

DETERMINANTS OF FAMILY PLANNING PRACTICES DURING LACTATION
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Article Received: 05 October 2025

Article Revised: 25 October 2025

Article Published: 01 November 2025

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DOI: <https://doi.org/10.5281/zenodo.17542149>**How to cite this Article:** *1Dr. Raghad A. Ibrahim, 2Dr. Amina Mohammed Hazim, 3Dr. Marwa M. Al-Hamdani, (2025). Determinants Of Family Planning Practices During Lactation Among Mothers In Mosul City. Journal of Advance Healthcare Research, 9(11), 155–159.

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ABSTRACT

Unrestrained population growth remains a large problem in developing countries, including Iraq, that burden social and health networks. In Mosul, recent population changes resulting from decades of war have highlighted the importance of family planning as a means of improving maternal and child health. Family planning allows couples to control the number of their children and also their timing, and during lactation it plays a significant role due to the natural postpartum amenorrhea associated with breast feeding. However, still common among Iraqi women are misconceptions about the reliability of the lactational amenorrhea method (LAM) and inadequate knowledge of modern contraceptives. This cross-sectional survey was conducted from September 2024 to May 2025 in six family medicine model centers in Mosul (three on both sides of the city). 400 married lactating women were directly interviewed using a structured Google Form questionnaire. The study assessed socio-demographic variables, breastfeeding status, contraceptive use, and reasons for not using or stoppage. Data analysis was performed using a one-sample proportion Z-test with a $p < 0.05$ significance level. Results revealed that most of the participants were in the age group 20–29 years and had a bachelor's degree or diploma. About 52.5% of the women were currently using contraceptive methods, which were dominated by intrauterine device (IUD), oral pills, and injections. Among the non-users (47.5%), husband's disapproval or preference (52.6%) and fear of adverse effects on breast milk or lactation (26.3%) were key obstacles. Fear of side effects, expense, or cultural beliefs played lesser roles. The study attributes family planning behavior to social and cultural determinants, particularly male decision-making, rather than medical or economic factors. Improving community awareness, involving men in reproductive health education, and dissolving myths regarding the safety of contraceptives during breastfeeding are essential steps required to promote the use of contraceptives and prevent unwanted pregnancies among Mosul mothers.

KEYWORDS: Socio-demographic determinants, maternal and child health, lactational amenorrhea method (LAM), husband's role, lactation, family planning, contraceptive methods, Mosul.**INTRODUCTION**

Uncontrolled population growth continues to place pressure on economic, social, and health systems in many developing nations, and Iraq is no exception. In Mosul, one of the country's most populous and historically significant cities, demographic shifts have been particularly notable in the aftermath of years of conflict and displacement. Within this setting, family planning has become a vital strategy to improve quality of life, alleviate poverty, and safeguard the health of both

mothers and children. Although many pregnancies are celebrated as positive life events, a significant proportion are unintended, creating risks of maternal complications, educational disruption, and reduced opportunities for women in the labor force. Preventing these unplanned pregnancies could substantially decrease maternal and child deaths, making family planning a highly effective public health and development intervention.^[1]

Beyond its clinical role, family planning represents an essential human right. On an individual level family planning helps husband and wife get the intended number of children and determine the inter-pregnancy intervals. On a national level, one of the important strategies for lowering maternal and infant morbidity and mortality, is the decrease in number of unplanned pregnancies by adapting an effective family planning program and the use of a suitable contraceptive method.^[2,3]

Access to modern contraceptive options supports the right to health, education, and social participation. Postpartum and breastfeeding women form a particularly important group to study, as lactation itself affects fertility patterns and contraceptive preferences. While the lactational amenorrhea method (LAM) is recognized as a natural way to delay pregnancy, misconceptions regarding its requirements and reliability remain widespread.^[1]

In Mosul, women's contraceptive behaviors are shaped by multiple influences, including socio-demographic factors such as age, parity, and education, as well as breastfeeding status, actual contraceptive use, and reasons for discontinuation or non-use. Knowledge of LAM (Lactational Amenorrhea Method), exposure to counseling services, and the balance of decision-making power within households whether by the woman, her husband, or extended family are also decisive.

Aim & Specific objects of this study

This study, therefore, aims to investigate family planning practices among lactating mothers in Mosul, focusing on these interrelated determinants. The findings will help highlight existing gaps and provide recommendations to strengthen maternal and child health services in the city.

METHODOLOGY

Study setting

Cross section study design was adopted.

Study Sampling

Random sample of 400 Married women participated. During a period from September 2024 to May 2025 in six family medicine model centers in Mosul, three in left side of the city (AL-Quds PHC, ALzuhoor PMC, and Western PHC), and three in right side of the city (Bab AL-baydth, mosul aljadedda and Al-yarmouk).

Tool of the study (questionnaire)

Google forms was used to create the questionnaire and contains 7 questions.

