

Barriers and Facilitators to Utilizing BEmONC Services: A Cross- Sectional Study of Rural Health Centers in Basrah

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Abstract

Background: Maternal mortality is a global health priority, yet in rural Basrah, the utilization of Basic Emergency Obstetric and Newborn Care (BEmONC) remains low despite service availability. **Objectives:** This study aimed to Therefore, this study aimed to evaluate the socio-demographic characteristics of rural women, determine childbirth service utilization patterns, identify barriers preventing the use of PHC delivery rooms, and explore factors that facilitate their utilization. **Methodology:** A descriptive, cross-sectional study was conducted with 331 women across six rural sectors in Basrah (Al-Hartha, Shatt al-Arab, Al-Zubair, Al-Dair, Al-Medainah, and Abi Al-Khasib). **Results:** Out of the parous women surveyed (n=299), only 16.7% delivered in PHC centers, while 73.2% preferred governmental hospitals. This utilization gap is primarily driven by a trust gap regarding the centers' ability to handle complications and 24/7 staffing. From the total sample (N=331), prominent socio-demographic barriers were identified, including high maternal unemployment (88.8%) and limited formal education (61% illiterate or primary level), which heavily influence traditional family-based decision-making. **Conclusion:** Physical proximity alone does not guarantee service use. Recommendations include enhancing clinical trust through 24/7 qualified staffing, establishing robust referral systems, and targeting younger women with awareness campaigns.



Keywords: BEmONC, Maternal Health, Primary Health Care, Basrah, Obstetric Care, Rural Health, Health Service Utilization, Iraq

Introduction

Maternal mortality remains a critical global health priority [1], representing a significant challenge within the framework of the Sustainable Development Goals (SDGs). In Iraq, despite ongoing healthcare initiatives, the maternal mortality ratio (MMR) continues to be a subject of concern. According to the 2024 national statistics, the MMR reached approximately 29.8 deaths per 100,000 live births (excluding the Kurdistan region) [2]. However, the situation in Basrah Governorate is particularly alarming; within the same 2024 statistical period, the MMR in Basrah remained critically high, reaching an estimated 48.3 per 100,000 live births [2], a figure that significantly exceeds the national average. This disparity underscores a persistent public health crisis in the region, particularly in rural sectors. The high mortality rate in Basrah is not merely a reflection of clinical outcomes but is deeply rooted in a utilization gap, where life-saving Basic Emergency Obstetric and Newborn Care (BEmONC) services are available yet underutilized due to systemic and socio-demographic barriers [3]. Addressing these elevated rates in Basrah is imperative for improving maternal survival outcomes and ensuring equitable access to emergency obstetric care across the country [4]. All pregnant women, even those without pre-existing health conditions, face the risk of unpredictable complications during pregnancy, childbirth, and the postpartum period [5]. These complications can lead to severe disability or death if not managed through timely and high-quality medical intervention [6].

Global health evidence underscores that the presence of a Skilled Birth Attendant (SBA) is the single most critical factor in averting maternal and neonatal mortality [7]. While Traditional Birth Attendants (TBAs) have historically played a role in rural communities, studies have shown that they often lack the clinical capacity to manage obstetric emergencies or ensure timely referral, which can lead to fatal delays [8]. The World Health Organization (WHO) promotes Emergency Obstetric and Newborn Care (EmONC) as a key strategy to reduce maternal deaths [9]. This is categorized into Comprehensive EmONC (CEmONC), usually provided in hospitals, and Basic EmONC (BEmONC), which should be available at the Primary Health Care (PHC) level [10]. In Iraq, and



specifically in Basrah Governorate, the health system has strived to expand these services to remote and rural areas to bridge the gap in healthcare access [11].

However, the mere availability of services does not guarantee their utilization [12]. In remote areas of Basrah, several barriers ranging from infrastructure readiness and medical supply shortages to geographical and administrative challenges affect how these services are utilized by the community [13]. Ensuring that Primary Health Care Centers (PHCCs) are fully equipped and staffed according to BEmONC standards is essential for achieving national health goals and reducing the burden on tertiary hospitals [14].

This study aims to evaluate the factors affecting the utilization of BEmONC services in remote PHCCs in Basrah, assessing their readiness to provide life-saving care for both mothers and newborns. The significance of this study stems from its empirical exploration of the disconnect between healthcare decentralization and community adoption in resource-limited settings. While infrastructure investment has successfully placed Basic Emergency Obstetric and Newborn Care (BEmONC) services within rural Basrah sectors, this research exposes a stark Preference Availability Gap, wherein only 16.7% of local women utilize primary delivery rooms while the vast majority bypass them for tertiary facilities. Consequently, this study moves beyond generic geographic accessibility arguments to critically evaluate the clinical trust gap and structural bottlenecks, including 24/7 staffing reliability and complication management that directly impede safe institutional deliveries.

Furthermore, by demonstrating how maternal educational barriers (61% illiterate or primary level) and financial dependencies (88.8% unemployment) reinforce traditional, non-clinical healthcare choices, this study underscores that maternal survival cannot be achieved by clinical upgrades alone. The insights generated provide a strategic blueprint for the Ministry of Health and local health directorates to formulate multi-faceted interventions. These include building robust rural referral networks, optimizing healthcare provider visibility, and launching targeted public health campaigns. Ultimately, this research serves as a vital tool for reforming primary healthcare delivery, mitigating preventable maternal mortality, and aligning local health strategies with national and global Sustainable Development Goals (SDGs).



