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BARRIERS AND ACCESS TO MATERNAL CARE AMONG DISPLACED PREGNANT WOMEN AND NEWLY DELIVERED MOTHERS AMIDST THE WAR IN GAZA: A RAPID ASSESSMENT

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"During this war and under these pressures and challenges, I don't think there's anything harder than being a woman."

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Acronyms

CS	Cesarean Section
DM	Diabetes Mellitus
MCH	Mother and Child Health
MICS	Multiple Indicator Cluster Surveys
MOH	Ministry of Health
PCBS	Palestinian Central Bureau of Statistics
IVF	In Vitro Fertilization
UN	United Nations
UNRWA	United Nations Relief and Works Agency
WHO	World Health Organization

Executive Summary

The ongoing war in the Gaza Strip, which began on October 7, 2023, has resulted in unprecedented death and destruction, exacerbating the already severe vulnerabilities and risks faced by the people of Gaza. Tens of thousands of Palestinians have been killed, many more injured, and the majority of the population—more than 1.7 million people—displaced. More than 60% of Gaza's infrastructure has been damaged or destroyed, and essential services, including healthcare, supplies, and basic human needs, are no longer available. The healthcare system in particular has faced unprecedented and deliberate destruction of services and facilities, along with the loss of healthcare providers, leading to its complete collapse.

Women and newborn babies are among the most vulnerable and affected by this war due to the lack of health services and scarcity of food, water, safety, and hygiene. To better understand the challenges faced by pregnant women and newly delivered mothers in Gaza, Juzoor for Health and Social Development conducted a study focused on this population who is displaced in shelters. The rapid assessment explores the challenges encountered by displaced pregnant women and newly delivered mothers, shedding light on the accessibility of maternity services amidst the ongoing war in Gaza.

This assessment was conducted using a mixed-method research approach, spanning from January 2024 to March 2024, and targeted accessible, displaced pregnant women and newly delivered mothers across the Gaza Strip governorates, including the North of Gaza. Face-to-face interview surveys were administered to 403 women, and 65 shelters were assessed using a standardized checklist. Additionally, the surveys were complemented with in-depth interviews conducted with 8 pregnant women and 16 newly delivered mothers. These interviews were recorded, alongside note-taking, and each interview lasted approximately 38.5 minutes on average.

The quantitative data underwent cleaning and analysis using SPSS and Stata 16 software, while the qualitative interviews were conducted in Arabic by local researchers, recorded, transcribed, translated, and subsequently thematically coded. However, it's important to acknowledge some limitations in our data and analysis, including the use of a non-probability sample and reliance on self-reported responses.

Key Findings

A total of 403 women – 203 pregnant women and 200 newly delivered mothers – were surveyed. Pregnant women were diverse in age (mean age 26 years) and place of residency, with 40% displaced in Rafah, 30% in Deir Al Balah, and 30% in North Gaza. Of the pregnant women respondents, one in five (21%) were primigravida. The vast majority (74%) reported experiencing problems and complications during their pregnancies including mental health issues (51%), anemia (22%), physical injuries (9%), episodes of bleeding (8%), and diabetes mellitus (3%).

Qualitative interviews revealed that pregnant women faced various challenges including difficulties in accessing sufficient and high-quality food and clean drinking water for hydration and hygiene,

maintaining privacy within shelters, acquiring suitable clothing for both mothers and babies, accessing appropriate toilet facilities, coping with overcrowded living conditions, exposure to physical harm, inadequacies in maternity services, and anxiety surrounding their care during pregnancy and delivery.

Nearly half (42%) of pregnant women reported not receiving any professional antenatal care services for their pregnancies since the start of the war. For those who did receive antenatal services, the most common antenatal care reported were supplements and vitamins, ultrasound, and blood pressure measurements. Moreover, more than half (51%) of pregnant women reported they weren't receiving antenatal care services from any provider at the time of the survey, and less than one-third (31%) of pregnant women reported receiving antenatal services in shelters, which included blood pressure measurement, blood sugar testing, weight measurements, and the provision of supplements.

Findings from newly delivered mothers reveal that 81.5% gave birth at a hospital, 7.5% at a health center, and 9% at a shelter, with deliveries at shelters being more common in the north of Gaza. Notably, not all deliveries were attended by a healthcare provider, as 5% of women reported that a family member or someone residing at the shelter assisted with their delivery. Despite notes from the field indicating a notable rise in premature deliveries in Gaza during the war, only 4% of the total surveyed women reported having delivered prematurely, possibly highlighting the positive impact of Juzoor's health initiative in the north of Gaza and the efforts of Juzoor's health teams in providing maternal care in shelters.

Nearly two-thirds (65%) of surveyed newly delivered mothers reported not receiving any postnatal care services. Among the total surveyed mothers, 24% underwent physical examinations by a physician, 22% received blood tests, and 20% were examined for bleeding. More than a quarter (26%) of the surveyed women reported developing postpartum complications including severe bleeding (13%), high blood pressure (4%), and infections (7.5%). Moreover, the vast majority of mothers (76%) reported that their newborn babies experienced some health complications, such as respiratory problems (65%), skin diseases (30%), diarrhea (28%), and malnutrition (20%).

Regarding healthcare access in shelters, only 12% of mothers reported that their newborn babies were receiving health services at the time of the survey, while only 14% reported receiving health services themselves. The most commonly reported postnatal services received at shelters included immunizations, breastfeeding support, wound dressing, supplements, and blood pressure measurements.

On the positive side, 96% of women were able to breastfeed their babies, although 35% reported encountering challenges with breastfeeding. Only 60.5% of mothers reported that their babies had received vaccinations, particularly those required in the first few weeks of life. Additionally, less than half of the children (48.5%) received well-baby services, including health checkups involving weight and growth measurements, physical assessments, and screenings, as reported by mothers.

Qualitative interviews with newly delivered mothers were consistent with the findings from the survey, indicating that services failed to meet mothers' expectations. Newly delivered mothers reported that they were discharged from hospitals immediately following delivery (a maximum stay of 2-3 hours), without being appropriately checked. Mothers also highlighted significant challenges in securing transportation,

maintaining basic necessities such as nutritious food and clean water, accessing sanitary items, obtaining clothing, milk, and diapers, and described the conditions in shelters as inhumane.

Statistics reported by key informants in shelters suggest that the average number of inhabitants per shelter was 1,985 (median 1,800), with the number being higher in North Gaza (averaging 2,274). The average number of pregnant women at each shelter was 27, while the average number of neonates was 14. Notably, almost half (43%) of the respondents indicated the presence of high-risk pregnancy cases at their shelters at the time of the data collection.

According to key informants, the most common pregnancy services provided at shelters were blood pressure measurement (90%), provision of vitamins and supplements (47%), and ultrasound services (46%). Additionally, the majority of key informants (85%) stated that pregnant women had been present in their shelters since the beginning of the month when the survey was taken, with an average of 37 pregnant women per shelter in the past month. Similarly, 85% reported the presence of women who had delivered in the past month among the shelter inhabitants, averaging 12 deliveries per center.

Background and Introduction

October 7 marked the initiation of an aggressive and unprecedented military campaign by Israel on the Gaza Strip from air, land, and sea, inflicting mass devastation and death upon Palestinians in the besieged enclave. As of mid-May, more than 36,000 people in Gaza have been killed, nearly 80,000 have been injured,[1] and around 10,000 remain missing, presumed dead under the rubble or arrested by Israeli forces. The majority of Gaza's 2 million population has been displaced and faces immediate risks of disease and famine. Many seek refuge in approximately 300 formal and informal shelters, while others, less fortunate, are forced to endure the streets, constantly on the move to avoid relentless bombardment.[2]

Following a vicious operation to separate the North of Gaza from the South, the northern region of Gaza is now deemed almost uninhabitable, with an extreme scarcity of food and water, and virtually no healthcare facilities or personnel. The entirety of Gaza's healthcare system is now obliterated. As of April 23, 723 healthcare providers have been killed and 924 have been injured. At least 106 ambulances and 101 health facilities including 32 hospitals have been partially or completely damaged.[3] Despite the pressing need for advanced medical care, only a small number of patients have been referred for treatment outside Gaza, leaving thousands without access to vital services.[4]

The war in Gaza has had a profound impact on its entire population, but particularly on women and newborns. With almost a quarter of Gaza's 2.3 million inhabitants being women of reproductive age, [5] the challenges faced by this population have been immense. Apart from the constant threats of death, injury, and displacement and the dangers posed by bombings, women and their families are grappling with daily struggles to secure basic necessities such as safe drinking water, sufficient food, access to healthcare, and consistent electricity. The breakdown of social order and the collapse of essential services, notably healthcare, have also left a significant physical and psychological toll on women and their babies, with repercussions that will be felt for years to come. For women residing in shelters, access to bathrooms is extremely limited, with as many as 700 people sharing a single stall and facing long wait times and a lack of privacy and hygiene.

Due to the collapse of the healthcare system, pregnant women and newly delivered mothers in Gaza have been deprived of basic health services such as antenatal and postnatal care, which can have detrimental effects on their health and the well-being of their newborns. This is especially true in the North, where all health facilities have gone out of service. These challenges further exacerbate the already dire humanitarian situation in Gaza; not only do women have to try to survive and navigate through the turmoil

[1] OCHA, 2024.
[2] MoH, 2024. Health Emergency Reports.
[3] WHO, 2024. Impact of health attacks in the Gaza Strip 7 October 2023 until 23 April 2024.
[4] WHO, 2024. https://www.middleeastmonitor.com/20240202-over-8000-people-in-gaza-need-medical-evacuation-who/
[5] PCBS, 2023. Highlighting That The Children And Women Of Gaza Strip Face An Unprecedented Humanitarian Disaster.

of war and the lack of necessities, but they have to do so while giving life and taking care of the future generations of Gaza.

Generally speaking, women who do not receive adequate maternal healthcare are at greater risk of experiencing poor health outcomes, including maternal and infant morbidity.[6] Without regular antenatal care, pregnant women are more likely to face complications during pregnancy and childbirth. The absence of postnatal care hinders the early detection and management of postpartum complications, potentially leading to long-term health issues for both the mother and the child.

This rapid assessment conducted by Juzoor for Health and Social Development sheds light on the harrowing conditions faced by pregnant women and newly delivered mothers in Gaza's shelters, highlighting the urgent need for intervention. The assessment highlights harsh living conditions, including a lack of essential resources such as proper healthcare. Compared to conditions just months before the onset of the war, the situation has deteriorated significantly, underscoring the urgent and critical need for immediate humanitarian intervention, including access to proper healthcare and essential resources, to alleviate the suffering of women and newborns in Gaza.

