THE ROLE OF EXTRAGENITAL DISEASES IN MATERNAL MORTALITY: A CLINICAL ANALYSIS

Abulqosimov Komron Zuxriddin ugli

student of Tashkent State Medical University,

Faculty of Medicine, Tashkent-2026, Uzbekistan

Allanazarov Ismoiljon Musurmonkulovich

Associate Professor of the Department of Pathological Anatomy,

Tashkent State Medical University,Toshkent- 2026 Uzbekistan

Abstract: Maternal mortality remains a critical global health issue, with increasing attention being given to indirect causes such as extragenital diseases. This study aimed to analyze the role and clinical characteristics of non-obstetric conditions in maternal mortality. A retrospective clinical study was conducted at a tertiary maternity hospital over the period 2018–2024, including 60 cases of maternal death associated with extragenital pathology. Data were collected from medical records, laboratory findings, and autopsy reports.

The results showed that cardiovascular diseases (30%) were the leading cause among extragenital factors, followed by viral hepatitis (20%), other chronic conditions (20%), viral-bacterial pneumonia (16.7%), and parasitic diseases (13.3%). Most maternal deaths occurred during the third trimester, and delayed diagnosis along with inadequate management were identified as key contributing factors.

The findings highlight the significant impact of extragenital diseases on maternal mortality and emphasize the need for early diagnosis, multidisciplinary care, and improved clinical management. Strengthening antenatal screening and integrating specialized care can reduce mortality rates associated with non-obstetric conditions.

Keywords: Maternal mortality; Extragenital diseases; Pregnancy complications; Cardiovascular diseases; Viral hepatitis; Pneumonia; Parasitic infections; Iatrogenic factors; Clinical analysis; Maternal health

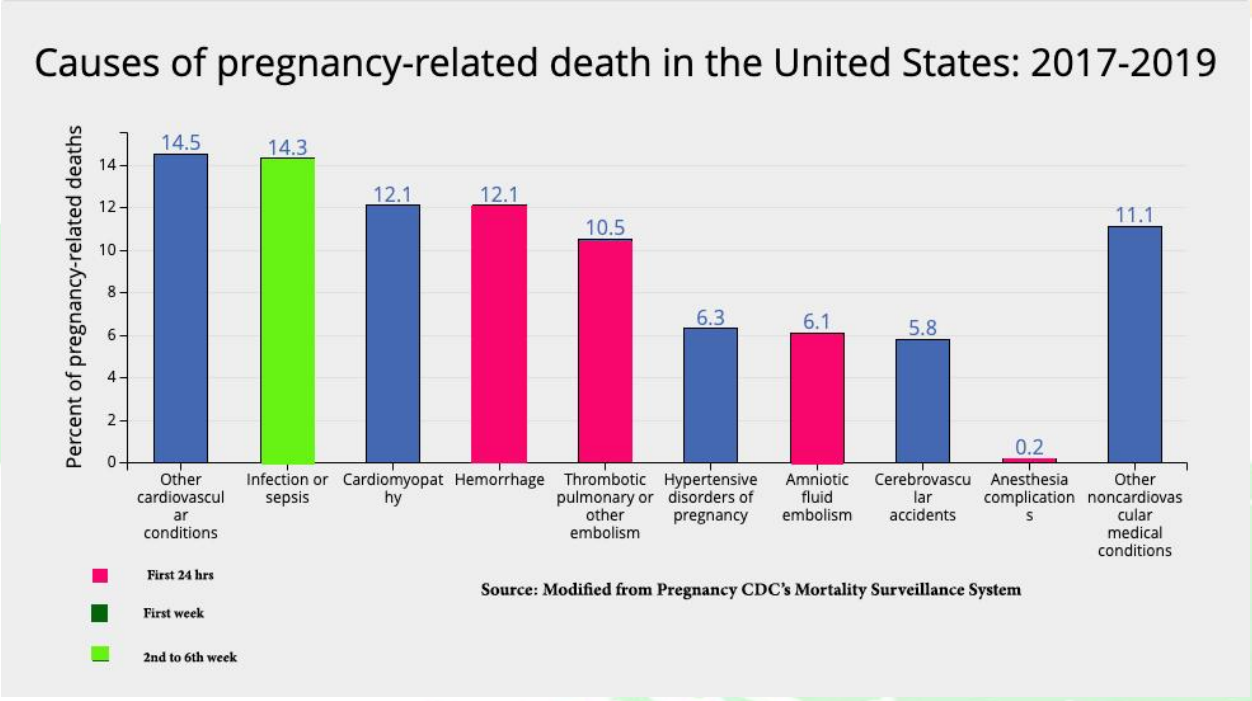
Introduction

Maternal mortality remains a major global health challenge, particularly in developing countries where access to quality healthcare services is often limited. Despite significant progress in obstetric care and the implementation of various maternal health programs, the rate of maternal deaths is still unacceptably high. In recent years, increasing attention has been directed toward the role of extragenital diseases—non-obstetric conditions that occur during pregnancy—as important contributors to maternal mortality. These conditions, which include cardiovascular, infectious, and systemic diseases, can complicate pregnancy and significantly worsen maternal outcomes.

