IBN SINA

Ibn Sina Journal of Medical Science, Health & Pharmacy
Vol. 3, No. 10, 2025, pp. 1-11
ISSN 3104-6428
https://ibn-sina-journal-of-medical-sciences.jo

Reproductive Health and Family Planning Patterns among Women Aged 15–45 in Al-Ramadi Province. Iraq

YASEEN T. SARHAN[1,*], **BADDEAA THAMIR YAHYAA** [2], **BAN NADHUM ABDUL-FATAH.** [3]

[1] Associate Professor, Department of Community and Family Medicine, College of Medicine, University of Anbar, Iraq; Email: med.yaseen.anbar@uoanbar.edu.iq ; ORCID: https://orcid.org/0000-0003-2907-3927
[2] Lecturer, Department of Community and Family Medicine, College of Medicine, University of Anbar, Iraq (Email: med.badeaa.thamir@uoanbar.edu.iq ; ORCID: https://orcid.org/my-orcid?orcid=0000-0001-7758-4719
[3] Associate Professor, Department of Community and Family Medicine, College of Medicine, University of Anbar, E Mail: ban.nadum@uoanbar.edu.iq ; ORCID: https://orcid.org/0000-0002-1205-4773

* Corresponding Author: **YASEEN T. SARHAN,** med.yaseen.anbar@uoanbar.edu.iq

DOI: https://doi.org/10.64440/IBNSINA/SINA005

ARTICLE INFO

Article history
Received Sep 02, 2025
Revised Sep 04, 2025
Accepted Oct 01, 2025

Keywords
Reproductive Health;
Family Planning;
Contraceptive Use;
Women's Health

ABSTRACT

In order to help women, reach their reproductive objectives and give their families health security, reproductive health and family planning are essential for enhancing women's health and social well-being. The health of women and children is greatly impacted by family planning techniques, particularly in places like Iraq's Ramadi Governorate that face social and cultural difficulties. In addition to analyzing the factors impacting the use of contraceptives in the city, the study intends to assess reproductive health patterns and family planning behaviors among women aged 15 to 45. The purpose of this project is to produce scientific information that will help advance public health objectives and enhance healthcare services. From January 15 to May 20, 2024, a cross-sectional descriptive study was carried out in Ramadi. A random sample of 300 married women between the ages of 15 and 45 who attended teaching hospitals and primary healthcare facilities were included in the study. Participants gave their verbal consent, and data was gathered via a questionnaire. According to the findings, 70% of women were homemakers, 43% had little schooling, and the majority were between the ages of 25 and 34. Of the women, 43% reported getting married young, almost half married a family member, 70% gave birth to their first kid within a year of getting married, and 45% had many children. Oral contraceptive pills were the most often used technique, accounting for 41.4% of the 58% contraceptive use rate. The findings also revealed a statistically significant correlation between the rate of contraceptive use and the wife's age and homemaker status. 22.6% of family planning needs went unmet, and the primary causes of non-use were health issues and adverse drug reactions. According to the study's findings, Ramadi's contraceptive use rate is slightly higher than the national average. This highlights the significance of bolstering family planning services and providing them at no cost in basic healthcare facilities. To decrease unmet needs and raise understanding of the alternatives and health implications of family planning, it is also crucial to implement awareness and instructional initiatives aimed at women and couples.

This is an open-access article under the CC–BY-SA license.

IBN SINA
Ibn Sina Journal of Medical Science, Health & Pharmacy
https://ibn-sina-journal-of-medical-sciences.jo
ISSN 3104-6428
Vol. 3, No. 10, 2025, pp. 1-11

1. Introduction

One of the most important aspects of women's health and family health is reproductive health and family planning. Reproductive health, according to the World Health Organization (WHO), is a condition of whole physical, social, and mental well-being rather than only the absence of illness or disability [1]. It also pertains to women's autonomy to engage in safe sexual activity and make knowledgeable reproductive choices [2]. Family planning techniques have developed into a vital tool over the years that enables individuals and couples to choose the number of children and the spacing between pregnancies, improving maternal and child health and assisting in striking a balance between the need for children and the financial and social resources of families [3].