Objectives of the Study

- Explore the primary challenges and issues confronting pregnant women and newly delivered mothers displaced in both formal and informal shelters across Gaza.
- Identify the spectrum of healthcare services available to pregnant women and newly delivered mothers during the war and at the time of the study.
- Recognize the array of support mechanisms provided to pregnant women and newly delivered displaced mothers during the war and at the time of the study.
- Highlight the urgent needs for mother and child health (MCH) that require immediate attention from international organizations and stakeholders.
- Provide actionable recommendations aimed at enhancing access to MCH services and supporting pregnant women, newly delivered mothers, and their newborns during and after the war.

[6] UNICEF, 2023.

Methodology

Recognizing that neither quantitative nor qualitative methods alone can fully capture the complex and harsh experiences of displaced pregnant and newly delivered women in Gaza, this study employed a mixed-method research approach. Conducted between January and March 2024, the study targeted 403 accessible, displaced pregnant women and newly delivered mothers across the Gaza Strip governorates (40% from Rafah, 30% from Deir Al Balah, and 30% from North Gaza). Face-to-face interview surveys were conducted with these women, comprising 203 pregnant women and 200 newly delivered mothers.

Participants were conveniently selected through a stratified quota sample, proportionate to the population distribution at the governorate level during the time of data collection. This ensured representation from various regions across the Gaza Strip. Participants were recruited from institutionalized 'formal' shelters or random tents, capturing the diversity of living conditions experienced by displaced individuals. Additionally, 65 shelters were assessed using a standardized checklist, administered through key informant interviews with Juzoor's staff from each shelter. The quantitative data collection was carried out by 5 trained enumerators who visited women at shelters or tents where they resided at the time of data collection. The quantitative tools gathered information on obstetric history, aspects of care received during pregnancy, care providers, pregnancy complications, place and type of delivery, delivery complications, neonatal health status, and neonatal complications, among other factors.

We complemented the surveys with in-depth interviews conducted with 8 pregnant women and 16 newly delivered mothers to better understand the lived experiences of women during pregnancy and the postpartum period, exploring the multifaceted impacts of war and displacement on their lives. Two experienced qualitative researchers conducted the interviews. These interviews were recorded, alongside note-taking, and each interview lasted approximately 38.5 minutes on average.

Ethical Considerations

The research followed the international code of ethics, and necessary permissions were obtained from ethical bodies in Gaza as well as research ethics approval from the MOH. Before participation, informed consent was obtained from all participants. Enumerators received training on interacting with participants and maintaining strict adherence to research ethics protocols throughout the data collection process.

Data Analysis

The quantitative data was cleaned and analyzed using SPSS and Stata 16 software. Descriptive analysis was conducted first, followed by inferential analysis to explore the relationships between the study variables, considering factors such as place of displacement, obstetric history, and living conditions. Statistical significance was determined using a p-value threshold of 0.05.

Qualitative interviews were conducted in Arabic by local researchers, recorded, transcribed, and then translated. This data was then thematically coded based on a conceptual framework that aligns with the study objectives. Throughout the qualitative data analysis process, efforts were made to identify recurring themes that transcended individual experiences. Selected quotes were included to enrich the narrative and provide insight into participants' perspectives.

Limitations

It's important to highlight several limitations both in our data and in our analysis. First, while the study aimed to encompass participants from various governorates in the Gaza Strip, it's important to acknowledge that our sample was a non-probability sample, which may limit the generalizability of our findings. Furthermore, our focus on the displaced population meant that pregnant women or newly delivered mothers who were not displaced at the time of data collection were excluded, potentially impacting the representativeness of our sample.

As with other cross-sectional surveys, our study provides a snapshot of the situation at a specific point in time, which may not capture all perspectives and experiences, as the situation on the ground may have evolved. Additionally, our reliance on self-reported measures introduces the possibility of recall bias, as participants may struggle to recall and describe their experiences, feelings, and attitudes accurately. Moreover, as the study was conducted at an extremely difficult and stressful time, this may have further limited the depth of information that was collected. Participants may have faced challenges such as limited privacy, particularly women residing in overcrowded shelters.

The realities of daily life during war, including the lack of electricity, transportation, and safety, posed significant constraints on our study. However, we trained our research team to navigate and address these challenges. Despite these limitations, the use of mixed methods data helped to mitigate some of these constraints and provided a more comprehensive understanding of the maternal situation in Gaza.

Lastly, it is crucial to acknowledge that all the women surveyed in this study self-reported their answers and data. As a result, some of the data, particularly pertaining to medical terms and conditions, may not be as accurate as when provided by a healthcare professional. Additionally, while certain data points may appear contradictory to common findings emerging from Gaza, they may be attributed to the significant humanitarian and health efforts undertaken by our organization in Gaza, particularly in shelters in the North.

Findings

I. Experiences and responses of pregnant women during the war

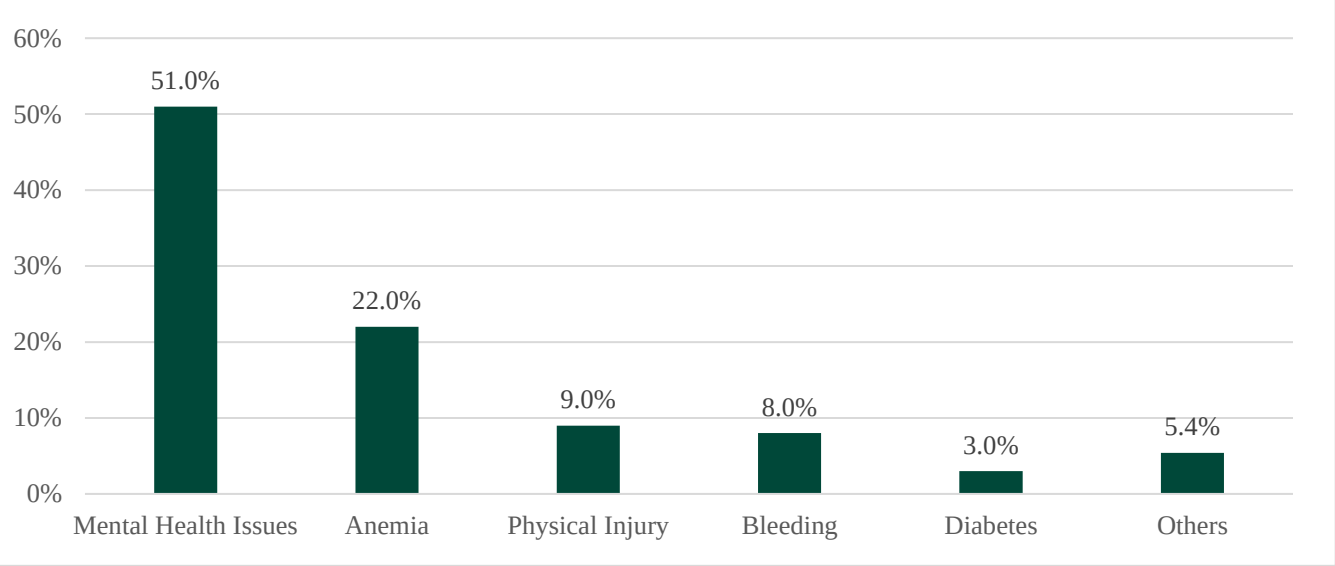
In total, 203 pregnant women were surveyed, representing a diverse demographic in terms of age, with a mean age of 26 years, and residency, with 40% displaced in Rafah, 30% in Deir Al Balah, and 30% in the north of Gaza. This distribution serves as a valuable tool for understanding the challenges encountered by displaced women across various regions within the Gaza Strip.

The average gestational age of the pregnant women in the sample was 26 weeks, with 51% of pregnancies below 28 gestational weeks and 49% exceeding 28 weeks. The majority of women had been pregnant at least once before their current pregnancy (multigravida), while only one in five (21%) were experiencing their first pregnancy (primigravida). This diversity in pregnancy experiences is crucial for highlighting the challenges faced by pregnant women at different stages of gestation.

Alarmingly, only 26% of pregnant women reported being free from any complications or issues during their current pregnancies. The majority (74%) reported encountering various problems and complications, with mental health issues being the most prevalent (51%), followed by anemia (22%), physical injuries (9%), episodes of bleeding (8%), and diabetes mellitus (3%) (Figure 1).

Primigravida, pregnant women residing in shelters, older women, and those living in the central region reported experiencing a higher incidence of health problems during pregnancy compared to their counterparts from other groups, with statistically significant variances. The prevalence of pregnancy-related issues was significantly lower before the recent war, with only 23% experiencing severe headaches, 23% reporting upper abdominal pain, and 17% encountering urination problems.[7]

Figure 1: Complications experienced by pregnant women during the war



[7] PCBS, 2010. Palestinian Family Survey.

The nature of problems reported during the war markedly differs from those prior, with notably elevated levels of mental health issues and increased exposure to physical injuries.

The qualitative findings align closely with the results of the survey, highlighting the difficulties encountered by pregnant women during displacement and war. Although pregnancy should be a pleasant and joyful experience, all interviewed pregnant women recounted negative experiences during the war, with none reporting any positive encounters.

Interviewees shared painful stories and accounts of the challenges and obstacles they faced throughout their pregnancies, as illustrated in the quotes in Box 1. Overall, women grappled with challenges related to the accessibility of nutritious food, clean drinking water, and adequate hygiene facilities. Additionally, they faced risks of physical harm, impaired access to maternal healthcare services, inadequate toilet facilities, and unhealthy living conditions in shelters.

Box 1: Challenges faced by pregnant women during war and displacement

The following quotes are from interview responses of pregnant women participants in all localities in Gaza (interviews conducted from January to March 2024):

"I feel extremely tense, depressed, insecure, worried, and uncertain."

"The war has devastated us as mothers. If I had known there would be a war, I wouldn't have gotten pregnant. I worry about where I will deliver – at a checkpoint, a shelter, or the Sinai desert in Egypt. I don't know."

"My blood pressure is high and I worry that I will deliver prematurely."

"I suffered from an injury in my back and had to undergo sutures without anesthesia. Now I also have anemia."

"I am worried about delivering in the shelter without appropriate care and support."

"The hunger we are enduring is unbearable. Sometimes I go without eating for three to four days. I'm fed up with frequent displacement and I'm unable to cope with living in the schools. Sewage is everywhere, rubbish fills the place, and the toilets are too dirty and crowded. I have to wait for hours to use them. This is especially difficult for pregnant women who, because of their pregnancy, need to use the toilet more than non-pregnant women."