Data collection

men were informed about the research and its aim; those who agreed to share in the study were included after a signing written consent was obtained; a direct interview was done with them to collect data on contraception use using a special questionnaire form.

Statistical Analysis

To assess whether specific reasons for non-use of contraceptives were more frequently reported than would be expected by chance, a one-sample proportion test (Z-test for one proportion) was applied. The expected proportion under the null hypothesis was set at 14.3%, corresponding to an equal distribution across seven main reasons. Statistical significance was set at $p < 0.05$.

Ethical Consideration

This study was approved by local Ethical Committee. All participants were informed of the purpose, general contents, and data use.

Strengths and limitations

This study provides insights into Socio-demographic Information, as well as the influence of husbands on contraceptive decision-making and many other factors (its significance). It also explores women's knowledge regarding breastfeeding as a reliable method of contraception and the conditions required for its effectiveness. However, the study does not offer a comprehensive overview of all mothers in the city, and the relatively small sample size limits the generalizability of the findings to the broader population.

RESULTS

Socio-demographic Information (n=400)

Table 1-1 Age

The majority of participants were aged 20–29 years (50%), followed by 30–39 years (27.5%) and <20 years (15%). The least represented group was ≥40 years (7.5%). This indicates a predominance of young adults in the sample.

Age Range	n (%)
<20	60 (15%)
20–29	200 (50%)
30–39	110 (27.5%)
≥40	30 (7.5%)

Table 1-2 Educational Level

The majority of participants had a Diploma or Bachelor's degree (55%), followed by Secondary education (20%) and Postgraduate education (20%). The least represented group had no formal education (5%).

Educational level	n (%)
No formal education	20 (5%)
Secondary	80 (20%)
Diploma/Bachelor	220 (55%)
Postgraduate	80 (20%)

Table 1-3 Number of Children (Parity)

Most participants had 2–3 children (57.5%), followed by ≥4 children (25%) and 0–1 child (17.5%), indicating that the mainly consisted of parents with a moderate number of children.

Number of Children	n (%)
0–1	70 (17.5%)
2–3	230 (57.5%)
≥4	100 (25%)

Table 1-4 place of Residency

The majority of participants resided in urban areas (70%), while 30% lived in rural areas, indicating a predominance of city residents in the sample.

Residency	n (%)
City	70 (17.5%)
Rural	230 (57.5%)

Table 2 Are you currently breastfeeding?

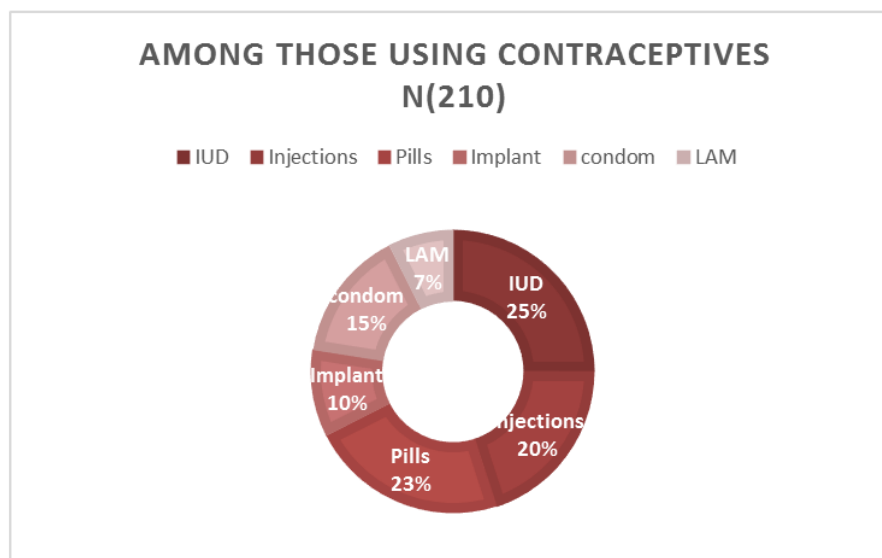
The majority of participants were practicing exclusive breastfeeding (45%), followed by partial breastfeeding (40%). The least represented group were those not breastfeeding (15%).

Response	n (%)
Yes — exclusive breastfeeding	180 (45%)
Yes — partial breastfeeding	160 (40%)
No	60 (15%)

Table 3 Are you currently using any contraceptive method?