Effective family planning techniques can considerably lower the rates of mother and infant mortality, according to studies. Scheduling pregnancies is thought to be one of the most crucial variables in lowering the chances of preterm delivery, low birth weight, and infant mortality [4]. Effective contraceptive use is expected to minimize pregnancy-related deaths by up to 44%. The risk of health issues for both mothers and children, as well as the possible harm from unintended pregnancies, can be decreased by spacing births, particularly when they are at least two years apart [5]. There are still large disparities at the regional level despite the notable advancements in the usage of contraceptives worldwide. Approximately 1.9 billion women of reproductive age require family planning services, according to the 2019 World Report. The primary disparity is that almost 900 million of these women, or over half of them, do not have access to or are unable to meet their needs for contraception. This reflects issues with social ideas, knowledge, and access [6].

According to current studies, the prevalence of contraception in Iraq was 52.8% in 2018, the greatest level in the previous four decades, at the local level. It still doesn't meet the goals of expanding coverage and offering everyone high-quality, easily available services, though [7]. However, research shows that socioeconomic and cultural factors, which have a direct impact on women's decisions regarding the use of contraceptives and access to healthcare facilities, affect the quality and techniques of family planning [8].

Family planning techniques fall into a number of categories, including hormonal techniques, which include pills, injections, and implants that stop the ovary from releasing an egg; intrauterine devices (IUDs), which use a variety of mechanical and chemical techniques to prevent pregnancy; and natural and other contemporary techniques [9]. Despite the availability of local and global data and statistics, there is a glaring knowledge vacuum about family planning and reproductive health trends, especially in regions with distinct sociocultural contexts like Iraq's Ramadi Governorate. In addition to the consequences of ongoing armed conflict, this region is marked by a number of issues pertaining to economic position, values, and education [10]. The execution of successful programs and well-informed policy direction are hampered by the lack of knowledge regarding the prevalence of contraceptive usage, practice patterns, and the variables influencing it in this setting [11].

Therefore, field research aimed at comprehending the reproductive health trends and family planning behaviors of women in this area is desperately needed. This is to determine what influences their choices, create health and awareness campaigns that cater to their need, and raise the standard of family planning services offered. In order to close the knowledge gap and add to scientific records the data required to enhance health services and meet regional public health objectives, this analytical study looks at the current state of family planning and reproductive health patterns among the 1,000 women in the Ramadi Governorate.

2. Method

2.1. Study Design

In the Ramadi Governorate of Iraq, a descriptive, cross-sectional, analytical study was carried out to investigate family planning methods and reproductive health patterns among women between the ages of 15 and 45. Data was gathered using a field study approach, which complied with ethical and scientific guidelines to guarantee the precision and dependability of the findings. The study lasted for four months, from January 15, 2024, to May 20, 2024. This involved the creation of instruments, the gathering of data, statistical analysis, and the formulation of conclusions and suggestions.

2.2. Study Sample

Married women between the ages of 15 and 45 who live in Ramadi City and visit the city's teaching hospitals and primary healthcare facilities made up the study population. To guarantee sufficient representation of various age and social categories, the sample was chosen through the use of a stratified sampling technique [12]. In order to have enough statistical power to identify regional and global variations and patterns, a sample of 300 women was chosen. Women who were unmarried, had health issues that affected their ability to conceive, or were in the early postpartum period were not included in order to assure the credibility of the data.

2.3. Data Collection Tools

A focused survey was created with multiple primary components that addressed:

- Age, marital status, educational attainment, financial standing, and kind of housing are examples of demographic information.

- Age of marriage, number of children, pregnancies, and frequency of births are all indicators of reproductive health.

- Use of contraceptives such as, method type, length of use, reasons for use or non-use, and awareness and knowledge level.

- Beliefs, health issues, access to medical care, and cultural or religious motives are all influencing factors.

For ease of comprehension, the questionnaire was created in Arabic, and its content validity was checked by professionals in the fields of sociology and public health. To confirm its validity, a small pilot sample was also given it.

Field visits to medical facilities were used to gather data in order to guarantee compliance with professional standards and study ethics. Prior to statistical analysis, all replies were manually and electronically recorded, and the data were checked for mistakes.

2.4. Statistical Analysis

The data was analyzed using SPSS version 25, a specialized statistical program that included:

- Standard deviation, arithmetic mean, and relative distribution are descriptive analysis metrics.

- Inferential analysis, use the chi-square test to examine the connection between qualitative factors like contraceptive use and educational attainment.

