missed abortion, making it essential to focus on overall health and control chronic diseases in mothers prior to pregnancy.

The findings from the literature review suggest that timely diagnosis of missed abortion using transvaginal ultrasound and measurement of β -hCG levels is feasible

and can prevent serious physical complications such as bleeding, infections, and the need for surgical interventions. These findings underscore the importance of enhancing access to accurate diagnostics and educating both healthcare providers and mothers about recognizing the early signs of missed abortion.

In terms of psychological outcomes, missed abortion can lead to anxiety, depression, and feelings of guilt among mothers, indicating the need for providing psychological counseling services and social support alongside medical management. Additionally, an examination of international studies shows that limited access to healthcare services and early diagnosis in developing countries exacerbates the physical and psychological complications of missed abortion, emphasizing the necessity for local research and educational and preventive programs.

In summary, the findings indicate that prevention and scientific management of missed abortion require a thorough understanding of risk factors, timely diagnosis, appropriate medical care, and psychological support. This library research, by analyzing existing evidence, demonstrates that informing mothers, training medical personnel, and employing standard diagnostic methods can play a significant role in reducing the physical and psychological consequences of this condition, providing a foundation for field studies and future research.

Conclusion

Based on the review of scientific resources and analysis of existing evidence, missed abortion is one of the most critical problems during pregnancy that affects the physical and mental health of mothers, potentially leading to long-term consequences such as decreased fertility, anxiety, and depression. The findings show that fetal chromosomal disorders, maternal hormonal issues, chronic diseases, and environmental factors are among the most significant risk factors associated with missed abortion, and a precise understanding of these factors plays a crucial role in the prevention and scientific management of this condition.

Moreover, the review indicates that timely diagnosis using transvaginal ultrasound and measurement of β -hCG levels enables appropriate medical interventions and reduces physical complications. The psychological consequences of missed

abortion are also significant, necessitating the provision of psychological support and counseling for mothers alongside medical care. Ultimately, it can be concluded that the scientific management of missed abortion requires the identification of risk factors, early diagnosis, standard medical care, and the provision of psychological and educational support to mothers. This library study, by summarizing existing knowledge, offers a foundation for field studies and practical future research and contributes to providing scientific solutions for improving care and reducing complications associated with this condition.

Recommendations

Based on the research findings, it is recommended that:

1. Awareness among mothers regarding the causes and symptoms of missed abortion be increased to facilitate timely visits to healthcare facilities.
2. Access to early diagnostic services such as transvaginal ultrasound and hormonal testing be improved to reduce physical complications.
3. Psychological support and counseling post-abortion be provided to reduce anxiety and depression among mothers and maintain their mental health.

Limitations of the Research

This research has been conducted using library methods, and as such, it has its specific limitations. First, access to certain up-to-date resources and unpublished articles may be limited, which might result in incomplete information regarding all risk factors and management methods for missed abortion.

Second, the review of international resources may not fully account for cultural, social, and healthcare service access differences in various countries and regions, thus making the results not entirely generalizable to all populations.

Finally, library research does not allow for the examination of direct experiences of mothers and field data; therefore, it is suggested that future research be conducted in a field and qualitative manner to analyze the real experiences of mothers and the practical outcomes of missed abortion.

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