Extensive global literature firmly establishes that securing a Skilled Birth Attendant (SBA) remains the primary intervention for reducing maternal and neonatal crises [15]. However, studies in various developing regions show that the mere availability of Emergency Obstetric and Newborn Care (EmONC) services does not guarantee their utilization [16]. For instance, research in Nigeria highlighted that the unavailability of essential supplies and perceived poor quality are major deterrents [17,18]. This aligns with the findings of the current study in Basrah, where despite the availability of BEmONC services in six sectors, only 16.7% of women utilized PHC delivery rooms. Furthermore, evidence from Nepal suggests that clinical readiness and the presence of trained midwives are the primary drivers for choosing institutional delivery over home births [19], a factor that directly relates to the trust gap identified among the participants in Basrah. Beyond the international context of Nepal and Nigeria, similar patterns are observed in neighboring Arab countries. In Saudi Arabia [20] and Jordan [21], studies have consistently identified transportation barriers and the perceived quality of care as primary deterrents for rural women utilizing primary health centers for delivery. For instance, research in Saudi Arabia highlighted that dissatisfaction with previous clinical experiences significantly drives women toward overcrowded hospitals, a phenomenon closely mirroring the 73.2% hospital preference observed in this study in Basrah.

Despite the strategic decentralization of Basic Emergency Obstetric and Newborn Care (BEmONC) services across rural sectors in Basrah Governorate, maternal mortality rates remain disproportionately high at 48.3 per 100,000 live births compared to the national average [2]. This health crisis is compounded by a profound maternal healthcare utilization gap; among parous respondents (n=299), only 16.7% of rural women utilize available local Primary Health Care (PHC) delivery rooms, while 73.2% bypass them in favor of overcrowded urban governmental hospitals. Field evidence indicates that this bypassing behavior is driven by a critical trust gap and structural barriers, including perceived deficiencies in 24/7 staffing, essential supply readiness, and complication management at the primary level. Furthermore, pervasive socio-demographic barriers analyzed across the total cohort (N=331), including high female unemployment (88.8%) and limited formal education (61%), reinforce traditional, non-clinical healthcare choices. Consequently, geographical proximity alone is failing to shift maternal healthcare patterns.



Although the expansion of primary health infrastructure is widely promoted as a cornerstone for reducing maternal mortality, a critical knowledge gap exists regarding why physical availability alone fails to ensure service utilization in rural Arab communities. Most available reproductive health literature in Iraq focuses primarily on clinical outcomes and hospital based maternal mortality statistics, leaving the behavioral and operational bottlenecks at the primary healthcare (PHC) level largely unexamined. Specifically, there is a distinct lack of research analyzing the disconnect between decentralized BEmONC implementation and localized delivery room utilization. This study fills this gap by exploring the institutional, socio-demographic, and trust related determinants that influence childbirth location preferences among rural women in Basrah. By examining the paradox of high hospital preference (73.2%) alongside severe underutilization of local primary delivery facilities (16.7%), this research provides an essential, context specific empirical analysis. It shifts the academic discourse from generic geographic accessibility to a deeper examination of clinical trust, 24/7 staffing readiness, and family led decision making in resource limited rural environments.

Therefore, this study aimed to evaluate the socio-demographic characteristics of the participants, including age, educational level, employment status, and income, to understand their influence on maternal healthcare decisions., determine the patterns of childbirth service utilization, identifying the preferred places of birth (governmental hospitals, PHCs, or home) among the target population. Investigate the barriers to utilizing delivery rooms within Primary Health Care (PHC) centers, specifically exploring why women opt for other facilities despite the availability of local delivery services. And identify the facilitators and motivating factors that encourage rural women to utilize delivery rooms within Primary Health Care (PHC) centers.

Materials and Methods

Study Design and Setting

A descriptive, cross-sectional study was conducted across the rural sectors of Basrah Governorate, Southern Iraq. The study was carried out in primary healthcare (PHC) centers designated to provide Basic Emergency Obstetric and Newborn Care (BEmONC) services. The data collection spanned over six major rural healthcare sectors in Basrah, namely: Al-



Hartha, Shatt al-Arab, Al-Zubair, Al-Dair, Al-Medainah, and Abi Al-Khasib. Data collection was conducted over a period of four months, from June 2025 to September 2025.

Study Population and Sample Size

The target population comprised reproductive-aged women residing in the specified rural areas of Basrah who had a history of pregnancy and delivery, utilizing or having access to these rural PHC centers. A convenient sampling method was utilized to recruit a total sample size of 331 women from the participating sectors during the study period.

Eligibility Criteria

To ensure the validity and reliability of the data gathered, specific criteria for participant recruitment were established as follows:

Inclusion Criteria: Women of reproductive age (15–49 years), Women who reside permanently in one of the six designated rural sectors of Basrah (Al-Hartha, Shatt al-Arab, Al-Zubair, Al-Dair, Al-Medainah, and Abi Al-Khasib), Women who have given birth at least once, with particular emphasis on their most recent birth experience, to evaluate their utilization of BEmONC services and Women who voluntarily agreed to participate in the study and provided verbal or written informed consent.

