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**| RESEARCH ARTICLE****Prevalence and Determinants of Unmet Need for Modern Contraception and Family Planning Counseling Among Postpartum Women****Ameera Alshahrani<sup>1</sup>✉, Hoda Jradi <sup>2</sup>, and Ameen Bawazir<sup>3</sup>**<sup>1</sup>Prince Sultan Military Medical City<sup>23</sup>King Saud Bin Abdulaziz University for Health Sciences – Public Health College**Corresponding Author:** Ameera Alshahrani, **E-mail:** [ameerashaheani@gmail.com](mailto:ameerashaheani@gmail.com)

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**| ABSTRACT**

Unmet need for modern contraception among postpartum women remains a significant public health challenge despite increased access to services. In Saudi Arabia, limited research has specifically addressed this issue. This study aimed to assess the prevalence and correlates of unmet need for modern contraception and family planning counseling among postpartum women in Riyadh. A cross-sectional descriptive study was conducted at Prince Sultan Military Medical City in Riyadh. A total of 357 postpartum Saudi women aged 15–49 were recruited using a convenience sampling method. Data were collected through a validated, Arabic-translated questionnaire. Statistical analysis included descriptive statistics, Chi-square tests, and logistic regression to identify factors significantly associated with unmet contraceptive need. The prevalence of unmet need for modern contraception among postpartum women was 63%. Significant associations were found with the number of children and the intention to delay pregnancy. Despite moderate awareness, only 29.5% were currently using contraception. Fear of side effects, lack of counseling, and reliance on lactational amenorrhea were common reasons for non-use. High levels of unmet need highlight the urgency for improved postpartum family planning counseling in Saudi Arabia. Targeted educational interventions and inclusion of partners in counseling may enhance contraceptive uptake. Structured programs should address cultural, informational, and access-related barriers to reduce unintended pregnancies.

**| KEYWORDS**

Postpartum contraception, Unmet need, Saudi Arabia

**| ARTICLE INFORMATION****ACCEPTED:** 01 June 2025**PUBLISHED:** 14 July 2025**DOI:** 10.32996/bjns.2025.5.2.2

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**1. Introduction**

Modern contraceptive methods—such as oral pills, implants, injectables, intrauterine devices (IUDs), and vaginal rings—are designed to prevent unintended pregnancies through biological and clinical mechanisms that have been validated by research and standardized protocols for correct use (1,2). The global focus on promoting modern family planning (FP) has stemmed from their superior efficacy and potential for empowering women in reproductive decision-making (3,4). A modern method, as defined by the World Health Organization (WHO), is one that has a biological basis, a clearly defined protocol, and has undergone rigorous testing to evaluate its effectiveness across diverse conditions (4).

Despite the global efforts to increase contraceptive coverage, millions of women worldwide continue to experience unmet needs for modern contraception. The concept of unmet need refers to sexually active, reproductive-aged women who are not using any contraceptive method despite the desire to postpone or avoid future pregnancies for at least two years (5,6). This measure is critical not only as a marker for tracking reproductive health service coverage but also for identifying populations at risk of unintended pregnancies (7). Addressing unmet needs remains central to achieving the Sustainable Development Goal 3.7, which aims for universal access to sexual and reproductive healthcare services by 2030 (4,8).

Globally, over 218 million women in low- and middle-income countries desire to avoid pregnancy but lack access to modern contraception, leading to 77% of unintended pregnancies (8). In 2015, 64% of married or in-union women worldwide used contraception; however, in the least developed countries, usage dropped to 40%, with Africa recording only 33% (9). Notably, the unmet need for family planning in sub-Saharan Africa reached 24%, which is double the global average (9). In the Eastern Mediterranean Region (EMR), countries like Jordan have observed a decline in family planning utilization despite reduced fertility rates, highlighting the need for further investigation (10,11). In Egypt, unmet need remains a public health issue, with 12.6% of married women lacking access to contraception, despite government-led programs that raised contraceptive prevalence from 48% in 1991 to 59% in 2014 (12,13). Similarly, studies in Saudi Arabia have indicated significant regional variations in contraceptive use and unmet needs, with rates reaching 32.6% in certain populations (15). However, no study has specifically targeted postpartum women, a group at elevated risk of unintended pregnancies due to biological and social vulnerability. To fill this gap, the present study examines the prevalence and correlates of unmet needs for modern contraception among postpartum women. The findings will provide essential baseline data to inform targeted counseling interventions and guide health policy toward improving reproductive health outcomes.