"My health needs are not met at all. I need food, water, medication, a clean place, etc. I have severe abdominal and back pain. The place is not comfortable or suitable for human use. I sleep on terrible bedding and can't adapt to such very difficult circumstances."

"This pregnancy is the worst I have ever experienced. The place I am staying in is very cold and overcrowded. I've had a respiratory infection for two weeks, and I still feel very sick. The place is not clean, the food is not nutritious, and it's not suitable for pregnant women. I don't eat well, drink well, or have access to water for personal hygiene. I haven't taken a shower for the past two weeks, which is terrible. I need basic necessities like healthy food, fruits, vitamins, vegetables, milk, eggs, clean water, and clothes, but none of these are available at all."

"Our house was bombed, my husband died, and one of my children was seriously injured. Two big stones hit my abdomen, but I didn't lose my baby. I'm too tired from constant displacement and uncertainty, and I worry about my physical safety. I escaped the bombing in my area using animal carriages and slept on the streets for several days without bedding. It was very cold at night, and the Israeli army was shooting at anything moving. I didn't eat or drink for three days. The situation is very bad, with no care provided, dirty toilets, no clothes, no water, and not enough food at shelters. The situation could not get any worse than this."

"I am unable to secure healthy food. I've lost 5 kilograms."

"My house was bombed, and I was lucky to survive and get out from under the rubble of the destroyed house. I was worried about my pregnancy."

"The routine of my life has completely changed as a result of the war. I am unable to secure the medications I need, eat healthy food, or drink safe water. The shelter where I am staying is filled with garbage and waste, very overcrowded with no privacy, has a filthy smell, and I have been exposed to violence from my husband."

"I was happy before the war; This was my first pregnancy, and I was expecting my first baby. I dreamed of a happy and joyful life with the new baby, but the war turned my life upside down. The war split us up, as I'm no longer living with my family. My husband is in Rafah, and I do not know anything about him."

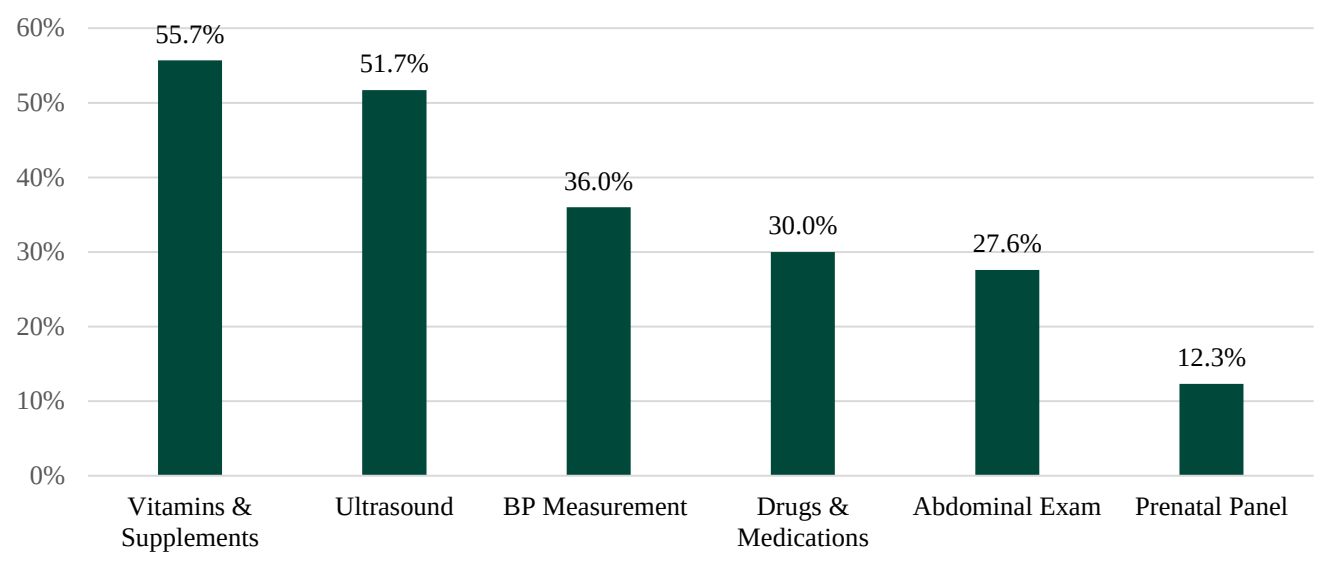
Findings from the quantitative survey also indicate that pregnant women have experienced limited access to antenatal care services since the onset of the war. Nearly half (42%) of pregnant women did not receive any professional healthcare related to their current pregnancy from either a physician or specialized service provider since October 7, and more than half (51%) were not receiving antenatal services at the time of the survey.

Before the onset of the war, 98.7% of pregnant women had received some form of antenatal care. In 2021, 94.8% of pregnant women attended more antenatal care visits than the WHO's recommended four visits, and an estimated 95.4% of mothers underwent the three essential tests during their most recent pregnancy: blood pressure and urine and blood testing.[8,9]

[8] PCBS, 2023. On the Occasion of the World Health Day, 07/04/2023.
[9] PCBS, 2021. PCBS& UNFPA: On The Occasion Of The International Population Day 11/07/2021.

Regarding services received (Figure 2) during the war, an outstanding number of pregnant women reported they did not receive vitamins and supplements (44.3%), ultrasound scans (48.3%), and blood pressure measurements (64.0%). In addition, the majority of pregnant women (70%) did not receive any medications needed during their pregnancy, 72.4% did not receive an abdominal examination and 12.3% did not receive any prenatal blood panels.

Figure 2: Types of services received by pregnant women during the war



In addition, inferential analysis indicates that younger pregnant women surveyed received more antenatal care services when compared to older women. Similarly, pregnant women displaced in informal tents were significantly less likely to receive antenatal care from a healthcare provider during their current pregnancy compared to their counterparts living in formal shelters.

The qualitative data also highlights the challenges women have faced in accessing antenatal care services during the war, suggesting some women never received antenatal care at all. Some women had to sell personal belongings to afford healthcare while others did not care to receive antenatal care and were more concerned with their survival, as illustrated by the following quotes in Box 2.

Box 2: Challenges in the uptake and utilization of antenatal care services during displacement

The following quotes are from interview responses of pregnant women participants in all localities in Gaza (interviews conducted from January to March 2024):

"I have not received antenatal care since the start of the war, although I need supplements, vitamins, and tonics."

"I am unable to find the drugs prescribed to me by my private physician. I need supplements, minerals, and vitamins (Calcium and vitamin D). I am pregnant with twins and have severe pain in all my bones."

"I had complications throughout my pregnancy. I used to take medications and supplementation to help me during the pregnancy, but I can't access that now."

"I have not eaten any type of healthy food since my displacement because we do not have money, and it is only available in the markets at very high prices. Pregnant women need healthy food and care, but the war makes this impossible for me. I reached the last month of my pregnancy without doing any checkups. I was worried about my health status. I decided to sell my wedding ring to get money to pay for health services."

"In the eight months of my pregnancy, I was exposed to white phosphorus bombs and gas bombs more than once. I didn't find anything in the shelter; I didn't find oxygen to breathe, I didn't find a face mask! I went to a hospital, but they couldn't do anything. We slept on the stairs. They didn't even do an ultrasound to check on the baby."

"I did not receive any antenatal care during my pregnancy since the start of the war because services were not available. Shall I follow up on my pregnancy while there are strikes and bombings everywhere?"

"Referral services are not available, laboratory blood tests cannot be performed, and counseling services are very limited."

"After I was displaced, I couldn't take any vitamins with me… nothing. I came to the medical point in the shelter to get vitamins, but they were not available."

"My pregnancy has been such a difficult experience due to a lack of specialized services. I suffered from bleeding, but there are no health services available."

"Not only am I facing shortages of healthy food, water, and a clean environment, but also a lack of health services as well. I have a severe vaginal infection but am unable to get treatment. Also, I am worried about my baby, especially around securing his/her needs."

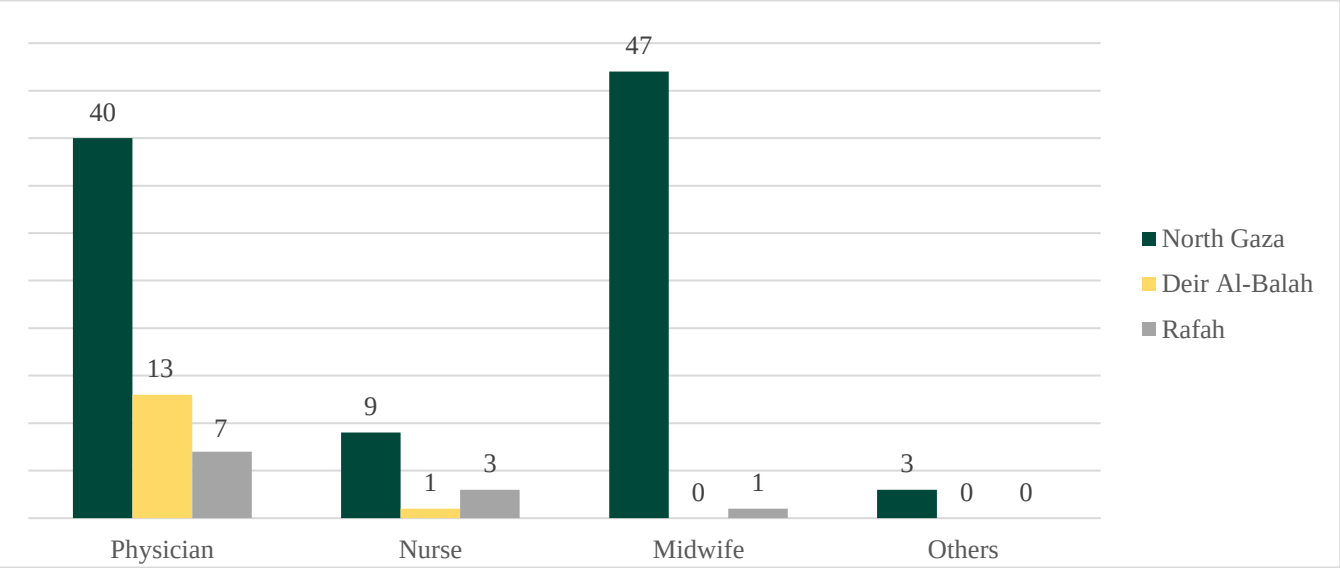
"I don't follow up on my pregnancy as needed. I have varicose veins in my legs and am unable to get treatment. I need warm clothes suitable for winter, clothes for the baby, and also underwear."