Exclusion Criteria: Women residing outside the designated rural sectors of Basrah, Women who had never been pregnant or had no prior delivery experience, Women who were unable to communicate or complete the interview due to severe cognitive or physical illness and Women who declined to participate in the study.

Data Collection Tool (Study Instrument)

A structured, interviewer-administered questionnaire was developed and utilized as the primary tool for data collection. The questionnaire was designed in clear, accessible language to ensure accurate responses during face-to-face interviews. It is systematically divided into four main sections as follows:

Socio-demographic Characteristics

This section gathers baseline personal and social data of the participants, which includes:

Age: Recorded in years to assess age-related variations in service utilization.

Residential Sector: Identifying the specific rural sector (Al-Hartha, Shatt al-Arab, Al-Zubair, Al-Dair, Al-Medainah, or Abi Al-Khasib).



Educational Level: Classified to evaluate the impact of maternal education on healthcare choices.

Occupational Status: Categorized into housewives (unemployed) and working women.

Family Income: Assessed to understand the economic influences on healthcare-seeking behavior.

Reproductive and Obstetric History

This section focuses on the participants' obstetric background and recent pregnancy experiences, encompassing:

Number of Living Children: To determine parity and its association with delivery preferences.

Current Pregnancy Status: Classified as Yes, No, or Unsure.

Antenatal Care (ANC) Utilization: Investigates whether the participant received ANC during her current pregnancy or her most recent pregnancy, along with the specific place of ANC reception (Primary Healthcare Center (PHC), other governmental facilities, private hospitals, or other sources).

Delivery Utilization and Preferences: This part tracks the actual place of childbirth for the most recent delivery to measure the utilization gap. The options include: Primary Healthcare Center (PHC) delivery rooms, General governmental hospitals, Private hospitals, home deliveries. And Other facilities.

Barriers and Facilitators to PHC Delivery Room Utilization: A comprehensive checklist was embedded to investigate the underlying behavioral and structural factors influencing the women's decisions:

Facilitators (Reasons for utilizing PHC delivery rooms): Includes factors such as low or affordable cost, 24/7 facility availability, presence of healthcare providers, geographical proximity to the home, perceived good quality of service, husband's preference, adequate security, and infant safety.

Barriers (Reasons for not utilizing PHC delivery rooms): Investigates obstacles such as high costs, closed facilities, absence of healthcare providers, long distances, lack of transportation, poor quality of service, presence of high-risk obstetric factors, cultural restrictions, safety concerns, unexpected sudden labor, or a personal dislike/lack of trust in PHC services.



Statistical Analysis

Data were analyzed using IBM SPSS Statistics version 25. Categorical variables were summarized using frequencies and percentages. Descriptive statistics, including frequencies and percentages, were calculated to summarize the socio-demographic variables, delivery preferences, and the reported barriers and facilitators to utilizing BEmONC services. Furthermore, to ensure methodological rigor and clarity in statistical modeling, obstetric metrics and service utilization indicators were strictly treated and categorized as clinical variables rather than sociodemographic factors during the data coding and analysis process in SPSS.

Ethical Considerations

Administrative and Ethical Approvals: Official administrative approval was obtained from the Basrah Health Directorate and the primary healthcare sectors involved before commencing data collection.

Informed Consent: Verbal informed consent was strictly obtained from each participant prior to the interview. The objectives, benefits, and nature of the study were clearly explained to the women in their native language (Arabic). Participants were explicitly informed that their participation was entirely voluntary and that they maintained the right to withdraw from the study at any stage without any negative consequences on the healthcare services they receive.

Confidentiality and Privacy: To ensure confidentiality, all collected data were kept completely anonymous. No personal identifiers, such as names or specific addresses, were recorded on the questionnaires. All information was utilized strictly for scientific and statistical research purposes and stored securely.

Results

The socio-demographic analysis of the 331 participants provides critical context for understanding the maternal healthcare landscape in rural Basrah:

Maternal Age Distribution: The majority of the study population falls within the prime reproductive age, with 45% aged 18–25 years and 35% aged 26–35 years. A smaller percentage (3.3%) consists of adolescent mothers below 18, while 16.6% are over 35 years old.



Educational Attainment: There is a notable prevalence of limited formal education among the participants. A combined 61% of the women are either illiterate (17.2%) or have only completed primary education (43.8%). Only 11.2% have attained higher education. This educational profile often correlates with a reliance on traditional family advice rather than clinical guidelines when choosing delivery sites

Employment and Economic Status: The vast majority of participants (88.8%) are unemployed, indicating high financial dependency on their husbands or families for healthcare costs. Regarding income levels, 51.1% reported a medium income, while 25.7% are categorized as poor. This economic vulnerability makes the cost-free nature of Primary Health Care (PHC) services a potentially significant facilitator, yet it may also limit the ability to afford private transportation to facilities.

Husband's Profile: The education level of husbands largely mirrors that of the participants, with 48.6% having only a primary education. However, the employment rate among husbands is high at 85.5%. Given the social structure in these rural sectors, the husband's educational and employment status plays a decisive role in the family's healthcare-seeking behavior.

