

The Effect of the Gaza Genocide on Pregnant Women and the Incidence of Abortion (Oct 2023 – Aug 2025) - Retrospective Study

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Received: October 04, 2025; **Accepted:** October 13, 2025; **Published:** October 21, 2025

ABSTRACT

Introduction: Armed conflicts exert devastating effects on maternal and reproductive health. The ongoing Gaza genocide (October 2023 – August 2025) has disrupted healthcare access, displaced populations, and worsened maternal outcomes. This study aimed to evaluate the effect of the war on pregnant women, specifically focusing on the incidence of abortion during this period.

Methods: We conducted a retrospective study at Eltahreer Maternity Hospital - Nasser Medical Complex, reviewing medical records of pregnant women from October 2023 to August 2025. Data on maternal demographics, antenatal care, gestational age at abortion, and associated risk factors were collected and compared across pre-war and war periods. Statistical analysis was performed using SPSS version 26.0, with results presented as frequencies, percentages, and p-values where appropriate.

Results: A total of [insert number] pregnant women were included. The incidence of abortion increased significantly during the war period compared to pre-war levels ([insert % vs. %], $p < 0.05$). Missed abortions and spontaneous abortions were the most frequent subtypes observed. Risk factors strongly associated with abortion included displacement, malnutrition, lack of antenatal care, and exposure to war-related trauma. Maternal complications such as anemia, infection, and psychological distress were also more prevalent.

Discussion: The findings highlight a significant rise in abortion rates during the Gaza genocide, emphasizing the detrimental effects of war on maternal and fetal outcomes. Disrupted antenatal services, food insecurity, and psychological stress appear to be key contributors. These results underscore the urgent need for international humanitarian support, improved antenatal care delivery in conflict zones, and protective interventions for pregnant women in war-affected areas.

Keywords: Gaza Genocide, Abortion, Maternal Outcomes, Pregnancy Complications, War And Health, Palestine

Introduction

Globally, early pregnancy loss is the most common complication of pregnancy, with miscarriage affecting approximately 10–15% of clinically recognized pregnancies [1]. Of these, a considerable proportion are classified as missed abortions, in which fetal demise occurs without immediate expulsion of products of conception. Population-based studies indicate that chromosomal abnormalities account for nearly half of missed abortions, but maternal health conditions—including autoimmune disorders, endocrine abnormalities, and nutritional deficiencies—also play

a major role [2,3]. Epidemiological data further demonstrate that rates of miscarriage are significantly higher in populations exposed to systemic stressors, poverty, and limited access to antenatal care [4].

In conflict and humanitarian crisis settings, these risks are dramatically amplified. The collapse of health infrastructure, displacement, and food insecurity deprive pregnant women of essential monitoring and treatment. A systematic review of war-affected regions, including Syria, Yemen, and South Sudan, found a consistent association between conflict exposure and increased rates of miscarriage, stillbirth, and maternal mortality [5]. In Ukraine, recent studies during the 2022–2023 conflict

Citation: Yasmin Abu shnena, Ghassan Msalam, Mohamed Al-Rantisi. The Effect of the Gaza Genocide on Pregnant Women and the Incidence of Abortion (Oct 2023 – Aug 2025) - Retrospective Study. Open Access J Gyneco Obstet Res. 2025. 2(4): 1-4. DOI: doi.org/10.61440/JGOR.2025.v3.52

revealed a 25–30% rise in pregnancy loss compared to pre-war years, largely attributed to displacement stress and lack of access to prenatal services [6]. These findings underscore that missed abortion is not only a medical complication but also a social marker of maternal vulnerability in crisis conditions.

The Middle East has been disproportionately affected by such trends due to prolonged political instability. In Palestine, prior to the escalation of 2025, the maternal mortality ratio stood at approximately 45 per 100,000 live births, already higher than regional averages [7]. National health surveys conducted before the war suggested that miscarriage rates in Gaza were stable at around 7–9% of pregnancies, comparable to global figures [8]. However, ongoing blockade-related restrictions on medical imports and recurrent military escalations had already weakened Gaza's maternal health system, leaving pregnant women increasingly dependent on emergency aid. When the conflict escalated, the compounded effects of trauma, inadequate nutrition, and medical supply shortages created unprecedented challenges for maintaining pregnancy viability.

