International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2025: 7.089

Awareness, Preferences, and Reported Side Effects of Contraception Among Women in Najaf City: A Cross-Sectional Study

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Abstract: ***Background: Contraception is a key component of reproductive health care. Although awareness of contraceptive methods in Iraq is generally high, traditional methods remain widely used, and city-specific data from Najaf are limited. Objectives: To assess awareness, contraceptive preferences, reported side effects, and perceptions of counseling adequacy among women in Najaf City. Methods: A cross-sectional study was conducted using an Arabic electronic self-administered questionnaire distributed to women living in Najaf City. A total of 419 valid responses were analyzed using descriptive statistics. Results: Mean participant age was 29.4 ± 6.9 years. Awareness of contraceptive methods was high (91.6%). Current contraceptive use was reported by 59.7% of respondents. Withdrawal was the most commonly used method (34.4%), followed by oral contraceptive pills (25.6%) and condoms (20.0%). Only 44.2% considered contraception safe. Among current users, 35.6% reported side effects, most commonly menstrual irregularities and weight gain. More than half (53.9%) perceived family planning counseling at primary health care centers as inadequate. Conclusions: High awareness does not translate into optimal use of effective modern contraceptive methods in Najaf. Safety concerns and perceived inadequate counseling may contribute to reliance on less effective methods.***

Keywords: contraceptive use; family planning; reproductive health; women of reproductive age; contraceptive counseling; Iraq; cross-sectional study

1. Introduction

Family Planning and Contraception Family planning and contraception are at the very centre of reproductive health. The right to determine whether, when, and how many children to have can trigger a wide variety of changes in maternal and child health, economic well-being, and social progress. One out of every four women of reproductive age (164 Million women aged 15–49) worldwide now groups a woman of child bearing age (WCHBA) and around one-fifth of those who wanted to avoid or delay pregnancy are reported not using any family planning methods, according to a WHO report on family planning through 2021 global review [1]. Women from low- and middle-income countries (LMICs) are particularly impacted by this unmet need, with access to reproductive health services varying greatly as a result of poverty, infrastructure gaps and sociocultural factors.

The family planning attention spectrum for country in Middle East and North Africa (MENA) region is rather wide In Jordan, about 62% of women aged 15–49 use any method of contraception — Tunisia has one of the highest rates in the region with >64% [2]. The contraceptive prevalence in Iraq is estimated to be at least 58% [3] but has been characterized by a very high proportion of traditional methods (84%) and regional differences in the method mix. Similarly, previous studies also indicated that women from different Iraqi cities (Basrah, Mosul, Ramadi) rely significantly on withdrawal and oral pills while modern long-acting reversible contraceptives (LARCs; e.g., intrauterine devices and subdermal implants) uptake is relatively low [4, 5].

There are many factors that affect the type of contraceptive women choose. Interactions are complex between awareness of the options available, perceptions of their safety and efficacy, socio-cultural and religious norms, partner attitudes, quality of provider counselling services received as well as access to them [6]. Wider fears regarding side effects – particularly weight gain, menstrual disorders and headaches – are commonly reported here as reasons for contraceptive discontinuation or avoidance of hormonal methods worldwide [7, 8]. These concerns are made more complex by weak or inconsistent primary care agency which leads many women to use word of mouth information from family or community networks in Iraqi and broader Middle Eastern settings [9].

Najaf is one of the largest urban governorates in south-central Iraq, but it has a socially and religiously conservative environment. Local reproductive-health research from Najaf has addressed related women's health conditions, such as polycystic ovary syndrome and its metabolic profile, but city-level evidence on contraceptive awareness, method preference, side effects, and counselling remains limited [10]. So far, no published study seems to address the knowledge, attitude and practice of contraception in Najaf City specific studies among contraceptive awareness and coverage as well as evaluation of side effects. This is an essential knowledge policy gap — because meaningful analysis of reproductive health intervention needs local evidence not average national data that can mask a city level reality. Here is the unfilled gap that this study was designed to fill and additionally, it will create real potential for locally relevant data and the basis for

local application at every step from reproductive health policy to primary care practice, in Najaf.