Table (1): Socio-demographic profile of the participants (N=331)

Variable	Category	Frequency (No.)	Percentage (%)
Maternal Age	Below 18	11	3.3%
	18 – 25	149	45%
	26 – 35	116	35%
	More than 35	55	16.6%
Education Level	Illiterate	57	17.2%
	Primary	145	43.8%
	Secondary	92	27.8%
	Higher	37	11.2%
Employment	Unemployed	294	88.8%
	Employed	37	11.2%
Husband's Education	Illiterate	22	6.6%
	Primary	161	48.6%
	Secondary	106	32%
	Higher	42	12.8%
Husband's Employment	Unemployed	48	14.5%



	Employed	283	85.5%
Income	Poor	85	25.7%
	Medium	169	51.1%
	Good	77	23.2%

The obstetric profile of the 331 participants provides significant insights into their reproductive patterns and how these might influence their choice of delivery settings:

Pregnancy and Postnatal Status: The majority of the study population (63.4%) were postnatal mothers, providing the study with actual experiential data regarding recent delivery choices. Pregnant women accounted for 26.9%, while 9.7% were primigravida (women pregnant for the first time).

Age at Marriage: A critical finding is that 35.3% of the participants were married before the age of 18, and the largest group (53.2%) married between the ages of 18 and 24. Early marriage often correlates with earlier childbearing and a longer reproductive period, which can increase the cumulative risk of obstetric complications over time.

Parity (Number of Living Children): The study shows a high reproductive rate among the sample; while 47.4% have 0–2 children, a substantial 43.2% have 3–5 children, and 9.4% have 6 or more children. This means more than half of the participants (52.6%) have a high parity of three or more children.

Table (2): Obstetric history and pregnancy status of the participants (N=331)

Variable	Category	Frequency (No.)	Percentage (%)
Pregnancy Status	Primigravida	32	9.7%
	Postnatal	210	63.4%
	Pregnant	89	26.9%
Age at Marriage	Below 18	117	35.3%
	18 – 24	176	53.2%
	25 – 34	34	10.3%
	35 & more	4	1.2%
Number of Living Children	0 - 2 children	157	47.4%
	3 - 5 children	143	43.2%
	6 and more	31	9.4%



The empirical data presented in Table (3) provides a may contribute demographic and behavioral assessment of the study sample across the rural sectors of Basrah, explicitly mapping out the actual utilization patterns and preferences regarding childbirth location:

1. Geographical Distribution of the Sample

The total study sample of 331 women is distributed symmetrically across the designated rural healthcare sectors. An equal proportion of 15.1% (50 participants) was recruited from each of the following six sectors: Shatt al-Arab, Safwan, Khor Al-Zubair, Al-Harthia, Huwayr (Al-Medainah), and Al-Dair. Meanwhile, the Al-Seeba center within the Abi Al-Khasib sector accounted for the remaining 9.4% (31 participants). The lower sample size obtained from Al-Seeba center within the Abi Al-Khasib sector ($n=31$, 9.4%) compared to other balanced sectors ($n=50$ each) is attributed to its distinct geographical remoteness, sparse population distribution, and a consequently lower baseline volume of primary healthcare utilizers during the study period. This broad and balanced geographic representation ensures that the generated findings reflect a comprehensive overview of rural Basrah infrastructure and community trends rather than an isolated local phenomenon.

2. Childbirth Location and the Bypassing Phenomenon: To maintain strict statistical accuracy, the 32 primigravida women (9.7% of the total sample) who had no prior delivery history were excluded from the childbirth location percentage calculations. Consequently, the true denominator for calculating actual healthcare utilization patterns consists of the 299 parous women who reported a definitive delivery history:

The Absolute Dominance of Governmental Hospitals: A striking 73.2% (219 women) of the parous participants bypassed primary care options to deliver their babies in urban governmental hospitals. This overwhelming majority indicates a deeply entrenched systemic reliance on secondary and tertiary referral facilities over local alternatives.

Severe Underutilization of PHC Delivery Rooms: Conversely, only 16.7% (50 women) utilized the Primary Health Care (PHC) delivery rooms for their most recent childbirth. This statistical reality exposes, confirming that the decentralized expansion and physical availability of Basic Emergency Obstetric and Newborn Care (BEmONC) services at the primary level do not automatically result in high community adoption rates.



Home Deliveries and Private Sector Engagement: Home births still persist at a rate of 6.4% (19 women), which poses a continuous risk to maternal and neonatal survival due to the absence of institutional skilled birth attendance. The private hospital sector recorded the lowest engagement at 3.7% (11 women). This low utilization rate is highly consistent with the socio-demographic realities of the cohort, where 88.8% of the women are unemployed and 25.7% live in poverty, making costly private healthcare options largely inaccessible.