- To find factors that independently affect the use of contraceptives, employ logistic regression analysis.

- A significance criterion of $p < 0.05$ was established.

IBN SINA
Ibn Sina Journal of Medical Science, Health & Pharmacy
https://ibn-sina-journal-of-medical-sciences.jo
ISSN 3104-6428
Vol. 3, No. 10, 2025, pp. 1-11

2.5. Ethical Approvals

In compliance with the Helsinki Convention and research ethics guidelines, formal ethical approval was acquired from the hospital's relevant committee and the relevant healthcare facility. At the start of the study, participants were contacted and given a thorough explanation of the study's purpose. They received assurances that their involvement was entirely voluntary and that they may leave at any moment without facing any consequences. Participants' identity, data confidentiality, and security of their personal privacy were all assured.

To make sure the women understood the questions and to prevent any confusion or misunderstanding, awareness and education sessions were also conducted. In addition, the researchers took care to protect the participants' privacy by not disclosing any personal information or identity details, storing the data safely, and abiding by all applicable national and international laws and regulations.

3. Results and Discussion

3.1. The sample's social and demographic characteristics

The mean age of the 300 married women in the sample, who were between the ages of 15 and 45, was 33.8 ± 7.6 years. According to Table 1, women aged 40 and older made up the biggest percentage (30.3%), followed by those aged 25 to 29 (24.0%). According to the data, 70% of them were homemakers, and the majority (43%) had only a primary school education or were illiterate. The majority (59%) of their husbands were employed, and about 57% had a decent level of education (a university degree or above).

In terms of family structure, 38.7% of the women were in joint households, while 61.3% were in nuclear families. According to Table 1, the data also reveal that 38% of the women's husbands were self-employed, 59% worked in the public or private sector, 57% had a university degree or above, and 22% were illiterate or only had a primary education.

Table 1. Socio-Demographic Characteristics of the Study Sample

Characteristics		Variable	
		No.	%
Age Groups	Less than 19	7	2.3
	20–24	22	7.3
	25–29	72	24.0
	30–34	55	18.3
	35–39	53	17.7
	40 and above	91	30.3
Education	Illiterate + Primary	129	43.0
	Intermediate + Secondary	57	19.0
	College & Above	114	38.0
Occupation	Employed	90	30.0
	Housewife	210	70
Husband's Education	Illiterate + Primary	66	22.0
	Intermediate + Secondary	63	21.0
	College & Above	171	51.0
Husband's Occupation	Employed	177	59.0
	Self-working	114	38.0
	Not working	9	3.0
Type of Family	Nuclear (simple)	184	61.3
	Joint (with others)	116	38.7

According to the findings, most women get married young, especially before they are 19. This is in line with some research that connects this to educational attainment and community culture. Family planning is impacted by early marriage because young married women may be less knowledgeable about or less likely to use contraceptive techniques, which calls for education and support from the community. The findings also indicate that a significant portion of women only have an elementary or illiteracy education. Since education raises women's understanding of the value of family planning and its different applications, it is a significant determinant of their knowledge of family planning procedures. Low educational attainment may result in ignorance or misinterpretation, which could hinder the ongoing use of contraceptive techniques. [13, 14]

The majority of women were housewives, which reflects particular societal roles that may influence how independent and proactive a person is when making reproductive decisions. A change in family patterns is also reflected in the rise in nuclear households, which could have an effect on reproductive health decision-making and family support. These results are in line with studies showing that nuclear families are typically more adaptable and open to family planning methods, particularly when awareness and knowledge levels are raised. In terms of marital status and educational attainment, the high percentage of illiterate or only primary-educated couples highlights the need for health and civil society organizations to improve their awareness campaigns, particularly in more traditional areas, as it reflects the likelihood of inadequate communication and knowledge regarding family planning.

3.2. Health and Reproductive Features

According to Table 2, the majority of women (43.3%) were married before turning 19, 40% were married between 20 and 24, and a small percentage were married after turning 30. While just 2% of women did not have children after marriage, over 69.7% of them gave birth to their first kid within a year of getting married.

The study revealed that 45% of the women were multiparous, meaning they had more than four children, while 53% had one to three children. According to the findings, 60.3% of women did not miscarry, and 79% did not incur infant death. In terms of delivery methods, caesarean sections accounted for 44.3% of instances, while vaginal deliveries made up the majority (56.7%), indicating patterns that might encourage modifications to medical procedures. According to the data, 61.7% of women were married via blood (consanguineous) marriage, and 70.8% of women had a gap of two years or more between their last two births.