## 2. Methods

A cross-sectional descriptive design was employed. The target population included Saudi postpartum women aged 15 to 49 years who had delivered a child within the 12 months preceding the study and were attending PSMMC or affiliated Ministry of Defense primary care clinics during the study period. Exclusion criteria included non-Saudi postpartum women, women outside the 15–49 age range, and Saudi women who had not delivered within the previous 12 months or who were not receiving care at PSMMC or Ministry of Defense clinics. This study was conducted in Saudi Arabia. The study was specifically carried out in the well-women and well-baby clinics, both of which provide postpartum follow-up services for mothers and their infants.

The sample size was calculated based on the average number of deliveries at PSMMC over three months in 2021, totaling 2,088 births. Using the Raosoft sample size calculator with a 5% margin of error and a 95% confidence level (16), the required minimum sample size was 325. To account for potential non-response and missing data, 10% was added, resulting in a final sample size of 357 participants. A consecutive convenient sampling technique was used to recruit eligible women from the clinics.

Data were collected using a structured, pre-tested questionnaire adapted from previous validated studies (17) and the Demographic and Health Survey (DHS) tools (18,19). The questionnaire was translated into Arabic by two independent translators and reconciled to resolve discrepancies. The final version underwent content validation by a panel of eight experts in family medicine, public health, and reproductive health. Content Validity Index (CVI) exceeded 0.8 for all items, and face validity was also confirmed. A pilot study with 21 postpartum women confirmed the internal consistency (Cronbach's  $\alpha = 0.78$ ). The final instrument included six sections: (1) Socio-demographic data, (2) Contraception knowledge and use, (3) Reproductive history and unmet needs, (4) Familiarity with contraceptive methods, (5) Fertility preferences, and (6) Reasons for non-use of contraception. Data were entered in Microsoft Excel and analyzed using STATA version 15 (19). Descriptive statistics such as frequencies and percentages were computed for all variables. A composite variable for "unmet need" was generated based on responses indicating unwanted or mistimed pregnancies. Associations between unmet need and sociodemographic variables were assessed using Chi-squared tests. Variables with a  $p$ -value  $< 0.05$  were further analyzed using logistic regression to identify predictors of unmet need, and odds ratios (OR) with 95% confidence intervals (CI) were reported.

## 3. Results

A total of 357 postpartum Saudi women participated in the study. The mean age was 31.1 years (SD  $\pm 6.0$ ). Most participants (54.6%) were aged 26–35 years, and the vast majority (92.4%) resided in the Riyadh region. Nearly all women were married (98.6%), and the majority (67.4%) had 1–3 children. Most deliveries (85.2%) occurred within the two days preceding the survey. Regarding employment, 73.4% were housewives, and 51.8% held a university degree. Approximately 47.0% of participants had a monthly household income between 5,001 and 9,999 SAR. While 81.2% intended to use contraceptives to avoid pregnancy, 63.0% reported having an unmet need for contraception.

**Table 1. Demographic, socioeconomic, and family planning characteristics (N = 357)**

<b>Variable</b>	<b>n</b>	<b>%</b>
<b>Age group (years)</b>		
15–25	71	19.9
26–35	195	54.6
36–45	90	25.2
> 45	1	0.3
<b>Number of children (including last)</b>		
1–3	241	67.4
4–6	106	29.7
>7	10	2.8
<b>Employment status</b>		
Housewife	262	73.4
Employed	95	26.6
<b>Education level</b>		
Secondary or less	29	8.1
Diploma	143	40.1
University and higher	185	51.8
<b>Monthly income (SAR)</b>		
≤ 5000	34	9.6
5001–9999	167	47.0
10000–14999	108	30.4
15000–19999	36	10.1
> 20000	10	2.8
<b>Intention to use contraceptives</b>		
Yes	290	81.2
No	67	18.8
<b>Unmet need for contraception</b>		
Yes	225	63.0
No	132	37.0

Awareness and practices related to contraception showed that 73.9% had heard of family planning, but only 35.0% were informed about it by a healthcare provider. While 68.6% had previously used a method, only 29.5% were currently using one. The majority (73.7%) preferred the medical team as a source of family planning information.

**Table 2. Contraception awareness and practices (N = 357)**

<b>Variable</b>	<b>n</b>	<b>%</b>
Ever heard of family planning	264	73.9
Never heard of family planning	93	26.1
Informed by healthcare provider	125	35.0
Not informed by healthcare provider	232	65.0
Ever used any family planning method	245	68.6

Never used any method	112	31.4
Currently using method	105	29.5
Not currently using method	251	70.5
Preferred source: Medical team	263	73.7
Preferred source: Media	56	15.7
Preferred source: Relatives/Friends	30	8.4
Preferred source: Other	8	2.2

Regarding reproductive history, 41.7% of participants reported a past pregnancy when they were not ready. Most women (65.4%) would have preferred to delay their last pregnancy by more than two years. The majority (81.5%) considered their last pregnancy unwanted. While 77.3% had previously used some method to avoid pregnancy, only 29.5% were currently doing so.