Table (3): Distribution of participants by PHC and preferred place of birth

Category	Item	NO.	%
PHC Sectors	PHC centers		
Shatt al-Arab	Shatt al-Arab	50	15.1%
Al-Zubair	Safwan	50	15.1%
Al-Zubair	Khor Al-Zubair	50	15.1%
AL-Hartha	AL-Hartha	50	15.1%
Al-Medainah	Al-Huwayr	50	15.1%
Al-Dair	Al-Dair	50	15.1%
Abi Al-Khasib Sector	AL-Seeba	31	9.4%
Place of Birth	Governmental Hospital	219	73.2%
	PHC Delivery Room	50	16.7%
	Home	19	6.4%
	Private Hospital	11	3.7%
	Subtotal (Women with Delivery History)	299	100%
Eligibility Exclusion	Primigravida (No prior delivery)	32	9.7%
	Total Sample	331	100%

The empirical data presented in Figure (1) explores the motivating facilitators that encouraged a minority sub-cohort of parous participants (16.7%) to utilize Primary Health Care (PHC) delivery rooms for childbirth. Geographical accessibility emerged as the primary driving facilitator, with 25 participants explicitly stating that the primary care facility was not far from their residence, suggesting that physical proximity can heavily mitigate structural bypassing behaviors for certain rural families. Service readiness and perceived clinical quality also functioned as strong determinants; the availability of healthcare providers at the center was the second most cited reason (19 cases), followed



closely by an institutional perception of good service quality (18 cases). These findings collectively highlight that when localized clinical trust is established, it serves as a powerful anchor for community-level utilization.

Financial attributes further supported this localized utilization pattern, where the low cost or affordable nature of PHC services was cited as a significant motivator by 15 participants, highly aligning with the documented socio-demographic baseline where 25.7% of the total cohort lives in poverty. Operational reliability and safety concerns were also evident, with women prioritizing options where the facility was perceived to be always open (10 cases) and where specific concerns regarding infant/baby safety (9 cases) were met. Lastly, social support and logistical infrastructure played smaller yet essential roles in maternal decision-making, including the husband's explicit wish (6 cases), the presence of adequate physical security at the center (6 cases), and a total absence of alternative accessible healthcare options (no other facility) reported by 2 participants.

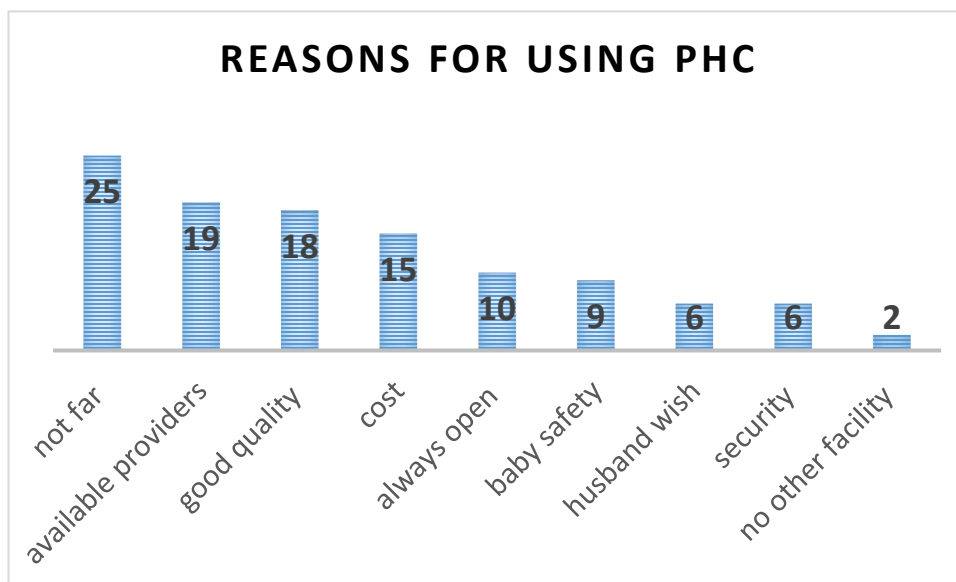


Figure (1): Reported facilitators for utilizing PHC delivery rooms among rural women (multiple responses allowed).

The empirical data presented in Figure (2) illustrates the primary deterrents preventing women in rural Basrah from utilizing Primary Health Care (PHC) delivery rooms. The most prominent barrier identified was the perception of clinical risk due to the presence of



complications cited by 93 participants, which underscores a significant trust gap regarding emergency obstetric capacity. Social and family influences also heavily dictated decision-making, with personal choice (42 cases), family refusal (25 cases), and husband's refusal (23 cases) collectively acting as a barrier for 90 women. Furthermore, quality and structural barriers were notable, including poor quality service (15 cases), a lack of security at the center (13 cases), preferring traditional birth attendants (TBA) (12 cases), and the absence of a healthcare provider at the time of labor (10 cases). Logistical and emergency obstacles further hindered access, such as sudden onset of labor (10 cases), the facility being general dislike or lack of trust (6 cases), the center being too far (5 cases), facility not being open 24/7 (5 cases), lack of transportation (3 cases), and no PHC facility available in the sector (3 cases). Finally, cultural restrictions or traditional beliefs represented the lowest barrier, reported by only 2 participants, while 14 cases were formally referred out to secondary hospitals, reinforcing the institutional preference for tertiary facilities.