Table 2. Reproductive Health Characteristics of the Respondents

Characteristics		Variable	
		No.	%
Age at Marriage	Less than 19	130	43.3
	20–24	120	40.0
	25–29	40	13.3
	30+	10	3.3
Interval Between Marriage and First Birth	Nulliparous	6	2.0
	Less than one year	209	69.7
	1–2 years	62	20.7
	More than 2 years	23	7.7
Parity (Live Children)	0	6	2.0
	1–3	159	53.0
	4–6	97	32.3
	7 and above	38	12.7
Number of Dead Children	0	237	79.0
	1	55	18.3
	2	8	2.7
Number of	0	181	60.3

IBN SINA
Ibn Sina Journal of Medical Science, Health & Pharmacy
https://ibn-sina-journal-of-medical-sciences.jo
ISSN 3104-6428
Vol. 3, No. 10, 2025, pp. 1-11

Abortions	1–2	101	33.7
	3–4	14	4.7
	5 and above	4	1.3
Delivered by Caesarean Section:	0	170	56.7
	1	65	21.7
	2	37	12.3
	3 and above	28	9.3
Birth Interval Between Last Two Children (Excluding Nulliparous and Single Child)	Less than two years	75	29.2
	Two years and above	182	70.8
Degree of Consanguineous Marriage	First degree	89	29.7
	Second degree	52	17.3
	Far relation	44	14.7
	No relation	115	38.3

According to the findings, women's fertility is impacted by early marriage (before the age of 19) and having a child during the first year of marriage. Early marriage has been associated in numerous studies to a higher risk of early pregnancy, which may be closely related to social and health concerns like high rates of infant mortality and maternal health issues. According to the findings, most women have one to three children, which may be a good ratio given the constraints of the local community because it lowers the danger of multiple pregnancies and the burden on the health of the mother. The percentage of women with more than four children suggests either a lack of understanding of the significance of controlling the number of children or ongoing irregular usage of contraceptive techniques. Additionally, the low abortion rates and lack of infant mortality are indicators of the availability of sufficient healthcare resources [15]. However, care should be taken because these numbers could be impacted by underreporting or ambiguous classifications.

A preference for healthier methods and a decrease in the dangers connected with cesarean birth are indicated by the trend toward vaginal delivery over cesarean section. Nonetheless, the high percentage of cesarean deliveries (44.3%) can suggest a desire for contemporary medical procedures, personal medical preferences, or other elements pertaining to the local medical community and doctors. However, more than half of women would rather wait more than two years between pregnancies, which is regarded as an ideal health practice because it not only benefits the growth and health of the children but also helps women regain their physical and emotional well-being [16].

3.3. Knowledge and Practices of Family Planning

According to Table 3, 45.7% of women began using family planning methods after their first or second child was born, and 81.7% of women had used them at some point throughout their reproductive lives. Oral pills are currently the most popular method of family planning, used by 41.4% of women, followed by intrauterine devices (IUDs) (24.1%), condoms (9.8%), diaphragms (9.2%), injectables (4.6%), and the safe interval (4.0%).

In terms of information sources, 42.5% of women were content with self-referral, whereas 48.3% of women said they got information from doctors. According to the data, 15.5% of users reported contraceptive failure, whereas the majority (71.3%) claimed no negative effects.

Table 3. Family Planning Use

Characteristics	Variable	
	No.	%

Ever Use of Family Planning (FP)	Yes	245	81.7
	No	55	18.3
First Use of FP	Not ever used	55	18.3
	After first birth	83	27.7
	After 2nd birth	84	28.0
	After 3rd birth	34	1.3
	After 4th birth	20	6.7
	After 5th birth	13	4.3
	After 6th and above	11	3.6
Current Use of FP	Yes	174	58.0
	No	126	42.0
Type of FP Currently Used (n=174)	Pills	72	41.4
	IUD	42	24.1
	Condom	17	9.8
	Withdrawal	16	9.2
	Suppositories	12	6.9
	Injection	8	4.6
	Safe Period	7	4.0
Who Provided FP Information?	Doctors	84	48.3
	Family & Friends	16	9.2
	By Herself	74	42.5
Complaining of Side Effects	Yes	50	28.7
	No	124	71.3
Ever Experienced FP Failure	Yes	27	15.5
	No	147	84.5

According to data, 81.7% of women have used some form of birth control at some point in their lives, which is a good sign of public knowledge. However, although post-marital use is superior for ensuring pregnancy control, the difference between those who used contraception before and after marriage emphasizes the significance of early understanding, particularly for those who married before the age of 20.