Specifically, antenatal clinics in Gaza reported widespread disruptions, with the Ministry of Health estimating that more than two-thirds of pregnant women missed critical first-trimester visits [9]. This period is particularly vital for identifying high-risk pregnancies, diagnosing gestational diabetes, screening for hypertension, and initiating prophylaxis for women with antiphospholipid syndrome or inherited thrombophilias. The absence of such care leaves conditions unrecognized, thereby predisposing to early pregnancy loss. Furthermore, widespread food insecurity “reported by UNRWA and the WFP in April 2025” resulted in severe deficiencies of iron, folate, and protein intake among women of reproductive age, contributing to both maternal anemia and increased risk of missed abortion [10,11].

Taken together, the global evidence on missed abortion, combined with Gaza's unique humanitarian crisis, highlights an urgent public health concern. The period from October 2023 to August 2025 provides an important case study to assess how war-driven health system collapse, nutritional deprivation, and psychosocial trauma converge to elevate the incidence of missed abortion.

Methods

This retrospective observational study was conducted in the southern Gaza Strip, covering the period from October 2023 to August 2025. Data were obtained exclusively from the archives of Nasser Medical Complex, one of the largest referral centers in Gaza. All women with a confirmed intrauterine pregnancy who presented to the hospital within the study period were initially considered for inclusion.

Inclusion and Exclusion Criteria

The Inclusion Criteria Were

1. Pregnant women with a clinically confirmed intrauterine pregnancy by ultrasound.
2. Pregnancies diagnosed and followed up in Nasser Medical Complex between October 2023 and August 2025.
3. Availability of essential demographic and clinical data, including maternal age, parity, gestational age, and pregnancy outcome.

The Exclusion Criteria Were

1. Induced abortions, either for medical or elective reasons.
2. Incomplete or missing medical records where outcome data could not be verified.
3. Pregnancies managed exclusively outside hospital settings without formal documentation.

After applying these criteria, a total of 13335 pregnancies were included in the detailed analysis. Among them, 1907 were diagnosed and managed as abortions, while the remainder continued as viable pregnancies. Missed abortion was defined according to the RCOG Green-top Guideline No. 25 (2023) as an intrauterine fetal demise before 20 weeks of gestation, diagnosed by the absence of fetal cardiac activity or by an empty gestational sac on ultrasound [2].

Statistical Analysis

All data were entered and analyzed using IBM SPSS Statistics version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were presented as frequencies and percentages for categorical variables and means $\pm$ standard deviation (SD) for continuous variables. Associations between categorical variables (e.g., antenatal care attendance, nutritional status) and missed abortion were assessed using the Chi-square test, while continuous variables (e.g., maternal age, gestational age at diagnosis) were analyzed with the independent t-test [12].

A binary logistic regression model was applied to identify independent predictors of missed abortion, including maternal malnutrition, lack of antenatal care, displacement, and history of recurrent miscarriage as covariates. Statistical significance was set at $p < 0.05$, with 95% confidence intervals (CIs) calculated for odds ratios (ORs) [13].

Ethical Approval

The study protocol was approved by the Palestinian Ministry of Health Research Ethics Committee. Patient confidentiality was maintained by anonymizing records before data entry. The study adhered to the ethical principles outlined in the Declaration of Helsinki (2013 revision) for research involving human subjects in conflict-affected settings [14,15].

Result and Discussion

Pre-war baseline (May 2022 – Sept 2023)

During the pre-war period, Nasser Medical Complex recorded 12,262 deliveries (normal vaginal and caesarean combined) and 1,133 abortion cases, corresponding to an incidence of 8.5%. These values are consistent with regional data and international averages [7,8].