Although advancements in obstetric management have led to a reduction in deaths caused by direct obstetric complications, there has been a noticeable rise in maternal mortality associated with non-obstetric causes. This trend highlights a critical issue: pregnant women with underlying extragenital diseases often do not receive timely diagnosis or adequate multidisciplinary care. As a result, these conditions may progress and lead to severe complications or death. Furthermore, there is still insufficient clinical analysis regarding how extragenital diseases influence the course of pregnancy and maternal outcomes, especially in resource-limited settings.

Another important concern is the lack of comprehensive data on the distribution, types, and clinical progression of extragenital diseases among maternal mortality cases. Many studies focus primarily on obstetric causes, leaving a gap in understanding the indirect factors that contribute to maternal deaths. This gap limits the development of effective prevention strategies and clinical guidelines aimed at reducing mortality associated with non-obstetric conditions.

Therefore, the aim of this study is to analyze the role and clinical characteristics of extragenital diseases in maternal mortality. The objectives of the study include identifying the most common types of extragenital diseases, assessing their contribution to maternal deaths, and evaluating their clinical patterns and associated complications. This research is expected to provide deeper insight into the problem and support the development of more effective approaches to maternal healthcare.



Methods

This study was designed as a retrospective clinical analysis aimed at evaluating the role of extragenital diseases in maternal mortality. The research was conducted in a tertiary-level maternity hospital, where specialized care is provided for high-risk pregnancies and complicated obstetric cases.

The study period covered six years, from 2018 to 2024, allowing for a comprehensive assessment of maternal mortality trends over time.

The study population included all recorded cases of maternal mortality during the specified period. Only cases with confirmed extragenital pathology were included in the analysis. Inclusion criteria consisted of documented maternal deaths in which non-obstetric (extragenital) diseases were identified as a contributing or primary cause. Cases where death occurred solely due to direct obstetric complications were excluded from the study to ensure a focused evaluation of indirect causes.

Data collection was carried out using multiple sources, including medical records, laboratory findings, and autopsy reports where available. This approach allowed for a more accurate and detailed assessment of each case. The collected data were systematically reviewed and organized for further analysis.

The following variables were analyzed: maternal age, type of extragenital disease, gestational age at the time of death, immediate and underlying causes of death, and the presence of comorbid conditions. These variables were selected to better understand the clinical characteristics and risk factors associated with maternal mortality in the context of extragenital diseases.

Statistical analysis was performed using descriptive methods, including the calculation of frequencies, percentages, and mean values. Where appropriate, comparative analysis was also conducted to identify patterns and differences between groups. The results were then interpreted to determine the significance and impact of extragenital diseases on maternal mortality.

Results

The findings of this study clearly demonstrate that extragenital diseases play a substantial and often decisive role in maternal mortality. A considerable proportion of maternal deaths analyzed during the study period were associated with non-obstetric conditions, confirming that indirect causes remain a serious and insufficiently addressed problem in maternal healthcare. These diseases not only complicate the course of pregnancy but also significantly worsen prognosis, especially when diagnosis and treatment are delayed.

Among the identified causes, cardiovascular diseases occupied a leading position. In particular, rheumatic heart disease was the most common pathology, accounting for a large share of maternal deaths. This can be explained by the increased physiological burden on the cardiovascular system during pregnancy, which exacerbates pre-existing heart conditions and can lead to decompensation. Infectious diseases also represented a major group, with viral hepatitis and viral-bacterial pneumonia being especially prominent. These conditions tend to progress more severely in pregnant women due to altered immunity and can rapidly lead to systemic complications such as respiratory failure or hepatic insufficiency. Parasitic diseases, although less common, were still significant, reflecting gaps in early diagnosis and preventive care in certain populations.