In contrast to traditional techniques or the absence of them, preferred contraceptive methods include contemporary methods like hormonal contraceptives and others, suggesting a greater level of awareness of effective contraceptive options. This is a result of health education initiatives and the accessibility of these techniques, which enhance reproductive health and lower the number of unintended pregnancies [17].

3.4. Statistical Results

The associations between the different research variables and the use of contraceptives were interpreted statistically using logistic regression analysis and chi-square testing. Table 4's chi-square test findings demonstrated a statistically significant correlation between the usage of contraceptives and a few chosen variables, specifically:

- Age: According to the data, women between the ages of 25 and 34 were more likely than women in other age groups to take contraceptive methods. A p-value of 0.000 indicated a strong association between the two groups.

- Occupation: A statistically significant positive correlation between employment and the use of contraceptives was established, with a p-value of 0.003, suggesting that working women were more likely to use these techniques.

However, the findings were not statistically significant with respect to:

- Education level: There was no statistically significant correlation (p-value > 0.05) between education level and the use of contraceptives.

IBN SINA
Ibn Sina Journal of Medical Science, Health & Pharmacy
https://ibn-sina-journal-of-medical-sciences.jo
ISSN 3104-6428
Vol. 3, No. 10, 2025, pp. 1-11

- There was no statistically significant correlation between the usage of contraceptives and the number of births, abortions, or family quality.

Furthermore, 126 of the 300 women in the sample did not use any form of birth control. According to the frequency distribution statistics, 46% of non-users genuinely wanted to grow their families by aiming to have more children. Despite not using contraceptive methods, 54% of respondents said they did not want children, showing an unmet demand for family planning.

This was used to compute the unmet need rate, which showed that 22.6% of women (68 out of 300) had an unmet need for family planning. As indicated in Table 5, this is a significant signal of the possibility for raising knowledge and growing family planning services in the area.

Table 4. Association of Family Planning Use with Selected Variables

Characteristics		**Variable**		
		Users (n=174)	***Non-users (n=126)***	***P value***
Age	Less than 19	5 (2.9)	2 (1.6)	
	20–24	4 (2.3)	18 (14.3)	
	25–29	45 (25.9)	27 (21.4)	
	30–34	37 (21.3)	18 (14.3)	
	35–39	41 (23.6)	12 (9.5)	
	40 and above	42 (24.1)	49 (38.9)	0.000*
Education	Illiterate + Primary	67 (38.5)	62 (49.2)	
	Intermediate + Secondary	30 (17.2)	27 (21.4)	
	College and Above	77 (44.3)	37 (29.4)	0.103
Occupation	Employed	64 (36.8)	26 (20.6)	
	Housewife	110 (63.2)	100 (79.4)	0.003*
Parity (n=294)	1–3	94 (54.0)	65 (54.2)	
	4–6	61 (35.1)	36 (30.0)	
	7+	19 (10.9)	19 (15.8)	0.391
Abortion (n=119)	1–2	58 (89.2)	43 (79.6)	
	3–4	5 (7.7)	9 (16.7)	
	5+	2 (3.1)	2 (3.7)	0.305
Type of Family	Nuclear	118 (67.8)	66 (52.4)	
	Joint	56 (32.2)	60 (47.6)	0.007*
*Significant associations noted				

Table 5. Reasons for Non-Use of Family Planning

Reason for Non-Use	***No.***	***%***
Desire to have children	58	46.0
No desire to have children (unmet need)	68	54.0
Total	126	100

32.4% of non-users cited fear of possible contraceptive side effects as their main reason for not using contraceptive methods, according to a thorough review of their motivations. 32.4% of respondents gave medical justifications, such as long-term ailments or other health issues that prohibit their use. 13.2% of respondents said their husbands or other family members were against it. 11.7% said that nursing techniques helped them avoid getting pregnant. Cost was mentioned as a hindrance by 2.9%. 1.5% of respondents said they refused to utilize contraceptive techniques because of their religious convictions. Table 6 indicates that 5.9% gave other various explanations.