**Table 3. Reproductive history and unmet need indicators (N = 357)**

Variable	n	%
Pregnant when not ready	149	41.7
Last pregnancy wanted >2 years later	231	65.4
Last pregnancy unwanted	290	81.5
Tried to avoid pregnancy in past	276	77.3
Currently using contraception	105	29.5
Husband aware of contraceptive use	296	87.6
Contraceptive decision made jointly	313	92.1
Pregnant when not ready	149	41.7
Last pregnancy wanted >2 years later	231	65.4
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Logistic regression analysis revealed that women with 1–3 children were three times more likely to experience unmet needs compared to those with more than three children (OR = 3.23, 95% CI: 1.88–5.55,  $p < 0.001$ ). Additionally, women intending to delay their next pregnancy by two or more years were nearly four times more likely to have unmet needs (OR = 3.49, 95% CI: 2.00–6.25,  $p < 0.001$ ).

**Table 4. Significant predictors of unmet need (Logistic regression, N = 357)**

Predictor	Reference Group	OR	95% CI	P-value
Number of children (1–3)	> 3	3.23	1.88–5.55	<0.001
Intention to delay next pregnancy $\geq 2$ years	No intention	3.49	2.00–6.25	<0.001

#### 4. Discussion

Unmet need for contraception refers to women of reproductive age who are not using any form of contraception despite a desire to delay or avoid pregnancy, including those whose current or recent pregnancies were unintended (20). This study is the first in Saudi Arabia to specifically assess unmet need for modern contraceptives and the role of family planning counseling among postpartum women. It provides vital baseline data on awareness, practices, and influencing factors within this population, offering insights that previous local studies have not addressed (15,21). Our findings revealed that 63% of postpartum women

had an unmet need for contraception—higher than the most recent national and regional estimates reported in Demographic and Health Surveys (DHS) and United Nations databases (22,23). This rate also exceeds estimates from several Arab countries, including Egypt (23,24), and studies from other regions of Saudi Arabia, where lower rates were reported but without focus on postpartum women (15,25). The higher prevalence observed here may be attributed to a lack of structured postpartum family planning counseling and differences in target populations.

Two significant predictors of unmet need identified in this study were the number of children and the intention to delay childbirth by two or more years. Women with 1–3 children were more likely to have unmet needs than those with more children, supporting findings from studies in Uganda and other national-level surveys (26,28). This suggests a shift in women's fertility preferences toward smaller family sizes, possibly influenced by rising education levels and economic participation. Interestingly, women with diploma-level education showed higher unmet need than those with secondary or university education. This contrasts with findings from Ethiopia, where unmet need was highest among uneducated women (29). It also differs from local findings in Abha, Saudi Arabia, where lower education levels were linked with higher unmet need (14). This indicates that unmet need is not solely dependent on education level, but also on the quality of information and accessibility to services. Awareness of family planning was moderate, but healthcare providers were not the primary source of information. Media and social networks played a larger role, which may contribute to misinformation or fear of side effects—reported as key reasons for non-use, consistent with other local studies (25,29,30). Additionally, joint decision-making between women and husbands highlights the need to involve men in counseling and outreach strategies (18,29,29).

#### **4. Conclusion**

This study revealed a high prevalence of unmet need for modern contraceptive methods among postpartum women in Riyadh, Saudi Arabia, despite general awareness and availability of services. The findings highlight critical gaps in family planning counseling, especially in the postpartum period. Women with more education, more children, or greater contraceptive knowledge paradoxically had higher unmet needs, suggesting that knowledge alone is insufficient without proper guidance. Key barriers included fear of side effects, health concerns, reliance on lactational amenorrhea, and husbands' absence. These results underscore the importance of strengthening postpartum counseling and involving both partners in reproductive health discussions to reduce unmet needs effectively.

#### **5. Implications for Future Research**

Future research should explore the underlying psychosocial and cultural factors contributing to the high unmet need for modern contraception among postpartum women in Saudi Arabia. Qualitative studies involving women, husbands, and healthcare providers are essential to understand personal beliefs, societal pressures, and communication barriers affecting contraceptive decision-making. Additionally, longitudinal studies can help assess changes in contraceptive use and unmet need over time during the postpartum period. Further research should also evaluate the effectiveness of structured postpartum counseling interventions and male-inclusive family planning programs. Expanding research to include rural regions and different healthcare settings will ensure more generalizable and inclusive findings for national reproductive health planning.

**Funding:** This research received no external funding.

**Conflicts of Interest:** The authors declare no conflict of interest.

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