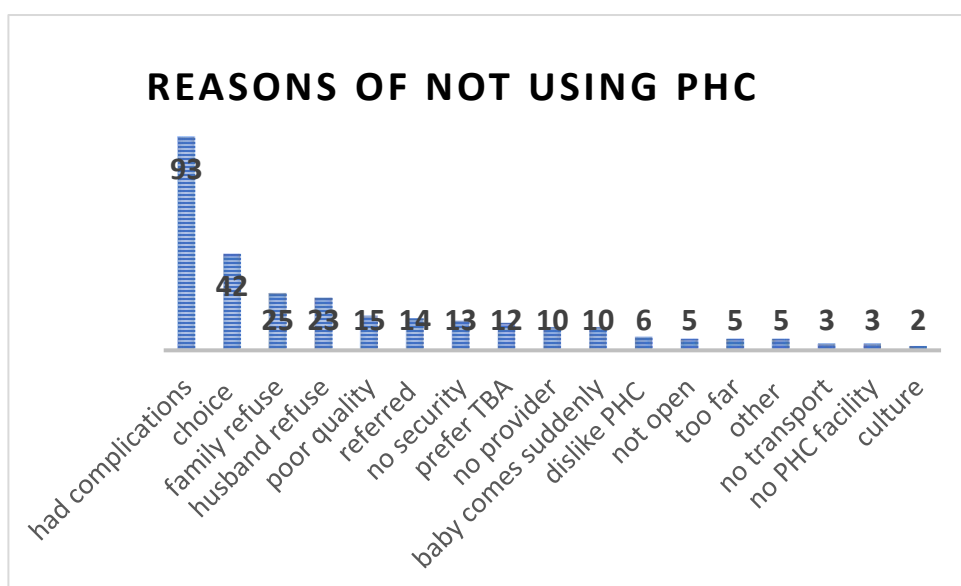


Figure (2) Distribution of participants according to reasons for not utilizing Primary Health Care (PHC) centers for delivery. (Multiple responses allowed)



Data sourced from Ministry of Health Iraq. Annual Statistical Report 2024. Baghdad: Ministry of Health; 2024. The updated correlation analysis in Table (4) establishes a profound epidemiological bridge between the official registered maternal mortality causes ($n=63$) and the subjective utilization barriers reported by the 331 participants in rural Basrah:

Validation of the Trust Gap: Postpartum hemorrhage (28.2%) and gestational hypertension (26.4%) represent the leading direct causes of maternal mortality in the region. This critical statistical reality heavily justifies why the perception of clinical risk was the most prominent barrier in the field study, where 93 women bypassed local PHCs out of fear that these primary centers could not handle severe obstetric complications.

Staffing and Infrastructure Deficiencies: The occurrence of fatal anesthesia complications (5.7%) and ruptured uteri (2.3%) directly correlate with institutional bottlenecks identified in the field. These figures validate the community's hesitation to utilize local primary care delivery rooms due to documented shortages in 24/7 specialized staffing and emergency logistical readiness, driving a substantial 73.2% of parous women to depend entirely on overcrowded governmental hospitals.

Table (4): Correlation Between Statistical Mortality Causes and Utilization Barriers ⁽²⁾

Causes of Maternal Mortality	Official Ratio (%)	Impact on Utilization (Field Study Findings)
Postpartum Hemorrhage	28.2%	Strongly validates the primary Trust Gap; 93 women directly refused PHCs fearing centers cannot manage emergency bleeding.
Gestational Hypertension	26.4%	Increases community reliance on urban hospitals for continuous obstetric monitoring and advanced intensive care.
Pulmonary Embolism	13.8%	Reinforces the perception of local PHCs as ill-equipped facilities, driving women to bypass primary centers entirely.
Antepartum Hemorrhage	5.7%	Compels high-risk pregnant women to prioritize rapid hospital admission over clinical visits at the primary care level.



Complications of Anesthesia	5.7%	Directly supports the identified barrier regarding the total lack of 24/7 specialized staffing (anesthesiologists) at PHCs.
Amniotic Fluid Embolism	4.0%	Justifies why multiparous women fear acute, unpredictable complications that require immediate, tertiary-level interventions.
Abortion Complication	4.0%	Highlights the need for advanced clinical management which rural women perceive as unavailable in primary delivery rooms.
Obstetric Thromboembolism	2.3%	Contributes to the institutional preference for hospitals capable of emergency anti-coagulant therapies.
Ruptured Uterus	2.3%	Critically underscores the dangers of sudden labor; a major barrier cited by women with grand multiparity (52.6% of the sample).
Sepsis	1.7%	Reflects community concerns regarding clean, sterilized delivery settings, which influences choice in favor of tertiary hospitals.
Other / Unspecified Causes	5.9%	Remaining direct obstetric complications recorded in the official reporting period to round out the data distribution.
Total	100%	Percentages and cases are harmonized to represent the full maternal mortality burden (N=63) from the official statistical report.

To improve maternal health outcomes and alleviate the burden on overcrowded hospitals, it is imperative to transition from mere service availability to service excellence. This requires upgrading PHC infrastructure, ensuring the continuous presence of qualified medical teams, and implementing targeted community awareness programs. Ultimately, bridging the gap between PHC availability and actual usage is essential for achieving a balanced, efficient, and safe maternal healthcare system in the region. To synthesize the key findings and translate them into actionable strategies, the following table summarizes the observed problems alongside their statistical evidence and proposed solutions:



Table (5): Summary of Challenges and Proposed Interventions:

The Observed Problem	Statistical Evidence	Proposed Solution
High Dependency on Hospitals	73.2% of births occur in governmental hospitals.	Decentralize delivery services by upgrading PHC facilities to shift the load from hospitals to local sectors.
Underutilization of PHCs	Only 16.7% of women used PHC delivery rooms despite availability.	Launch awareness campaigns targeting the 45% of women in the prime reproductive age (18-25).
Low Socio-economic/Educational Barrier	61% of the participants have only primary education or are illiterate.	Use simplified, visual health education materials and community midwives to explain the safety of PHC deliveries.
Infrastructure & Trust Gaps	Discrepancy between PHC availability and actual usage (e.g., 15.1% of sample in Shatt al-Arab but low birth rates there).	Strengthening the perceived quality of care by ensuring 24/7 staffing and making essential medical supplies visible to the public to bridge the trust gap
Large Family Sizes & Risk	More than half of the sample (52.6%) are multiparous with 3 or more living children	Focus on providing high-quality Normal Vaginal Delivery (NVD) services at PHCs for multiparous women with no current complications
Financial Constraints	25.7% of the samples are categorized as poor.	Ensure all delivery services and postnatal medications at PHCs remain free of charge and more accessible than hospital travel.

Discussion

The findings of this study highlight a significant utilization gap in rural Basrah, where only 16.7% of women utilized Primary Health Care (PHC) delivery rooms despite their local availability. This underutilization is primarily driven by a trust gap rather than a lack of physical access, as evidenced by 73.2% of participants who preferred governmental hospitals for childbirth.

The reliance on hospital care can be interpreted through the socio-demographic profile of the participants. With 61% of the women having limited education (illiterate or primary



level) and 88.8% being unemployed, healthcare decisions are likely shared family choices influenced by traditional views rather than clinical awareness. This mirrors findings in Jordan [21] and Egypt [22], where maternal education and household income were found to be decisive factors in bypassing local primary centers in favor of urban hospitals. Interestingly, while 25.7% of the sample live in poverty, the low cost of PHC services was a facilitator for only a small group (15 participants). This suggests that even for the poor, the perceived safety of a hospital outweighs the economic advantage of free local care. The fieldwork clearly reflected geographical challenges, particularly in the Al-Seeba center, where the smaller sample size and lower patient flow directly underscore how physical remoteness and transportation barriers inherently suppress the baseline utilization of rural primary facilities, compounding the structural underutilization of BEmONC services.

The trust gap is further reinforced by the participants' obstetric history. Since 52.6% of the women are multiparous (having 3 or more children) and 35.3% married before the age of 18, there is a high cumulative awareness of potential birth complications. This experience directly correlates with the primary barrier identified in Figure (2), where 93 participants cited having complications as the main reason for not using PHCs. Unlike findings in Nepal [19], where trained midwives were a primary driver for institutional delivery, women in Basrah perceive PHCs as transit points rather than final destinations for delivery, as evidenced by the 14 cases that were referred out to hospitals.

While geographical proximity was the leading facilitator for those who used PHCs (25 participants), it was often overshadowed by structural barriers. Challenges such as sudden labor and transportation issues, which affected the 6.4% who delivered at home, mirror obstacles seen in Nigeria [17]. However, the most critical deterrent remains the lack of 24/7 clinical readiness. The absence of a provider at the time of labor (10 cases) and poor quality of service (15 cases) align with regional evidence from Saudi Arabia [20], where dissatisfaction with past clinical encounters significantly drives women toward secondary and tertiary care.

Ultimately, increasing the utilization of BEmONC services in Basrah requires more than physical presence; it necessitates a multi-faceted approach that addresses the public's confidence in the 24/7 clinical readiness of facilities. These findings underscore that until the trust gap regarding emergency management is bridged, the burden on overcrowded



governmental hospitals will continue to grow, regardless of the geographical availability of primary care services.

In addition, tackling decision-making hierarchies rooted in gender and cultural beliefs about the need for clinical delivery is also vital to reducing normative pressures that influence service uptake [23,24]. Improving the integration of primary care facilities and referral hospitals with timely emergency care is also crucial as systemic disparities between rural areas often result in higher rates of obstetric complications [25]. The need for equitable distribution of healthcare resources should be accompanied by higher family involvement — specifically by husbands and partners to better normalize facility-based care within rural socio-cultural contexts [26]. These types of initiatives that take into account community involvement are crucial for addressing the structural and economic barriers which have, in most countries global south faith based to remain in non-formal settings for delivery [27].

Future interventions should emphasize training local health advocates to address the gap in communication between rural families and formal health care providers [28]. Systematic assessments of facility preparedness using standardized quality assurance protocols are also needed to determine whether these reference centres have the human resources and infrastructure stability to provide timely emergency obstetric care [29,30]. Training of frontline providers in respectful maternity care is also one of the common strategies to improve patient-provider interactions and regain community confidence in these clinical settings [31,32]. Additionally, engaging with the widespread and entrenched distrust in the formal health system often worsened by non-respectful care during labor [33], is key for lasting engagement with primary healthcare services. For this purpose, health authorities should organize community-based education interventions that will include husbands and all family member to increase the support of facility deliveries. Simultaneously, policy interventions should include economic or in-kind supports, including investments to develop transport infrastructure to reduce the distance rural households must travel for life saving Basic Emergency Obstetric and Newborn Care services [34],[46]. with these policies being valuable in limiting the utilization of distal



tertiary centers for monitored obstetric requirements [36]. As high-risk pregnancies present a geographical gap between the care needed and the centre, maternal waiting homes closer to these centres could decrease this gap and help further improve accessing care especially for women that need to be referred residing in remote areas [37].