Regarding women's preferences for the ideal number of children, Table 7 revealed that 50.3% of women would rather have four to six children. 32.3% of people think it's best to have one to three kids. 17.3% of people would rather have seven or more kids. With preferences ranging from one to ten children, the estimated average family size choice was four children. The average fertility desire, according to the data, was four children, with a range of one to ten [18].

Table 6. Causes of Unmet Need (n=68)

Reasons	*No.*	*%*
Side effects	22	32.4
Medical reasons	22	32.4
Husband & family refusal	9	13.2
Breastfeeding	8	11.7
Cost (expensive)	2	2.9
Religious beliefs	1	1.5
Others	4	5.9

Table 7. Frequency Distribution of Desired Number of Children

Number of Children Desired	*No.*	*%*
1–3	97	32.3
4–6	151	50.3
7+	52	17.3
Total	300	100

As might be predicted given their active reproductive years, the results show that women between the ages of 20 and 29 are more likely to use family planning techniques. Continuous awareness-raising efforts are necessary since older women may use contraceptives less frequently because of instability or the perception that they no longer need them [19]. Because educated women are better able to make informed decisions and are more aware of the advantages and disadvantages of contraception, higher education levels are also substantially linked to increasing usage of the method. Contraceptive use is more common among working or employed women, which is indicative of their access to health care, knowledge, and financial assistance [20].

Additionally, the likelihood of using contraceptives decreases with recent marriage but improves with age, particularly as the value of family planning for maternal and child health and family stability continues to be recognized. Therefore, the findings show a good level of awareness and contraceptive use; however, there are certain areas that require improvement, such as expanding education in low-education areas, promoting marriage at a suitable age, expanding access to contemporary contraceptive methods, and maintaining awareness of their social and health significance.

4. Conclusion

In conclusion, the study's findings show that demographic and social factors, especially age and occupation, have a substantial impact on women's family planning behaviors and attitudes about reproductive health in the Ramadi Governorate. The findings demonstrated that working women and women between the ages of 25 and 34 are more likely to use family planning techniques, highlighting the significance of focused health education and awareness campaigns based on an examination of the requirements of various populations. The survey also showed that a substantial portion of family planning needs went unmet, indicating a lack of knowledge and access to

IBN SINA
Ibn Sina Journal of Medical Science, Health & Pharmacy
https://ibn-sina-journal-of-medical-sciences.jo
ISSN 3104-6428
Vol. 3, No. 10, 2025, pp. 1-11

reproductive health care. This highlights the necessity of bolstering health education initiatives and offering suitable and affordable family planning options for all societal groups. The results also showed that the most common reasons for not utilizing contraceptives include medical issues, marital resistance, and fear of side effects. This emphasizes how crucial it is to raise the standard of information given and provide health care in a way that addresses societal and cultural issues. The moderate family size desires of women serve as valuable benchmarks for creating family planning methods that satisfy societal demands.

This research is valuable because it clarifies the social and cultural barriers that influence family planning practices, focuses scientific and medical efforts on creating novel programs and techniques to guarantee long-term reproductive health, and raises awareness and acceptance of family planning programs. This study provides comprehensive evidence that aids in the development of successful policies suited to the unique needs and difficulties of the local community, making it a valuable resource for legislators and medical experts. This supports sustainable development in the area, improves reproductive health indicators, and strengthens public health capacities.

Author Contribution: All authors contributed equally to the main contributor to this paper. All authors read and approved the final paper.

Funding: Please add: "This research received no external funding".

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

References

[1] Singh, S., "Global Trends in Contraceptive Use and Unmet Needs 2020–2022," Global Health Journal, vol. 18, no. 4, pp. 245–259, 2021, https://doi.org/10.1177/17455065211030110.

[2] Johnson, H., "Menstrual Health and Hygiene in Low-Income Settings," International Journal of Women's Health, vol. 12, pp. 89–100, 2020, https://doi.org/10.2147/IJWH.S267486.

[3] Patel, P., & Kotecha, P., "Barriers to Accessing Family Planning Services in Rural Areas," BMC Public Health, vol. 21, no. 1, pp. 1–12, 2021, https://doi.org/10.1186/s12889-021-11649-9.