"I am extremely anxious and have stomach problems. The drugs I need are not available. No one takes care of my baby. I am terrified of this pregnancy. I recently got Hepatitis because the water is not clean and I wasn't able to get proper treatment."

"I need to feel safe and protected, but this is not the case now. I need medications for my pregnancy that I am not able to get, and I don't have money to buy them. I need to know when I can live in a safe place, and have access to healthy food, water, and health services. Currently, no one takes care of my pregnancy. I am left to my fate and God's will."

When asked about their healthcare provider for antenatal care services at the time of the survey, 60.6% of pregnant women indicated that they were not currently under the care of any provider. Of the entire sample, 29.6% of the pregnant women reported receiving care from a physician, 23.6% mentioned being attended by a midwife, and 6.4% stated they were receiving care from a nurse at the time of the survey (Figure 3). In contrast, in 2021, nearly all women (99%) were attended to by a professional healthcare provider, with 87.3% consulting a physician and 11.9% seeking care from a nurse. The probability of being attended to by a physician significantly decreased during the war compared to before.

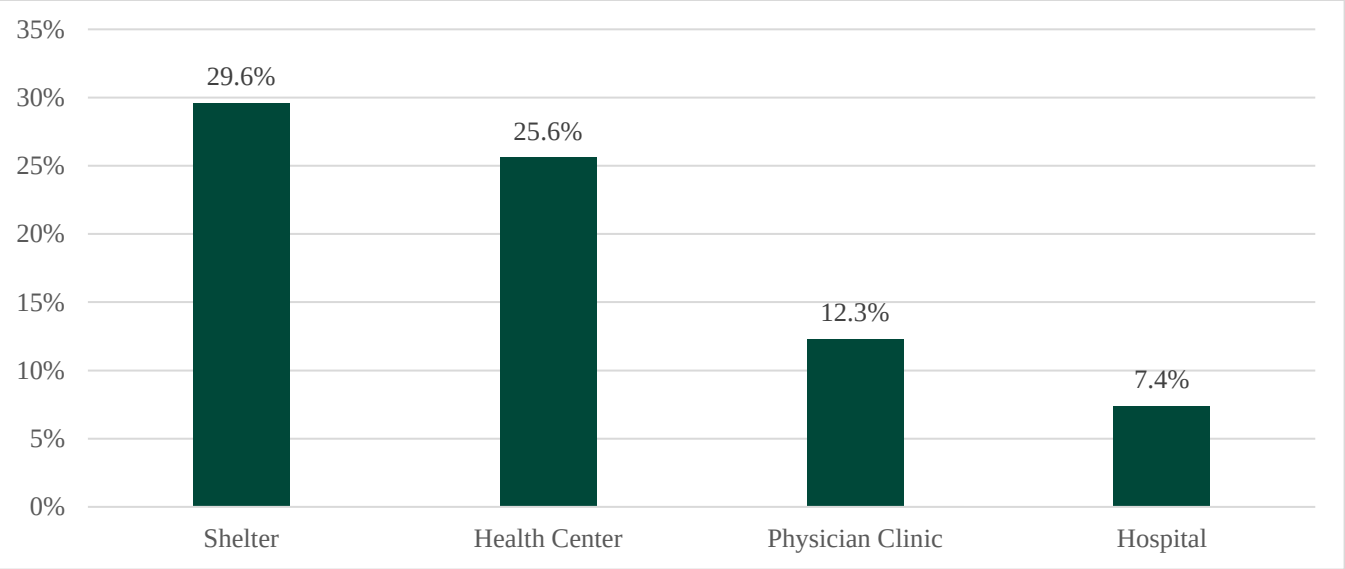
Figure 3: Number of pregnant women who received antenatal care services from different healthcare providers, by location



Moreover, when pregnant women were asked about the locations where they could access health services and antenatal care at the time of the survey, 29.6% reported shelters, 25.6% reported health centers, 12.3% reported private clinics, and 7.4% reported hospitals (Figure 4).

Among the pregnant women seeking services at shelters, the majority of women were from the north of Gaza (86.7%). This could be attributed to the provision of maternal health services implemented by Juzoor staff within shelters located in the North. Similarly, pregnant women who received services from health centers were more likely to be from the North of Gaza (65.4%). The majority of pregnant women who received services at hospitals (7.4%) were women residing in Rafah and Deir Al-Balah.

Figure 4: Locations with available antenatal care services for pregnant women



Pregnant women residing in shelters were asked about the individuals/healthcare providers offering antenatal care and services for their pregnancy within the shelter, and the kind of services they were receiving. Only 32.5% indicated that they were receiving some level of care or support, primarily from midwives, physicians, and/or nurses.

When asked about the antenatal health services they received at the shelters at the time of the survey, only 31% of pregnant women reported receiving such services, which included blood pressure measurement, blood sugar testing, weight measurements, and provision of supplements. This contrasts with findings from 2021, which reported approximately all (95.4%) pregnant women had undergone essential tests like blood pressure measurements, urine testing, and blood testing. This indicates a significant decline in access to maternity services during the war, highlighting a concerning gap in the ability of shelters to adequately address the needs of pregnant women. When pregnant women were asked about their plans for delivery, 36% reported considering delivering at the shelter where they were staying and 3% were unsure where they were going to deliver. This reflects the uncertainty and anxiety experienced by these women. Prior to the war, nearly all women in Gaza delivered at licensed health facilities with the assistance of skilled healthcare providers.[8]

During interviews, some women shared how antenatal services in shelters had partly addressed their needs and contributed to their overall well-being and survival. Many of these women mentioned receiving their initial antenatal care sessions at shelters. However, other women reported they were unaware antenatal and maternal services at shelters were available while others reported they were not satisfied with the services provided (Box 3). The following qualitative data sheds light on the experiences of some of these women regarding maternal and antenatal services in shelters.

Box 3: Pregnant women's experiences with maternal services in shelters

The following quotes are from interview responses of pregnant women participants in all localities in Gaza (interviews conducted from January to March 2024):

"I was wounded by tank fire and couldn't reach the hospital. The doctor at the shelter treated me and saved my life."

"I worry about my future, where I'll give birth, and who will assist me. I left my home without any baby clothes. I'm concerned about getting clothes, diapers, and milk. How can I feed my baby if I'm hungry and only eat every other day? It's a terrible situation. We lost everything—our house was destroyed, and we lost all our belongings."

"This was my first pregnancy, and I didn't start my check-ups until the fifth month. Hospitals were only treating injuries at the time. I went to a clinic in Jabalia and paid for their services. Then, I continued my check-ups at the shelter's medical point. I don't feel well—I'm exhausted and hungry, and food is scarce and expensive."

"I didn't know about antenatal care services at the shelter. Currently, I'm not receiving any services for my pregnancy. Once, I visited a clinic and received an ultrasound and medication (Iron and Folic Acid)."

"I'm unaware of any services at the shelter. Currently, I'm not receiving any pregnancy-related services. I'm suffering from genital infections. At the beginning of my pregnancy, I visited an NGO clinic for an ultrasound. I can't afford the antibiotics or vitamins I need."

"I need medication for acidity; my stomach hurts a lot. I can't find these drugs in pharmacies or at the shelters."

"I recently started my pregnancy check-ups at the shelter. Before that, I hadn't been getting any check-ups. I'm worried about having a C-section without anesthesia. The lack of sanitary measures at the center is very concerning."

"I started my check-ups at the shelter. I feel psychologically devastated. I have a severe vaginal infection due to poor sanitation. I am starving and exhausted from carrying water gallons and cooking over wood fires, and there's a shortage of clothes and bedding. On top of that, there are no healthcare services, particularly, psychosocial services."

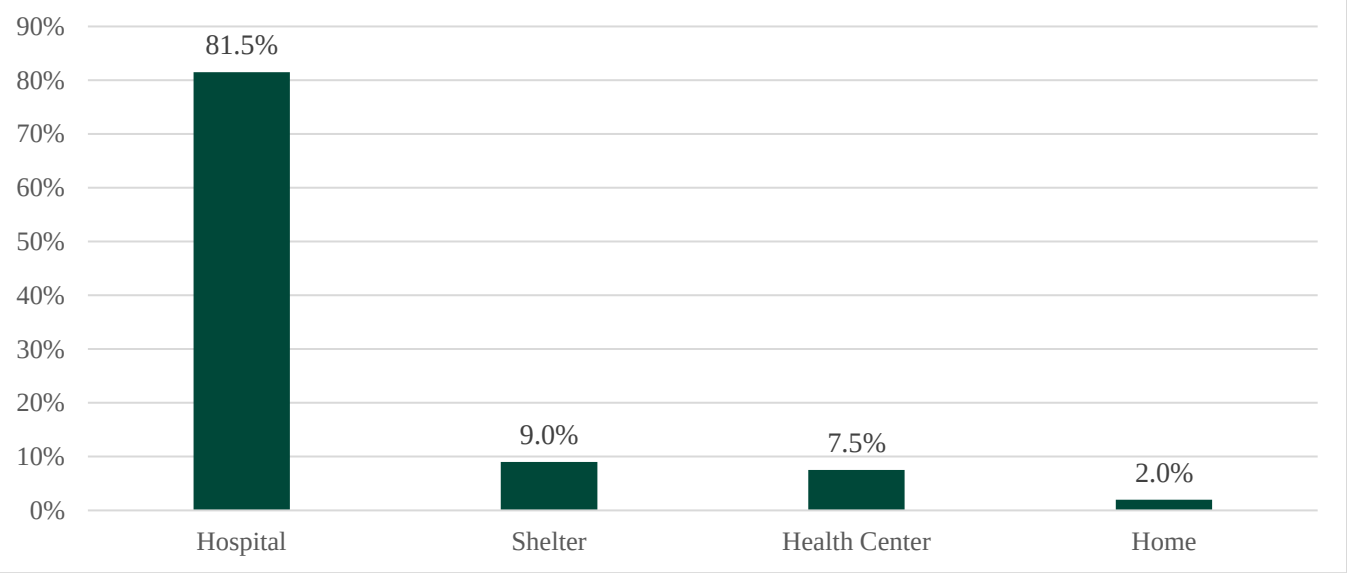
"Food isn't available at the shelter. I rely on eating rice and even bread made from animal feed. But now, even animal feed is scarce. The shelter's services aren't suitable for pregnant women. I'm pregnant with twins, in my sixth month. I feel tired and faint. My heart beats rapidly. I need blood thinners, but I can't afford them. How can I buy 'Clexane' when I'm eating rabbit food?"