Study Limitations

1. **Cross-Sectional Design:** The study employed a cross-sectional design, which captures data at a single point in time. Consequently, this design limits the ability to establish definitive causal relationships between the identified socio-demographic factors and the utilization of BEmONC services.
2. **Recall Bias:** Since the questionnaire required women to report on their past obstetric history and their most recent delivery experience, the data might be subject to recall bias, as some participants may not accurately remember specific details or difficulties faced during their previous childbirths.
3. **Sampling Method and Generalizability:** The study utilized a convenience sampling method to recruit 331 women from specific rural sectors in Basrah. While this sample provides valuable insights into rural health dynamics, it may not fully represent all reproductive-aged women across the entire governorate or other urban areas in Iraq, thereby limiting the generalizability of the findings.
4. **Self-Reported Data:** The reliance on self-reported questionnaires regarding barriers (such as the perceived quality of service or the trust gap with healthcare providers) could introduce subjectivity based on personal expectations or cultural sensitivities.

Conclusion

This study concludes that despite the strategic decentralization of Basic Emergency Obstetric and Newborn Care (BEmONC) services across rural Basrah, a significant utilization gap persists. Statistical evidence reveals that only 16.7% of women utilized Primary Health Care (PHC) delivery rooms, while the vast majority (73.2%) sought services at governmental hospitals. This disparity confirms that geographical proximity alone is insufficient to shift maternal healthcare patterns. The findings suggest that the



preference for hospital-based delivery is primarily driven by a deep-seated trust gap regarding clinical readiness and 24/7 specialized staffing at the primary care level. Although the majority of participants were within the ideal reproductive age (18–25 years) and resided within accessible sectors, their decisions were heavily influenced by perceived risks and socio-economic constraints.

Recommendations

Establish a Robust Referral System: Implement a dedicated emergency transportation network for each rural sector to address sudden labor concerns.

Enhance Clinical Trust: Ensure the 24/7 presence of qualified midwives and obstetricians to meet the safety expectations of pregnant women.

Targeted Awareness: Launch educational campaigns specifically for primigravida and younger women (18–25 years) to highlight the advantages of local delivery rooms.

Community Engagement: Utilize community midwives to provide personalized counseling, addressing the trust gap at the household level.

Training and Support: Provide continuous training for PHC staff on the latest obstetric protocols to ensure a high quality of care that encourages word-of-mouth recommendations among the community.

Institutional Readiness Assessment: Establish a system for conducting continuous, periodic evaluations of rural primary healthcare centers using standardized World Health Organization (WHO) operational frameworks. This mechanism should systematically audit structural readiness, essential drug supply lines, and clinical performance, ensuring a strategic transition from mere physical service availability to continuous operational and clinical excellence.

Appendix 1: Study Questionnaire

Section I: Personal Characteristics

1. Age (in years): _____
2. Level of Education: No education (Illiterate), Primary, Secondary and Higher education
3. Employment Status: Unemployed (Housewife), Employed
4. Age at Marriage: _____

Section II: Partner & Family Characteristics

1. Husband's Age (in years): _____



2. Husband's Level of Education: No education (Illiterate), Primary, Secondary and Higher education

3. Spousal Educational Differences: Both have no formal education, Husband has higher education level than wife, Wife has higher education level than husband and Same education level (excluding "no education")

4. Husband's Employment Status: Unemployed and Employed

5. Monthly Family Income: Poor, Medium and Good

Section III: Reproductive & Obstetric Characteristics

1. Number of Living Children: _____

2. Current Pregnancy Status: Yes, No or Unsure

A. For the Current Pregnancy (if applicable):

Did you receive Antenatal Care (ANC)? Yes or No

Place of Antenatal Care (ANC) Reception: Primary Healthcare Center (PHC), Other governmental facility / Hospital, Private hospital / Clinic and Other sources

B. For the Most Recent Birth / Delivery Experience:

Did you receive Antenatal Care (ANC) during that pregnancy? Yes or No

Place of Antenatal Care (ANC) Reception: Primary Healthcare Center (PHC), Other governmental facility / Hospital, Private hospital / Clinic and Other sources

Place of Delivery: Primary Healthcare Center (PHC) delivery room, General governmental hospital, Private hospital, At home and other facilities

Utilization Motives & Deterrents

1. Reasons for UTILIZING a PHC Facility for Delivery: It is affordable / low cost, The facility is always open (24/7 availability), Healthcare providers are available, the facility is close to my residence, perceived good quality of service, Husband's preference, Adequate security at the center, perceived infant health and safety, no other alternative facility is accessible and other reasons

2. Reasons for NOT UTILIZING a PHC Facility for Delivery: High financial cost, The facility was closed / not operating 24/7, Absence of healthcare providers at the time of labor, The facility is located too far away, Lack of available transportation, Perceived poor quality of clinical service, Husband did not allow it, Family members did not allow it, Sudden onset of labor / no time to travel, Cultural restrictions or traditional beliefs, Lack



of personal security at the center ,No local primary healthcare center is available in the sector ,Personal preference for home delivery or Traditional Birth Attendant (TBA) ,Personal choice / autonomy ,Presence of high-risk obstetric factors or complications ,General dislike or lack of trust in PHC services , Formally referred out to a secondary hospital and Other reasons

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