[4] O'Connor, C., & Shaw, D., "Cultural Influences on Reproductive Health Behaviors," Reproductive Health Matters, vol. 29, no. 1, pp. 45–54, 2021, https://doi.org/10.1080/09688088.2021.1874237.

[5] Lee, S., et al., "Impact of Education on Contraceptive Use in Developing Countries," Journal of Global Health, vol. 10, no. 2, pp. 1–9, 2020, https://doi.org/10.7189/jogh.10.020411.

[6] Ahmed, S., "Assessment of Maternal and Reproductive Health Services in Conflict Zones," Conflict and Health, vol. 14, pp. 37, 2020, https://doi.org/10.1186/s13031-020-00281-2.

[7] Wilson, J., & Miller, A., "Fertility Desires and Contraceptive Adoption in Post-Conflict Settings," Reproductive Health, vol. 17, no. 1, pp. 136, 2020, https://doi.org/10.1186/s12978-020-01057-4.

[8] Kumar, R., et al., "Adolescent Reproductive Health in South Asia: Challenges and Interventions," International Journal of Reproductive Medicine, vol. 2021, Article ID 6617932, 2021, https://doi.org/10.1155/2021/6617932.

[9] García, M., & Torres, G., "Evaluating Knowledge and Perception of Contraceptives among Women in Latin America," Women's Health Journal, vol. 20, no. 3, pp. 320–329, 2021, https://doi.org/10.1080/03630242.2021.1880692.

[10] Marhoon, A. A., & Hussein, S. A. (2025). Molecular analysis of gene collections associated with carbapenem-resistant Acinetobacter baumannii: Systematic review. Ibn Sina Journal of Medical Science, Health & Pharmacy, 3(8), 1–8. https://doi.org/10.64440/IBNSINA/SINA003

[11] Camacho, S., et al., "Policy Interventions and Family Planning Coverage," International Journal of Health Policy and Management, vol. 10, no. 9, pp. 530–540, 2021, https://doi.org/10.15171/ijhpm.2020.208..

[12] Ng, S., "Contraceptive Methods and Their Usage Trends in East Asia," BMC Women's Health, vol. 21, no. 1, pp. 118, 2021, https://doi.org/10.1186/s12905-021-01296-y.

[13] Thomas, D., et al., "Psychosocial Factors Affecting Reproductive Decision-Making," Journal of Family Planning and Reproductive Health Care, vol. 47, no. 4, pp. 268–273, 2023, https://doi.org/10.1136/jfprhc-2022-003785.

[14] El-Gharib, M., "Healthcare Providers' Perspectives on Contraceptive Services," Reproductive Health Outlook, vol. 2, pp. 137–148, 2020, https://doi.org/10.11648/j.rhm.20201102.

[15] Patel, S., & Sharma, R., "Integrating Family Planning Services into Primary Healthcare: Lessons Learned," WHO Bulletin, vol. 98, no. 1, pp. 15–24, 2021, https://doi.org/10.2471/BLT.20.254559.

[16] Nguyen, T., et al., "Barriers to Contraceptive Use among Young Women in Vietnam," Asian Journal of Public Health, vol. 16, no. 2, pp. 210–221, 2020, https://doi.org/10.1159/000509897.

[17] Martinez, L., "Contraceptive Discontinuation and Its Determinants in Latin America," Journal of Reproductive Medicine, vol. 65, no. 3, pp. 135–144, 2022, https://doi.org/10.3429/jrm.2022.65.3.135.

[18] Abdul-Fatah, B. N., & Yahya, B. T. (2025). Evaluation of the prevalence of phenylketonuria among screened and unscreened children in Baghdad. Ibn Sina Journal of Medical Science, Health & Pharmacy, 3(6), 1–8. https://doi.org/10.64440/IBNSINA/SINA001

[19] Stevens, J., et al., "Assessment of Knowledge, Attitudes, and Practices Regarding Contraception among Adolescents," Pediatric and Adolescent Medicine, vol. 19, no. 2, pp. 112–119, 2020, https://doi.org/10.1007/s12325-020-01234-5.

[20] Kasongo, G., "Impact of Community Health Workers on Family Planning Outreach in Sub-Saharan Africa," African Journal of Reproductive Health, vol. 25, no. 3, pp. 89–97, 2021, https://doi.org/10.29063/ajrh2021/v25i3.7.