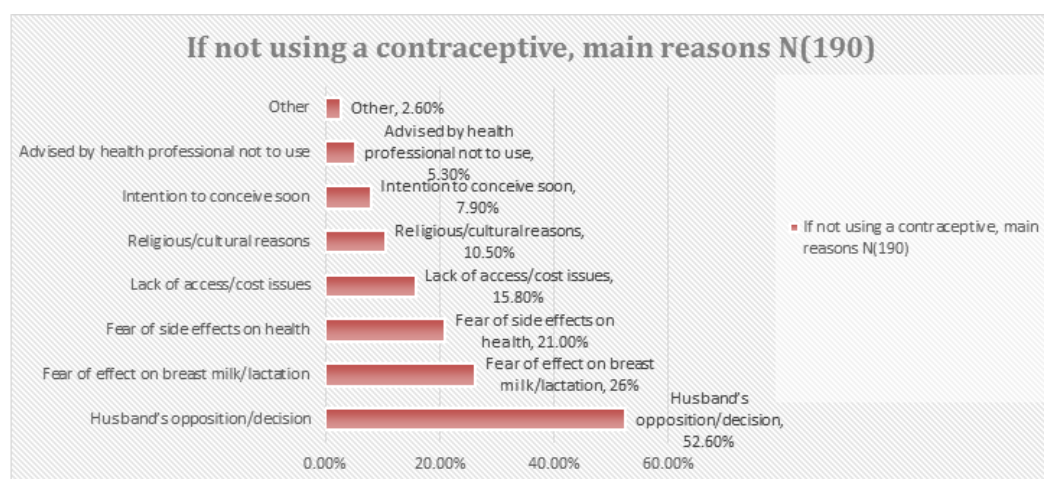
Slightly more than half of the participants (52.5%) reported using a contraceptive method, while 47.5% were not using any contraception.

Response	n (%)
Yes	210 (52.5%)
No	190 (47.5%)

**Fig1: methods of contraceptives.**

Types of Contraceptives (among users, n=210). The most commonly used method was the IUD (23.8%), followed by oral pills (21.4%) and injections (19%).

Condoms were used by 14.3%, implants by 9.5%, lactational amenorrhea method (LAM) by 7.1%, and

**Fig2: Reasons of not using contraceptives.**

Among women not using contraceptives (n=190), husband's opposition/decision was reported by 52.6% of participants, which was significantly higher than the expected proportion if reasons were equally distributed ($p < 0.001$).

Fear of effect on breast milk/lactation was reported by 26.3%, also significantly higher than expected ($p = 0.01$).

Other reasons, including fear of side effects (21.1%), cost/access issues (15.8%), religious/cultural reasons (10.5%), intention to conceive soon (7.9%), advice by health professionals (5.3%), and other causes (2.6%), did not reach statistical significance when compared with the expected distribution.

Thus, husband's opposition emerged as the most dominant and statistically significant factor, followed by concerns about breastfeeding effects.

DISCUSSION

Many studies assess certain factors that influence women's choices of contraceptive methods, several of them reported that women of low socioeconomic status tend to use contraception less, and consequently have the highest risk of unwanted pregnancies due to the usage of less effective contraceptive methods. Most studies showed a positive association between the selection of the contraceptive method and the effective counselling on family planning advice given by the health workers.^{[4][5][6]} but In the present study, among women who were not using contraceptives (n=190), husband's opposition or decision was the most frequently cited reason (52.6%). This proportion was significantly higher than expected under equal distribution assumptions ($p < 0.001$), indicating that spousal influence remains a major barrier to contraceptive uptake. This finding underscores the importance of involving men in reproductive health education and family planning programs to ensure shared decision-making and reduce gender-related barriers.

Fear of the effect of contraception on breast milk or lactation was also significantly associated with non-use (26.3%, $p = 0.01$). This highlights the persistence of misconceptions and lack of clear counselling regarding the safety of contraceptive methods during breastfeeding.

Other reported reasons, such as fear of side effects, cost and access issues, cultural or religious beliefs, intention to conceive soon, and professional advice against use, were less frequent and did not reach statistical significance. Although these factors may play a role at the individual level, they appear to be less influential compared with husband's opposition and concerns about breastfeeding.

Overall, the findings emphasize that male partner involvement and evidence-based counselling regarding contraception during lactation are critical strategies for

enhancing contraceptive use and reducing the risk of unintended pregnancies.

Other study in Mosul (4) found different factors seemed to influence the choice of the contraceptive method; the commonest one was the safety of the method used. The current study revealed that 78% of participant women reported choosing a contraceptive method based mainly on its safety with fewer side effect ($p=0.001$). This is supported by other studies which showed that the side effects of a contraceptive method and its safety, without affecting fertility in any way, were frequently the reasons for choosing a particular contraceptive method.^{[7][8][9]}

Twenty percent of study participants stated that the cost and availability of the contraceptive method were among factors that influence their choice of a specific method with p-value of 0.05. This goes with the findings of other studies, which found that cheap and readily available methods are the commonest factors influencing choices of methods used by women.^[10]

CONCLUSION

For the study sample of 400 lactating mothers in Mosul, family planning practices were found to be influenced more by social and cultural factors than medical ones. About half reported using contraceptives, with husband's opposition and misconceptions about breastfeeding as the main barriers. Raising awareness, dispelling myths, and encouraging shared decision-making between couples are vital to enhance reproductive health outcomes.

Recommendations

Addressing these concerns through targeted educational interventions could improve acceptance and correct misbeliefs.

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