II. Experiences and responses of newly delivered mothers who gave birth during the war

A total of 200 mothers who had recently given birth at the time of the data collection were interviewed and asked about their experiences giving birth and access to health services during and after birth. Information on their newborns was also collected. The mean age of the women interviewed was 25, with 30% displaced in the north of Gaza, 30% displaced in Deir Al-Balah (central Gaza) and 40% in Rafah (southern Gaza). At the time of the data collection, the mean age of newborns was five weeks, with ages ranging from less than two weeks old (29%) to more than eight weeks old (30%).

Among the sample of newly delivered women, the majority (81.5%) reported giving birth at a hospital, 7.5% gave birth at a health center, and 9.0% at a shelter (Figure 5). These percentages varied across the enclave, as only 68% of women had delivered at hospitals in the north, while 95% of women in central and southern Gaza delivered in hospitals. It should be noted that, at the time of the survey, hospitals in central and Southern Gaza were still functioning. Deliveries in shelters were more commonly reported in the North (13%), compared to 2% in central Gaza. Similarly, no women reported giving birth in shelters in Rafah. This can be credited to the readiness and preparedness of shelters in the northern region, which were adequately equipped to manage deliveries, with the assistance of services and resources provided by Juzoor. It should be noted that before the war, almost all deliveries in Gaza (99.4%) were performed at a licensed health facility (PCBS, 2021).

Figure 5: Place of delivery as reported by newly delivered women



While the quantitative data indicate that approximately 5.5% of women gave birth either at home or in shelters, qualitative interviews also revealed that several participants delivered at home or in shelters. Overall, all women shared accounts of difficulties encountered during delivery, including lack of access

to transportation, fear of bombardments, separation from family members as families torn with some stuck in northern Gaza and others in the south, inadequate maternal and obstetric services, shortages of skilled personnel and clothing, lack of preparedness for childbirth, overcrowded shelters and poor hygiene and sanitary conditions. Box 4 illustrates verbatim statements from women during the qualitative interviews recounting their challenging childbirth experiences.

Box 4: Newly delivered mother's experiences while giving birth

The following quotes are from interview responses of newly delivered mother participants in all localities in Gaza (interviews conducted from January to March 2024):

"There was no means of transportation. I waited several hours to find a car to reach the hospital and then went into labor in the car. I lost a lot of blood."

"There was a lack of appropriate winter clothing, blankets, and essential items for my baby. I managed to obtain some second-hand clothes for my newborn child and received blankets from the shelter where I was staying. I was staying at the Nuseirat shelter when I experienced the onset of labor and was in a lot of pain. I was taken to the nearest hospital in an ambulance and gave birth in a very crowded environment. Despite undergoing labor and childbirth without complications, I did not receive a thorough postnatal examination from the hospital staff. I was only ensured about the baby's health before we were discharged and went back to the shelter."

"No one from my family or my husband's family was with me to help me and help alleviate my pain. I suffered a lot at the shelter, especially when using the toilet. I was scared that my child might get sick due to the lack of warm clothes and the bad sanitary conditions at the shelter where diseases were spreading widely. The classroom in the shelter I am staying in and the sewage floods with water every time it rains."

"I left the shelter I was living in because the conditions were unbearable and moved to a relative's house. I gave birth at 1 am with no healthcare providers. My husband and relatives had to help me deliver and we coincidentally found a midwife at a nearby shelter who was able to come cut the umbilical cord."

"My husband went out at 1 am to look for an ambulance...it was too dark at night and rainy… streets were full of water and sewage due to heavy rain…the helicopter shot towards him …. He didn't find anyone to help… he returned back home with a broken heart… he cried… I became sad… then he held my hands and told me that he would help me to deliver. As my daughter sat next to me watching and crying, I prepared myself for labor… My husband held my hand and we prayed to God…. I saw the membrane and the head of the baby…I thought that I was going to die…I had no energy… no strength to push. Suddenly, my husband told me that I had given birth. This all happened on the ground, using the light of a mobile phone. My husband put the baby on my breast while the umbilical cord was still attached."

"Because of the poor sanitary conditions at the shelters, lack of water, and filthy toilets, I was not able to take care of myself as needed. As a result, my suture was infected which caused tremendous pain, swelling, and discharge. Two weeks after I gave birth, I am still weak, and have a fever."

When asked about supervision of deliveries, 90% of women reported the presence of a physician during their delivery, while 42% indicated the attendance of a midwife. Among the portion of women whose deliveries were overseen by physicians, 98% were residing in Deir Al-Balah, 89% in Rafah, and 83% in north Gaza, with statistically significant differences observed among these locations. It is worth mentioning that during the survey period, access to healthcare services and physicians was restricted in north Gaza. Nevertheless, the majority of deliveries in this region were attended by physicians, facilitated by Juzoor's maternal and newborn health services in the northern shelters.

According to data from PCBS in 2021, all deliveries in Gaza were attended by skilled healthcare providers, including physicians, nurses, and midwives. Among the entire sample, 4% of women reported experiencing premature births, a phenomenon often associated with heightened stress levels (Abu Hamad, 2006). Field reports from pediatricians on the ground indicate a notable increase in premature deliveries and subsequent admissions to neonatal intensive care units since the onset of the war. Furthermore, 20% of women surveyed reported undergoing cesarean sections.

When asked about the difficulties encountered during the perinatal period of their pregnancy, many women highlighted a multitude of challenges. These encompassed concerns over physical injuries due to the bombardments, psychological distress, limited access to healthcare services, overcrowded shelters, unsanitary conditions, lack of food and clean water, difficulties in breastfeeding, as well as a scarcity of essential resources such as clothing, diapers, and milk to feed their babies. Box 5 illustrates the main challenges reported by women during the qualitative interviews when asked about the challenges they have been facing as a result of the war.

Box 5: Challenges faced by newly delivered mothers during the perinatal and postnatal period

The following quotes are from interview responses of newly delivered mother participants in all localities in Gaza (interviews conducted from January to March 2024):

"Fear of physical safety, fear of death, or exposure to injury as a result of intense bombardments especially when on the move, or on the way to a hospital to give birth."

"Lack of qualified staff at health facilities and shelters."

"Lack of transportation, which has forced many women to go to hospitals by foot or ride an animal, which caused further inconvenience, discomfort and even pain to women who were in labor."

"Lack of appropriate physical and psychological preparedness for labor."

"Psychological discomfort and stress due to the consistent bombardments, poor conditions of shelters, and continuous displacement."

"Lack of resources needed for delivery such as bedding, sheets, food, water, and clothes for the baby."

"Families split between the north and south, with many women feeling loneliness and anxiety as their families have been torn apart."

"General fatigue and lack of sleep."

"I waited 13 years to get pregnant, and finally, I went through a successful IVF outside the country and returned home one week before the war, I didn't find a hospital to deliver at. Hospitals refused to accept me saying your babies need a nursery and we don't have one. Finally, I delivered at a center. One day after my cesarean section, the Israeli forces pushed us to leave the hospitals walking on foot. Afterward, my sutures were torn and MSF re-sutured my abdomen again."

"Three weeks after delivery, I took a bath for the first time in the tent, the weather was cold and it was raining…. I was freezing… do you know how it feels like to take a bath here (in the tent) while it's raining? It was extremely difficult."

"After delivery, I wasn't able to nurse my baby, I don't have experience in doing that, I wanted someone to help me and train me on how to nurse my baby."

"I need counseling, the counseling we received at the hospital was not sufficient and the staff at the hospital barely communicated or spoke to us."

"My milk is not coming out; I eat once every two days. I ate a dried date and one carrot in the last two days. I need soap, meat, and drinks which are not available and also very expensive."

"In my previous deliveries, I used to drink milk, herbs, and chamomile, but we hardly find water and when we find it, it is not clean."

"There is no milk for my baby… my baby has been crying for 3 days… the neighbors in the shelter complain to me because of his crying… there is no milk… How can I bring it? My baby keeps crying… he doesn't sleep, he needs milk.' She added, 'There is no milk in my breast… I don't eat… believe me today, we didn't find anything to eat... we only have tea and sage… we begged for half a cup of sugar from our neighbors."

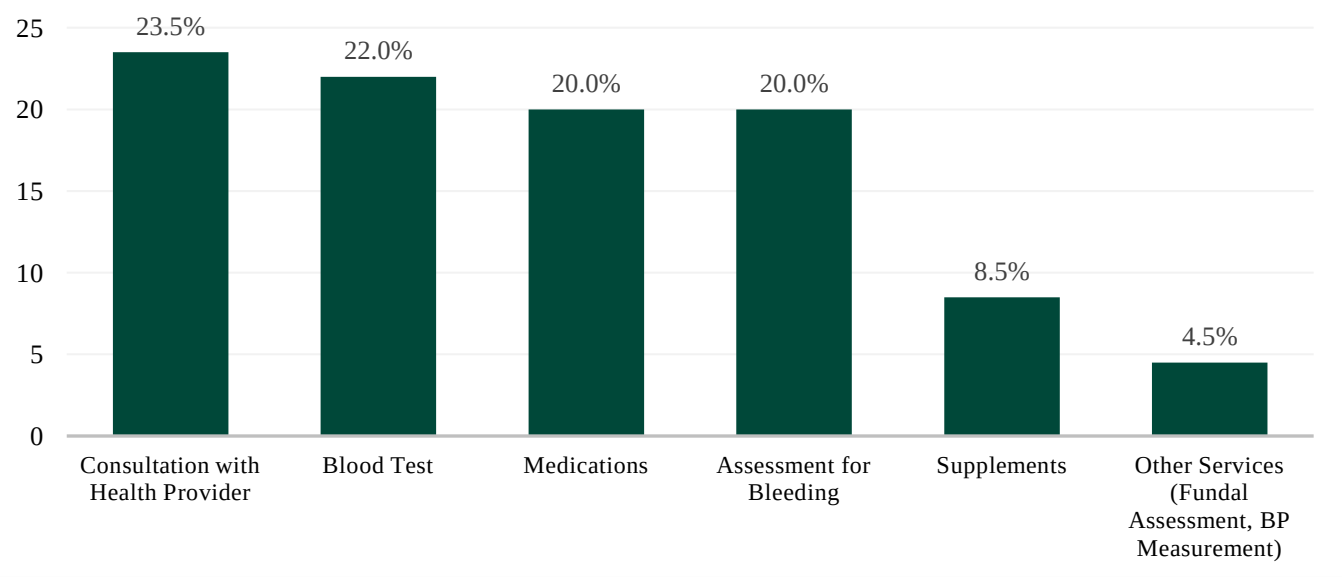
"I am unable to bond and interact with my baby. My mental health is bad and I don't feel I can take care of my baby."