The distribution of extragenital diseases among maternal mortality cases further highlights their relative impact. Cardiovascular diseases (mainly rheumatism) accounted for 18 cases (30%), making them the leading cause among all extragenital factors. Viral hepatitis and other chronic conditions each

contributed 12 cases (20%), indicating that liver diseases and long-term systemic disorders are also major contributors to mortality. Viral-bacterial pneumonia was responsible for 10 cases (16.7%), demonstrating the severity of respiratory infections during pregnancy. Parasitic diseases accounted for 8 cases (13.3%), which, although lower in proportion, still represent a meaningful share and should not be underestimated. (Overall, out of 60 analyzed cases, cardiovascular diseases ranked first, followed by infectious diseases such as hepatitis and pneumonia, while parasitic and other chronic conditions also made notable contributions to maternal mortality.)

Additional analysis showed that the majority of deaths occurred during the third trimester of pregnancy. This period is characterized by maximum physiological stress on the maternal body, which can aggravate underlying diseases and increase the likelihood of complications. Furthermore, one of the most critical issues identified in this study was the late diagnosis of extragenital conditions and delays in initiating appropriate treatment. In many cases, women were admitted to the hospital in advanced stages of disease, when therapeutic interventions were less effective. These delays significantly increased the risk of fatal outcomes and highlight the urgent need for early screening, timely referral, and improved multidisciplinary management of pregnant women with extragenital pathologies.

Type of Disease	Number of Cases (n)	Percentage (%)
Cardiovascular (Rheumatism)	18	30%
Viral Hepatitis	12	20%
Viral-Bacterial Pneumonia	10	16.7%
Parasitic Diseases	8	13.3%
Other Chronic Conditions	12	20%
Total	60	100%

Distribution of Extragenital Diseases in Maternal Mortality

Discussion

The results of this study indicate that extragenital diseases are a significant and independent risk factor for maternal mortality. The findings confirm that non-obstetric conditions, particularly cardiovascular and infectious diseases, play a leading role in determining adverse maternal outcomes. The predominance of cardiovascular pathologies, especially rheumatic heart disease, can be explained by the increased hemodynamic load during pregnancy, which often leads to decompensation of pre-existing conditions. Similarly, infectious diseases such as viral hepatitis and pneumonia were shown to contribute substantially to mortality, likely due to altered immune responses and delayed recognition of disease severity in pregnant women.

One of the key problems identified in this study is the delayed diagnosis and inadequate management of extragenital diseases during pregnancy. In many cases, women did not receive timely

screening or were referred to specialized care at advanced stages of their illness. This delay significantly reduced the effectiveness of treatment and increased the likelihood of fatal outcomes. These findings highlight systemic gaps in antenatal care, particularly in the early identification and monitoring of high-risk patients.

The results of this study are consistent with global research trends, which show a steady increase in maternal mortality due to indirect causes. Similar conclusions have been reported in the scientific works of Allanazarov Ismoiljon Musurmonqulovych, where the growing contribution of extragenital diseases to maternal mortality has been emphasized. His studies underline the importance of comprehensive clinical assessment and early intervention in reducing maternal deaths associated with non-obstetric conditions.

From a clinical perspective, the findings underscore the necessity of a multidisciplinary approach to maternal care. Effective management of pregnant women with extragenital diseases requires close collaboration between obstetricians, cardiologists, infectious disease specialists, and other healthcare professionals. Early screening, continuous monitoring, and timely therapeutic interventions are essential to improving maternal outcomes and preventing complications.

However, this study has several limitations that should be considered. The retrospective design restricts the ability to establish causal relationships and depends on the accuracy and completeness of medical records. Additionally, the relatively limited sample size may affect the generalizability of the findings. Despite these limitations, the study provides valuable insights into the role of extragenital diseases in maternal mortality and highlights important areas for improvement in clinical practice.

Conclusion

In conclusion, extragenital diseases represent a major and growing contributor to maternal mortality. The study demonstrates that non-obstetric conditions, particularly cardiovascular and infectious diseases, significantly increase the risk of fatal outcomes during pregnancy. The high proportion of deaths occurring in the third trimester indicates the critical importance of close monitoring during this period.

A major issue identified is the delayed diagnosis and insufficient management of extragenital diseases, which leads to disease progression and reduced effectiveness of treatment. Addressing these challenges requires the implementation of early screening programs, timely referral systems, and a multidisciplinary approach to patient care.

Improving collaboration between obstetricians and other medical specialists, along with enhancing healthcare infrastructure, can significantly reduce maternal mortality associated with extragenital conditions. Future research should focus on prospective studies and larger populations to further clarify risk factors and optimize prevention strategies.

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