2. Materials and Methods

2.1 Study Design and Setting

This was a cross-sectional descriptive research study carried out among females aged 15-49 years in Najaf City, Iraq. The majority of answers were collected in November 2025, supplemented by others during January 2026.

2.2 Study Population and Sampling

The study population included women aged 18 years or older residing in Najaf City, Iraq, regardless of marital or parity status. An online convenience survey was conducted utilizing an Arabic electronic self-administered questionnaire distributed through social media platforms. Women were included if they were: aged 18 years or older; currently living in Najaf City; and willing to participate voluntarily. Participants who did not respond to key variables were excluded from analysis. One respondent reported an age of 17 years; this individual was retained in the descriptive analysis but the finding is acknowledged as a minor protocol deviation.

2.3 Data Collection Instrument

The Arabic structured questionnaire encompassed seven thematic domains: (1) sociodemographic characteristics such as age, educational level, and occupation; (2) awareness of contraceptive methods; (3) perceptions of contraceptive safety; (4) current use and method preference; (5) duration of use; (6) reported side effects; and (7) self-reported adequacy of health center counseling. The questionnaire was developed by the research team based on established contraceptive survey frameworks used in the MENA region and reviewed by all authors for content validity and clarity prior to distribution. A pilot test was not conducted; this is acknowledged as a limitation.

2.4 Data Analysis

Data were coded and analyzed in Python (pandas v2. 0). Summary statistics were reported as absolute frequencies and percentages for categorical variables, and mean ± standard deviation (SD) for the continuous age variable. Cross-tabulations were undertaken in order to examine the divided patterns of contraceptive use along education and employed subgroups. For instance, non-numeric entries of age values were cleaned by extracting the numeric part; entries falling outside the biologically plausible range (0–120) were dropped from age-related analyses. Participants who did not respond to primary outcome variables (contraceptive awareness, current use, and safety perception) were excluded from the corresponding analyses; the denominator for each variable is reported accordingly.

2.5 Ethical Considerations

Participation was voluntary, and all responses were anonymous. No personally identifiable information was collected. Completion and submission of the questionnaire was taken as implied informed consent, consistent with standard practice for anonymous online surveys. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Formal institutional ethical approval was not obtained for this anonymous survey study; the authors acknowledge this as a limitation and recommend that future studies in this area seek formal ethics committee review and obtain an approval number.

3. Results

3.1 Sociodemographic Characteristics

The final analysis included 419 valid responses. The average age was 29.4 ± 6.9 years with a range of 17–60 years old among participants. The highest age range were 20–29 years (n = 205; 48.9%) followed with the ages of 30–39 years (n = 118; 28.2%). Of participants, 40–49 years were 8.6% (n = 36), <20 years were 3.8% (n = 16), ≥50 years were 1.2% (n = 5) and in total, we found that a further number of participants had not provided their age in a usable format (39;9.3%).

Most respondents had a university degree (n = 245; 58.5%), secondary education (n = 85; 20.3%), primary education (n=57;13.6%) and other qualifications (n=26;6.2%). With regards to occupation, 190 (45.3%) participants were civil servants, 188 (44.9%) housewives and 36 (8.6%) self-employed or other occupational features.

Table 1: Sociodemographic Characteristics of Study Participants (n = 419)

Variable	Category	n	%
Age group	< 20 years	16	3.8
	20–29 years	205	48.9
	30–39 years	118	28.2
	40–49 years	36	8.6
	≥ 50 years	5	1.2
	Not reported	39	9.3
Educational level	University	245	58.5
	Secondary	85	20.3
	Primary	57	13.6
	Other	26	6.2
Occupation	Civil servant	190	45.3
	Housewife	188	44.9
	Self-employed/other	36	8.6

3.2 Contraceptive Awareness

Out of the 419 participants, 384 women (91.6%) reported that they heard about contraceptive methods while 35 (8.4%) have not heard about it at all. The high overall awareness rate was consistent across education and occupation subgroups, suggesting that the idea of family planning has permeated sufficiently well in urban Najaf to penetrate generally throughout society - similar to the high awareness rates reported in other regions of Iraq [5] and larger MENA-wide surveys [9].