In terms of postnatal services, two-thirds (65%) of the sample included in the quantitative interviews, reported not receiving any postnatal services, while 35% reported receiving any service they could get. In the northern region, women who gave birth received a higher level of postnatal care compared to those displaced in Deir Al-Balah and Rafah, with statistically significant differences observed among the groups. Additionally, women residing in tents received fewer services than those living in formal shelters.

Regarding postnatal services, 76.5% reported not consulting a physician after giving birth, 78% mentioned they did not undergo any blood tests, and 80% stated they were not checked for bleeding nor

did they receive any medications after birth (Figure 6). One of the barriers limiting women's access to professional support during delivery is the absence of neonatal units in maternity departments. Women residing in the northern region received more services compared to those in the central area or Rafah, probably due to the implementation of maternal services in shelters in the north of Gaza. Similarly, women living in shelters received more services than those living in tents.

Figure 6: Types of postnatal care services received by newly delivered mothers



The qualitative findings align closely with the quantitative data, indicating a limited provision of postnatal care services at health facilities (Box 6). Participants emphasized the attention given to newborns during the postnatal period more so than the care provided to mothers. However, women received life-saving interventions in critical situations such as severe bleeding or tears.

Box 6: Postnatal care services provided at health facilities

The following quotes are from interview responses of newly delivered mother participants in all localities in Gaza (interviews conducted from January to March 2024):

"The hospital staff didn't weigh my baby; I didn't witness them doing so, and my baby remained with me."

"I experienced fatigue after walking to the hospital for childbirth and promptly returning to the shelter afterward. Unfortunately, I didn't receive any postnatal care or necessary medications, supplements, or blood tests for myself or my child."

"I gave birth at the shelter, and the following day, I visited the hospital where the staff weighed the baby. However, I didn't receive any services for myself."

"During delivery, a male nurse from a different shelter assisted me as no midwives or nurses were available. I experienced bleeding, and amidst nighttime bombardments, I had to journey to the hospital. There, the medical team addressed the bleeding and sutured tears."

"I didn't seek follow-up care at the hospital because I wasn't aware of the necessity. Additionally, I didn't receive any services at the shelter."

Shockingly, more than a quarter (26%) of newly delivered mothers reported experiencing postpartum complications. The most common postpartum complications reported by women include genital infections, attributable to inadequate hygiene practices, unsanitary toilets, and overcrowded shelters with poor living conditions. Other frequently reported complications included severe bleeding (13%), high blood pressure (4%), and fever/infections (7.5%). Notably, women 30 years and older and those residing in the northern region of Gaza reported a higher incidence of postpartum complications compared to younger women and those residing in central and southern Gaza. Moreover, women living in the northern region reported a higher prevalence of severe bleeding (18%) compared to those in the central area (3%) and Rafah (16%), particularly among those who delivered in a shelter (in hospital, 12%; shelter, 33%).

Furthermore, although 96% of women self-reported successfully breastfeeding their newborns, 35% reported experiencing problems in breastfeeding their babies, possibly due to lack of access to breastfeeding counseling services, food insecurity, and lack of healthy food and water. Similarly, during the qualitative interviews, counts of women expressed the difficulties they have been facing with breastfeeding are due to inverted or cracked nipples and breast engorgement. Prior to the war, Data from the PCBS indicated that 52% of women received counseling services regarding breastfeeding (PCBS, 2021). Disparities in experiencing breastfeeding problems varied based on displacement location, with women in central Gaza reporting fewer issues (13%) compared to those in Rafah, where a significantly higher proportion encountered problems (46%). These discrepancies among governorates were statistically significant.

Among the newly delivered mothers included in the study, only 14% reported currently accessing health services at shelters including immunizations, counseling on breastfeeding, dressing for sutures, supplementation, and blood pressure measurements. Pre-war data from recent years indicate that these services were nearly universally available to women and their newborns (PCBS, 2021). Notably, women who delivered in the northern region reported more access to follow-up care from service providers, as did those staying in shelters, likely attributed to the presence of medical facilities at these locations. According to the PCBS, in 2020, 92% of both mothers and newborns received either postnatal examinations or timely postnatal care sessions, illustrating a significant decline in access to health services due to the ongoing war.

Similar to the quantitative findings, results from the qualitative interviews revealed inconsistencies regarding the effectiveness of the medical points at shelters in delivering postnatal care services. While

some women expressed satisfaction with the services provided to them and their children at shelters, others felt that these services did not meet their expectations. Some mothers reported delivering their babies at shelters and receiving immunization services for their children, yet they found the available services inadequate and falling short of their expectations (Box 7). Additionally, the findings suggest that some women are not aware of the postnatal services offered at shelters.

Box 7: Health service provision and utilization at shelters

The following quotes are from interview responses of newly delivered mother participants in all localities in Gaza (interviews conducted from January to March 2024):

"At the hospital, they measured the weight only, however, at the shelter the nurse measured the weight, length, and head circumference of my baby."

"My child got sick. I did not find any medicines at the medical point at the shelter."

"The nurse asked me to go to the medical point to check my stitches, but I felt embarrassed to go… it is just a room… where shall I go? I felt that the place was not suitable to serve patients. It would be better if there was a better place. The medical point is too small - no beds, men enter freely… there is no space for women to be examined with privacy. We need some privacy."

"It is too difficult to take care of your baby in such crowded shelters, with a lack of privacy and not being mentally well."

"I am not aware that there are nurses or health staff who can support us at the shelter. No one told me about that otherwise I could approach the staff at the shelter. I was bleeding and needed someone to help me but I didn't get any help."

"I feel tired. I went to the hospital on foot. After delivery, I returned to the shelter immediately. I didn't receive any postnatal care. I need medications, supplements, and blood tests. My child didn't receive any care either."

"A male nurse from another shelter helped me during delivery, as no midwives or nurses were available at my shelter. I had severe bleeding while there was continuous shelling. I had to go to the hospital or I would die. At the hospital, they stopped the bleeding and sutured the tears."

"My delivery took place at the shelter, another displaced woman helped me but she is not a health care provider. It was a terrible experience. I was afraid and all alone, and did not have anyone to help take care of my children."

"The nurse at the medical point of the shelter where I am staying provided the immunization to my baby."

"I don't know that they give immunization at the shelter."

According to women's self-reported responses, less than half of the babies (48.5%) received health checkups, including weight and length measurements, physical assessments, and screenings, which is a drastic decrease compared to the rate of newborns which received health examinations prior to the war. Findings show 80% of newborns weighed over 2500 grams, while 15.5% weighed less than 2500 grams and 4.5% of babies' weight was not measured. It is worth mentioning that this data is self-reported by newly delivered mothers and has not been corroborated by verifying medical records or birth certificates. These findings require cautious interpretation, as there has been a significant increase in premature births and low birthweight cases, as observed by health experts on the ground. Similarly, qualitative findings suggest that weight measurement was not consistently performed. Similarly, only a few women interviewed in the qualitative sample mentioned their baby's length was measured.

Moreover, only 60.5% of mothers reported that their babies received immunizations, with most administered in the first few weeks of life. Children born to mothers residing in north Gaza were notably disadvantaged in terms of immunization uptake, with only 13% reporting receiving any immunization, compared to 81% in Rafah and 80% in Deir Al-Balah. These differences between geographical locations were statistically significant. Consequently, the substantial progress achieved over recent years, with immunization coverage in Gaza reaching almost universal levels of over 95% for most vaccines, is now being eroded by the ongoing war.

For decades, the successful Palestinian immunization program has played a crucial role in controlling vaccine-preventable diseases. However, with the current disruption of immunization services during the war, there is a significantly heightened risk of the emergence of communicable diseases in Gaza.

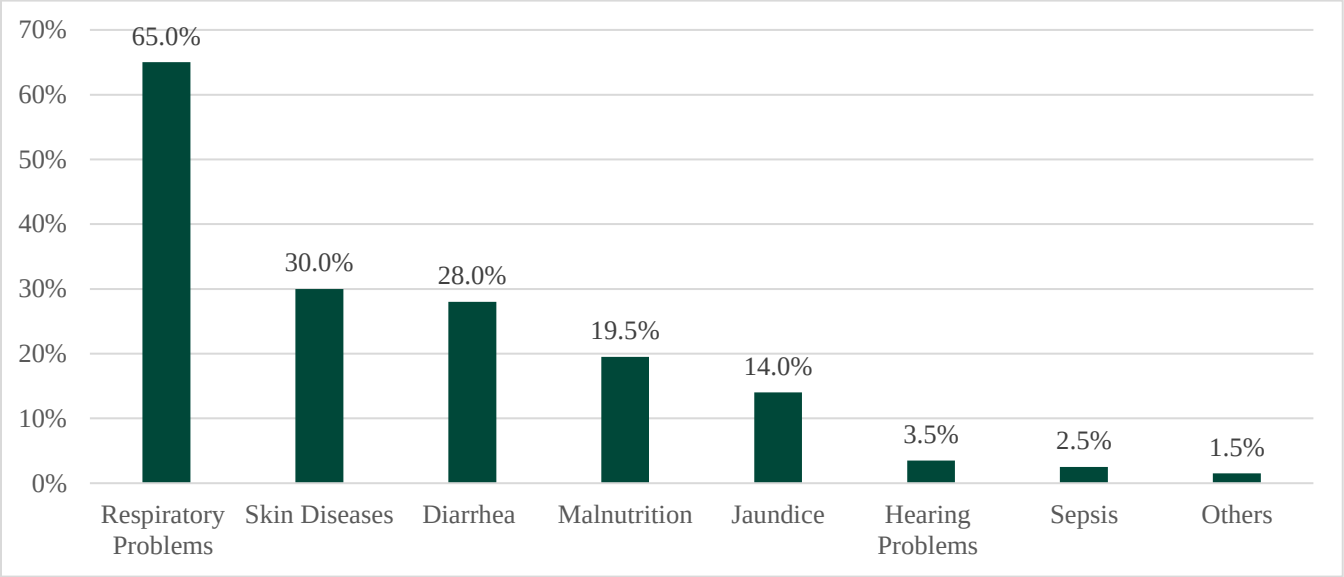
Qualitative findings regarding immunizations were in line with the results of the quantitative survey. Some women mentioned vaccinating their children at UNRWA or MOH clinics, or at medical points in the shelters. Participants from north Gaza, in particular, noted receiving these services at medical points within shelters; however, some remained unaware of the availability of immunization services at shelter medical points.