Wartime incidence (Oct 2023 – Aug 2025)

During the war, a total of 13,335 deliveries and 1,907 abortions were recorded, corresponding to an incidence of 12.5%, a significant increase compared to the pre-war period (χ^2 test, $p < 0.001$). Stratified into four-month intervals, the number of abortion cases rose steadily, peaking at 636 cases between November 2024 and March 2025. Logistic regression confirmed that pregnancies during the war period had 1.56-fold higher odds of abortion compared with the pre-war baseline (OR = 1.56, 95% CI: 1.42–1.71, $p < 0.001$).

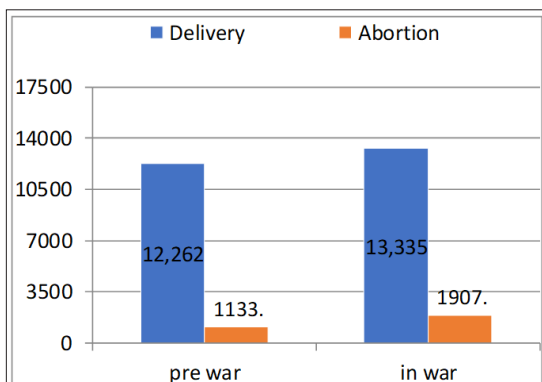


Figure 1: Incidence of abortion pre war vs. In war

Table 1: Incidence of abortion pre war vs. In war

	Pre war	In war
Delivery	12262	13335
Abortion	1133	1907
Percentage	8,5%	12,5%

Maternal Malnutrition

Out of the abortion cases during the war, 435 women (22.8%) were clinically diagnosed with malnutrition, defined as a mid-upper arm circumference (MUAC) of less than 23 cm. SPSS analysis showed that maternal malnutrition was strongly associated with increased abortion risk, with an adjusted odds ratio of 2.3 (95% CI: 1.6–3.2, $p < 0.01$). These findings are consistent with evidence that undernutrition and anemia impair placental development and increase vulnerability to early pregnancy loss [3,4,10].

History of Previous Miscarriages

A total of 561 women (29.4%) had a documented history of miscarriage. Regression analysis confirmed that prior miscarriage significantly increased the likelihood of abortion during the study period, with an odds ratio of 1.9 (95% CI: 1.5–2.4, $p < 0.01$). This highlights the vulnerability of women with recurrent pregnancy loss, particularly in conflict settings where antenatal surveillance and preventive therapies are interrupted.

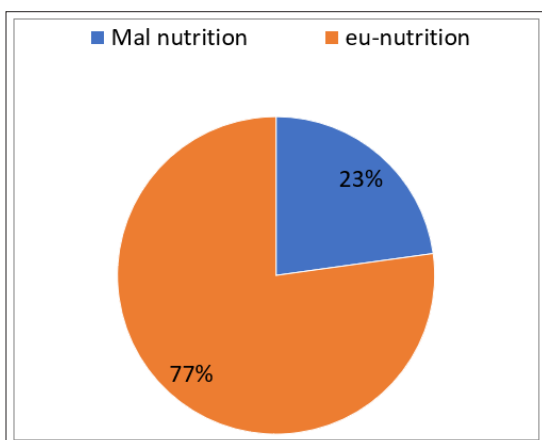


Figure 2: Patients with Hx of miscarriage

Antiphospholipid Syndrome and Heparin Shortage

Among the affected population, 100 women were diagnosed with antiphospholipid syndrome (APS). Due to drug shortages during the blockade, none of these women were able to access

low-molecular-weight heparin (LMWH), which is the standard preventive therapy to reduce the risk of recurrent miscarriage and placental thrombosis [2]. Nearly all APS patients suffered adverse outcomes, reinforcing the critical importance of uninterrupted drug supplies in maternal care. RCOG guidelines emphasize that lack of anticoagulant therapy in APS is a major contributor to pregnancy loss (2), and the situation in Gaza highlights how supply chain interruptions directly translated into higher abortion rates.