A small percentage of women (7%) reported their newborns receiving medications post-delivery due to illness, with antibiotics being commonly prescribed to treat respiratory infections. This corresponds with reports from the MOH, which indicate a notable increase in morbidity among children, particularly from communicable diseases.

The overwhelming majority of mothers (76%) reported that their newborn babies had experienced some kind of complication or health condition. The most commonly reported health conditions and complications by women among infants included respiratory issues (65%), skin conditions (30%), diarrhea (28%), and malnutrition (20%) (Figure 7). These figures are alarmingly high and underscore the substantial negative impact on the determinants of health as a result of the ongoing Israeli aggression on Gaza.

Skin diseases were more prevalent in Rafah and Deir Al-Balah, while less common in north Gaza. Respiratory diseases were notably more pronounced in Rafah (52%) compared to Deir Al-Balah (35%) and north Gaza (14%). This disparity may be attributed to overcrowding in Rafah and Deir Al-Balah following the displacement of individuals from the North to the South. Furthermore, infectious diseases, including diarrhea, were more frequently reported by mothers in Rafah compared to Deir Al-Balah and North Gaza.

Figure 7: Incidence of newborn complications according to reports from newly delivered mothers



Only 12% of mothers reported that their newborn babies are currently receiving health services at the shelters where they are residing. Mothers of displaced children in north Gaza reported that their children are receiving more services compared to their counterparts from the south, with statistically significant variations observed. The most commonly reported services provided for newborns included umbilical dressing, vaccination, and general checkups.

Furthermore, qualitative interviews with mothers provided insights into various health issues related to their children, including the diseases they suffer from, the availability of child health services such as immunization, challenges around breastfeeding, and the uptake and utilization of services. Box 8 presents verbatim statements from mothers regarding their children's health issues.

Box 8: Newborn health-related complications as reported by newly delivered mothers

The following quotes are from interview responses of newly delivered mother participants in all localities in Gaza (interviews conducted from January to March 2024):

"My child needs to be treated for an infection, but unfortunately, there are no services available at the shelter."

"I am concerned about my child's health as she hasn't received her immunizations, leaving her susceptible to infectious diseases."

"There is a lack of adequate follow-up for children; we require more services specifically tailored to their needs."

"I am hesitant to visit the clinic due to prolonged waiting times, poor treatment by staff, and the unavailability of medications. I am waiting for my child to heal naturally."

"I have not been able to breastfeed because my child is experiencing gastrointestinal issues, and do not have access to any services to treat them."

"I don't go to a hospital because there are no drugs there, it is useless to go there."

"After the birth, my child was examined and then fell ill. During his second week of life, my baby acquired an infection and was given antibiotics by hospital staff."

"Following childbirth, I was discharged within 30 minutes, with my twins placed in the nursery without permitting me to see them. Unfortunately, both twins have congenital heart issues. While my daughter was discharged after approximately two weeks, my son remains in the nursery. It has been nearly a month since I last saw him. To add to this, my daughter's vaccination was delayed three weeks. Furthermore, my husband was killed, leaving me psychologically shattered. I fear for my children's future as they will grow up as orphans, uncertain of who will provide for their basic needs such as milk and diapers."

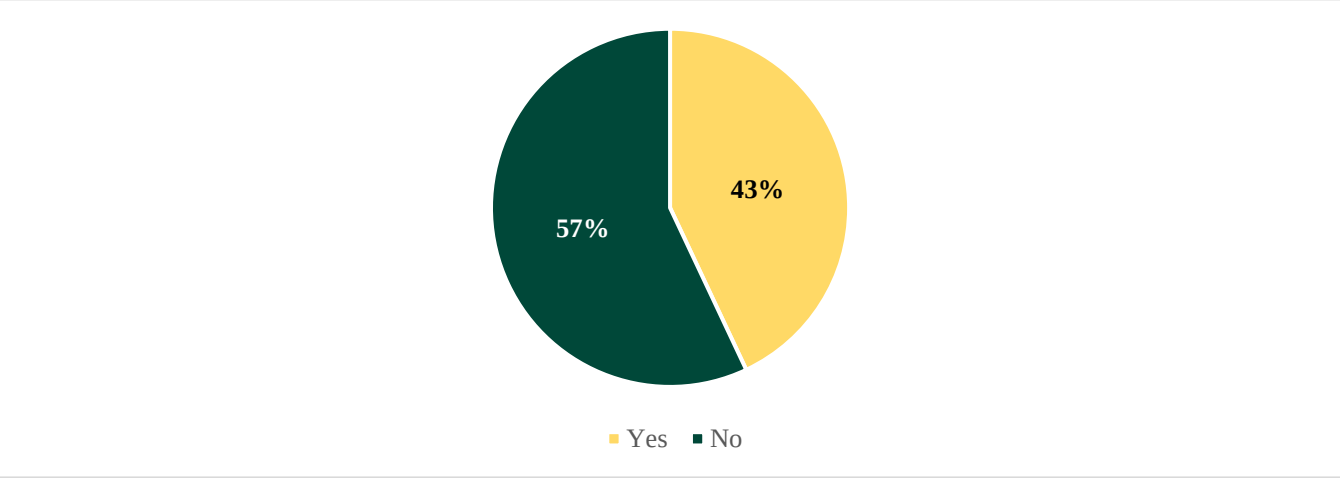
"My child hasn't received her immunization, and I'm unsure where I can go to get her vaccinated."

III. Shelter Assessment

In addition to conducting quantitative and qualitative surveys among women at shelters, the research team collected data from 65 shelters, comprising 30 in the North and 35 in the South of Gaza, to assess key indicators regarding pregnant women, newly delivered mothers, and newborns. According to the information provided by Juzoor's field workers, the shelters had an average population of 1,985, with a median of 1,800. Notably, 26% of shelters accommodated more than 2,500 individuals. Shelters in the north of Gaza had a higher average population, hosting around 2,274 residents on average, compared to those in the south, which had an average of approximately 1,737 residents.

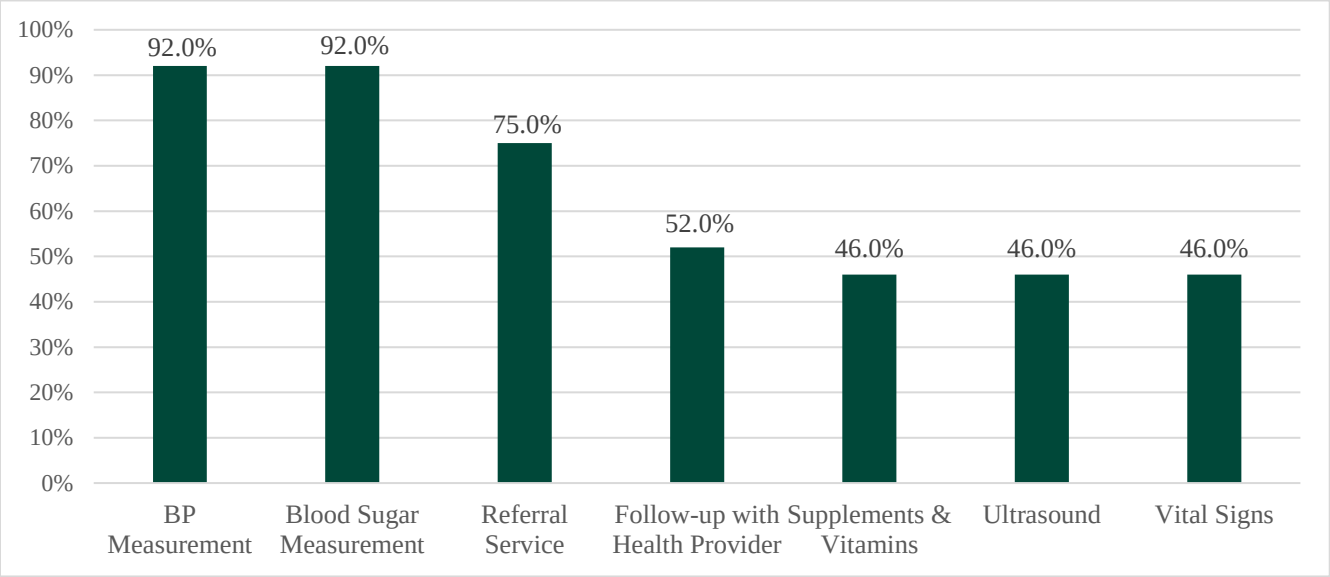
The average number of pregnant women in the shelters was 27, with a slightly higher average in Rafah compared to the north of Gaza (20.5 vs 30, respectively). A quarter of the shelters (25%) reported having more than 30 pregnant women. The average number of newborns at shelters was 14, and almost half (43%) of the respondents indicated the presence of high-risk pregnancy cases at their shelters (Figure 8). On average, each shelter reported around five cases of high-risk pregnancies, with a notably higher incidence in the North (80%) compared to the South (Rafah) (11.4%). Unfortunately, the majority of these shelters, which were originally schools and public places, are not equipped to support women with high-risk pregnancies.

Figure 8: Percentage of high-risk pregnancy cases at shelters



According to informants at the shelters, the most common services provided for pregnant women at shelters were blood pressure measurement (90%), distribution of vitamins and supplements (47%), and ultrasound services (46%) (Figure 9). Informants also revealed the extent to which health points established by Juzoor in shelters have significantly contributed to meeting some maternal and child health (MCH)-related needs.

Figure 9: Services provided to pregnant women at shelters



Furthermore, the vast majority of respondents (85%) confirmed the presence of pregnant women in their shelters at the time of data collection, averaging 37 expectant mothers per center over the past month. Similarly, 85% of shelters reported the occurrence of births during the same period, with an average of 12 deliveries per center. Furthermore, 11% of respondents noted cases where women had already given birth at the shelters they resided in, with an average of 7 births per center, with slightly higher numbers reported in North Gaza.

Among the shelters surveyed, 5% reported occurrences of stillbirths at their centers, with slightly elevated rates observed in the southern area. Additionally, 5% of shelters reported instances of premature deliveries, and 8% reported cases of miscarriage among pregnant women, with higher prevalence noted in the southern region. Furthermore, 23% of shelters reported instances of cesarean section births. Although no maternal deaths were reported, 5% (3 shelters) documented infant fatalities within their shelters. Key informants at the shelters reported the urgent need for essential resources to aid pregnant and newly delivered women. These resources included essentials such as food, infant formula, clothing, diapers, access to healthcare services, bedding, and enhanced provisions for privacy and space for women.

Implications and Recommendations

The insights derived from this study carry significant weight and offer crucial guidance for policymakers, partners, stakeholders, and the broader international community.

Access to Comprehensive Healthcare Services

- Ensure displaced women and newborns residing in shelters have access to comprehensive healthcare services encompassing prenatal and postnatal care and emergency obstetric services. This includes regular check-ups, screenings, vaccinations, and prompt treatment for any pregnancy or childbirth-related complications.
- Guarantee safe delivery spaces for all pregnant women by designating or allocating dedicated rooms or tents in shelters that are equipped with proper supplies and equipment.
- Establish registration, identification, and follow-up procedures for pregnant women, newly delivered mothers, and newborns in shelters to ensure targeted outreach efforts in comprehensive maternity care coverage, from pregnancy through neonatal care.
- Equip shelters with essential medical supplies and equipment, including life-saving tools, to address emergency situations promptly, considering that most of the population is currently displaced and the healthcare system has collapsed.
- Regularly assess

Safe and Dignified Shelters

- Foster safe and dignified living conditions within shelters by creating designated spaces tailored to the needs of displaced women and newborns. Ensure adequate capacity, privacy, security, separate restroom facilities, and access to essential amenities such as clean water, sanitation facilities, and bedding, given the challenging circumstances of displacement.

Nutrition and Hygiene Support

- Secure access to nutritious food, clean water, sanitary facilities, hygiene supplies, and bedding for women and newborns. This includes provisions for prenatal vitamins, supplements, and breastfeeding support to promote maternal and infant well-being.
- Guarantee access to nutritious and developmentally appropriate food for newborns, whether they are being formula-fed or transitioning to solid foods. Supply infant formula, baby food, and supplementary feeding programs to fulfill the nutritional needs of newborns in shelters.
- Uphold high standards of hygiene and sanitation within shelters to mitigate the risk of infections and diseases among newborns. Ensure availability of clean water, sanitation facilities, and hygiene essentials like diapers, wipes, and soap for newborn care.
- Procure and distribute lactation parcels designed to improve maternal nutrition and support milk production in newly delivered mothers.

Strengthening Healthcare Providers and Staff Capacities

- Create and implement training programs that equip and enhance healthcare professionals working within shelters with the necessary skills and knowledge to deliver high-quality antenatal and postnatal care, particularly within the context of shelters and emergency settings. This includes comprehensive training programs covering trauma-informed care, effective communication, antenatal assessments, postnatal care protocols, and lactation support.
- Invest in capacity-building initiatives that enhance the ability of healthcare providers to manage pregnancy and postpartum complications, support breastfeeding, and provide comprehensive care to mothers and newborns.
- Provide healthcare professionals with the necessary tools, resources, and guidelines for effective care delivery, including medical equipment, emergency protocols, and psychosocial support guidelines tailored to antenatal and postnatal care in the context of war.
- Enhance training programs for shelter staff to bolster their capacities in identifying and referring high-risk antenatal and postnatal cases promptly.

Psychosocial Support

- Offer psychosocial support services to address the emotional and mental well-being of displaced women. This encompasses counseling, support groups, and mental health interventions to help them cope with stress and trauma.
- Cultivate support networks among mothers and caregivers in shelter environments to facilitate sharing experiences, exchanging information, and providing mutual assistance in newborn care.

Distribution of Maternal and Newborn Kits

- Guarantee the distribution of kits comprising hygiene items, childcare essentials, mother and baby clothing, and specific food packages tailored for pregnant women and newly delivered mothers, as well as their newborns.
- Provide clear guidance and information accompanying the kits on proper usage and hygiene practices to maximize their effectiveness in promoting the health and well-being of pregnant women, newly delivered mothers, and their newborns.

Essential Medications and Immunizations

- Maintain sufficient stock of medications, including vitamins and life-saving drugs, for at least six months to address pregnancy-related conditions and emergencies among newly delivered mothers.
- Administer timely immunizations to newborns as per recommended schedules to shield them from common childhood ailments and infections. Ensure accessible availability of vaccines for all newborns residing in shelters.

Infant Care and Support

- Offer comprehensive assistance for infant care, including aiding with breastfeeding, providing infant formula, diapers, clothing, and essential baby supplies. Ensure immediate medical evaluations for newborns shortly after birth to identify any immediate health issues or

complications. These assessments should cover vital signs, physical examinations, and screenings for birth-related concerns.

- Foster a safe sleeping environment for newborns within shelters to minimize the likelihood of sudden infant death syndrome and other sleep-related accidents. Provide secure sleeping surfaces such as cribs or bassinets and educate caregivers on safe sleep practices.
- Ensure access to essential healthcare services for newborns, encompassing pediatric check-ups, vaccinations, and treatment for common childhood illnesses. Establish mobile clinics or outreach programs to directly deliver healthcare services to shelters housing newborns.
- Educate caregivers on recognizing and addressing common infant health issues such as upper respiratory infections, utilizing kangaroo care to prevent hypothermia, identifying signs of dehydration, and detecting jaundice.
- Promote early childhood development through age-appropriate activities, play sessions, and caregiver engagement programs. Provide toys, books, and educational materials to support the cognitive, social, and emotional development of newborns in shelters.
- Regularly monitor the growth and development of newborns in shelters and provide necessary follow-up care. Conduct routine health assessments, track developmental milestones, and address any concerns or challenges that may arise during infancy.

Breastfeeding Support

- Establish breastfeeding as the primary modality for feeding infants for at least the first six months post-birth, emphasizing its importance in an emergency war context.
- Intensify efforts to support breastfeeding through counseling, provision of nutritious sustenance, ensuring privacy and safe spaces, and staff training to assist nursing mothers in overcoming challenges.
- Promote and encourage relactation and wet nursing where appropriate, acknowledging the potential disruptions to breastfeeding routines due to displacement and the need for alternative support mechanisms.
- Create and distribute educational resources and materials in Arabic, including leaflets, posters, audio materials, and digital videos, to inform women about breastfeeding significance and proper practices and support them throughout their breastfeeding journeys.
- Set up breastfeeding-friendly environments such as tents or safe spaces within shelters to provide mothers with privacy, peer support, and counseling to facilitate nursing.
- Collaborate with local healthcare providers, including midwives, nurses, and doctors, to provide antenatal education and promote breastfeeding in hospitals, ensuring continuity of care and support for pregnant and lactating women across different settings.
- Build the capacity of healthcare workers and the community by conducting breastfeeding support training sessions focused on clinical skills.

Community Outreach and Education

- Organize community outreach and educational initiatives to enhance awareness regarding maternal and child health issues, reproductive rights, and the array of resources and services accessible to displaced pregnant women and newly delivered mothers. Empower women with knowledge and insights to enable informed decisions regarding their health and overall well-being.
- Allocate resources towards health education programs emphasizing the significance of antenatal and postnatal care, neonatal care, self-care practices, available services for mothers and babies, the importance of immunization, hygiene maintenance, and adherence to safe practices.
- Advocate for improved availability and accessibility of maternity services, particularly within shelters and medical facilities.
- Provide training and education to women and their families, focusing on fundamental life skills, first aid procedures, and fostering positive coping mechanisms.

Coordination and Collaboration

- Foster collaboration among various stakeholders and humanitarian organizations to ensure a cohesive and coordinated response to the needs of displaced women and newborns.
- Establish mechanisms for effective communication and information-sharing among stakeholders to streamline the delivery of essential services and support to pregnant women and newly delivered mothers.
- Foster partnerships to leverage collective resources and expertise in addressing the specific challenges faced by displaced women and newborns.
- Implement regular coordination meetings and joint planning sessions to assess evolving needs, identify gaps and challenges, and implement collaborative solutions to improve the health and well-being of displaced women and newborns.

Advocacy and Policy Change

- Advocate for policy changes and investments in maternal and child health services, reproductive health rights, and humanitarian assistance for displaced populations.
- Work on the policy level to develop and implement effective antenatal and postnatal care strategies specifically tailored to the unique challenges and needs arising from the war. This includes advocating for the integration of antenatal and postnatal care into emergency response plans, ensuring the availability of essential maternal and child health services, and promoting policies that prioritize the well-being of pregnant women, newly delivered mothers, and newborns.

Assessments and Research

- Increase efforts in assessments and research initiatives focusing on maternal and newborn care, as well as the overall status of pregnant women and newly delivered mothers in Gaza amidst the ongoing war. This research is imperative for understanding the specific challenges and needs faced by this vulnerable population and for informing the development of targeted interventions and policies to effectively address their issues.

- Identify gaps in healthcare services, barriers to accessing care, and areas for improvement in the delivery of maternal and newborn healthcare in conflict-affected settings. By conducting thorough assessments and research, we can better advocate for the rights and well-being of pregnant women and newly delivered mothers in Gaza and work towards improving their health outcomes and overall quality of life.
- Set performance indicators for maternity and reproductive health services with particular attention to antenatal, postnatal, neonatal, and infant care. This entails improving documentation and registration processes and collecting and sharing information among stakeholders to inform decision-making and advocacy efforts effectively. These indicators will help monitor progress, identify areas for improvement, and ensure accountability in providing essential healthcare services to pregnant women and newly delivered mothers in Gaza during times of conflict.

Surveillance and Monitoring

- Enhance monitoring and surveillance systems for maternal and neonatal health outcomes among displaced populations, particularly those facing hardship and limited access to healthcare services.
- Conduct regular assessments of healthcare facilities, including shelters and medical points, to evaluate the availability, accessibility, and quality of maternal and newborn care services, identifying areas for enhancement and intervention.
- Implement routine monitoring and evaluation mechanisms to track key performance indicators related to antenatal care, postnatal care, neonatal health, and breastfeeding support.

Conclusion

The study highlights significant challenges and gaps in providing maternity services during the war in Gaza, with important implications for policy and programming. Urgent priorities include improving living conditions for displaced individuals, particularly pregnant women and newly delivered mothers in shelters. This entails ensuring access to adequate hygiene and sanitation facilities, nutritious food, and overall safety and protection. Additionally, it is critical to ensure that all displaced pregnant and newly delivered women receive appropriate care through enhanced registration, identification, and targeted service provision. Maternity services should be readily accessible at both health facilities and medical points within shelters. Developing and implementing standardized maternity care packages tailored to the needs of women in emergency settings is also crucial. Available maternity services should be constantly mapped and updated, and a proper monitoring and surveillance system should be put in place to track the uptake and utilization of these services.

In conclusion, our research findings underscore the detrimental impact of the ongoing war on Gaza. The inability of health and social services to adequately respond to the unprecedented demand has resulted in a decline in maternity health indicators achieved over past decades, notably affecting the health status of the entire population, particularly women and newborns.

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