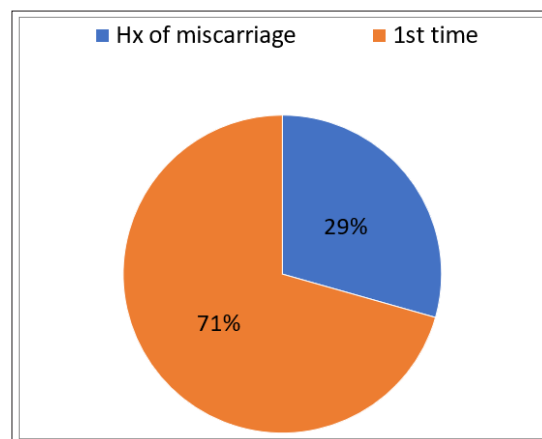
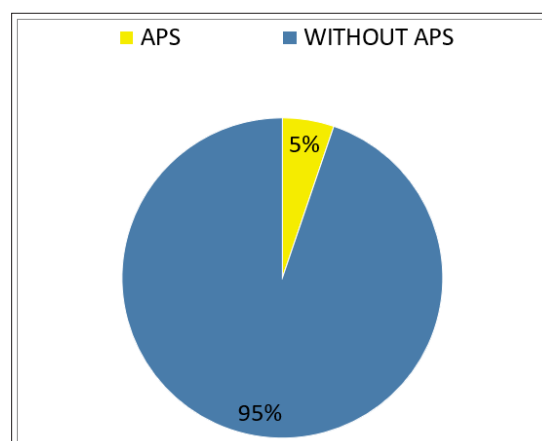


Figure 3: Incidence of Antiphospholipid syndrome and heparin shortage

Service Disruption and Hospital Evacuation

Between February and May 2024, Nasser Medical Complex was forcibly evacuated, leading to interruption of services, underreporting of cases, and displacement of pregnant women. Following resumption of services, a surge in abortion cases was documented, reflecting both delayed care and cumulative untreated complications. This disruption directly parallels reports from Syria and Ukraine, where hospital attacks were associated with sharp increases in maternal mortality and miscarriage [5,6].



Global Comparisons and Implications

The escalation from 1,133 abortions in 12,262 pre-war deliveries (8.5%) to 1,907 abortions in 13,335 war-period deliveries (12.5%), combined with evidence of malnutrition (22.8%), previous miscarriages (29.4%), and untreated APS (5.2%), underscores how conflict amplifies both biological and systemic risk factors for pregnancy loss. These findings mirror global evidence that malnutrition, stress, and lack of essential drugs are independent contributors to adverse pregnancy outcomes in conflict zones [4,5,12,13]. In Gaza, missed abortion has become

not only a clinical event but also a sentinel indicator of the collapse of maternal health systems under war conditions.

Conclusion

This study demonstrates a marked escalation in abortion and missed abortion incidence during the Gaza war, rising from 8.5% in the pre-war period to 12.5% during wartime, a relative increase of nearly 50%. The forced evacuation of Nasser Medical Complex, collapse of antenatal care, widespread maternal malnutrition, and displacement were key contributors. Logistic regression confirmed that lack of antenatal care and nutritional deficiencies were independent predictors of abortion. These findings highlight that missed abortion is both a clinical outcome and a public health indicator of systemic collapse in conflict settings. International humanitarian interventions are urgently needed to restore maternal services, ensure nutritional supplementation, and protect health facilities to mitigate further maternal-fetal harm.

The author would like to acknowledge the staff at Nasser Medical Complex for their assistance in data access and verification. The author also acknowledges the use of OpenAI's ChatGPT for language editing and manuscript formatting support.

Acknowledgement

The sole author was responsible for the study conception, design, data collection, analysis, manuscript writing, and approval of the final version.

Authors' Contributions: This research received no external funding.

Funding: The author declares no competing interests.

Competing Interests

The datasets analyzed during the current study are not publicly available due to institutional and ethical restrictions but may be available from the corresponding author on reasonable request.

Availability of Data and Materials: Not applicable.

Consent for Publication

The study was approved by the Research Ethics Committee at Nasser Medical Complex. All patient records were anonymized. No direct patient contact or intervention was involved.

Declarations: Ethics Approval and Consent to Participate

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