3.3 Perceptions of Contraceptive Safety

Although awareness was high, perceptions of safety were much less positive. Responses to whether contraceptive methods were safe for them found that only 44.2% of

respondents (n = 185) indicated they considered contraceptive methods safe, while 32.9% (n = 138) reported unsafe and 22.7% (n = 95) unsure about the safety of these methods. These numbers represent a considerable remaining margin of safety-related hesitancy- one that is consistently demarcated across the MENA region, where personal and anecdotal norms dominate over educational attainment in impacting health attitudes [2, 9].

3.4 Current Contraceptive Use

Of the total 419 respondents, 250 (59.7%) were currently using a contraceptive method, whereas 150 (35.8%) were not and 17 (4.1%) intended to start using one in future. This rate of overall contraception use is 1% lower than the national estimate for Iraq (58%) [3], and 31-15% lower than the rates reported from Basrah (84%) [4] and Kirkuk (74.6%) [6]. The current use was slightly higher among housewives (62.9%) than the civil servant (58.4%) and self-employed individuals (55.6%); use rates were also narrow across educational levels from 58.3% to 64.3%.

3.5 Contraceptive Method Preferences

Based on the method mix, traditional and short-acting methods largely dominated among 250 active users. The most prevalent method was withdrawal (coitus interruptus) (n = 86; 34.4%), followed at some distance by oral contraceptive pills (n = 64; 25.6%) and male condoms (n = 50; 20.0%). Specifically, LARCs were underused as a total (copper IUD n=16; 6.4%; hormonal IUD/Mirena, n=12; 4.8%; and hormonal implant, n=11; 4.4%). Three (1.2%) women underwent tubal ligation and four (1.6%) had hormonal injections.

Table 2: Contraceptive Methods Among Current Users (n = 250)

Method	n	%
Withdrawal (coitus interruptus)	86	34.4
Oral contraceptive pills	64	25.6
Male condom	50	20.0
Copper IUD	16	6.4
Hormonal IUD (Mirena)	12	4.8
Hormonal implant (arm)	11	4.4
Hormonal injections	4	1.6
Tubal ligation	3	1.2
Not specified	4	1.6

3.6 Duration of Contraceptive Use

Of current users, 38.4% (n = 96) reported more than three years of using their current method, indicating prolonged use. Additionally, 24.4% (n = 61) were using their method for 1–3 years and 28.0% (n = 70) had been on it for less than one year. Continuous method use such as withdrawal, when an individual does not get sufficient counseling regarding limits of method use, can increase the risk of unwanted pregnancies cumulatively over time [11].

3.7 Reported Side Effects

Of the 250 current users, 89 (35.6%) reported side effects while 138 (55.2%) did not and 23 (9.2%) were unsure [1]. Menstrual irregularities were the most frequent symptom reported overall (n = 48), followed by both weight gain and tension and fatigue (n = 45 for each) as well as headache (n = 18 among the respondents who described specific symptoms). A non-specific "other symptom" category (n = 107) also indicates that symptom burden is both heterogeneous and inadequately characterized by available response options.

Table 3: Types of Side Effects Reported by Participants

Symptom	n
Menstrual irregularities	48
Weight gain	45
Tension and fatigue	26
Headache	18
Other (unspecified)	107

3.8 Future Method Change Intentions

Of the women, 36.3 % (n = 152) reported no plans to change contraceptive method in the future, whereas 29.4% (n = 123) planned on changing and 22.9 % (n = 96) were neutral about changing methods of contraception in the future. A meaningful, yet unfulfilled need for systemic counseling follow-up across all respondents is indicated by this interplay of both active dissatisfaction and not having decided — together representing over 50 per cent of all responders.

3.9 Perceived Sufficiency of Health Center Counseling

More than half of participants (53.9%, n = 226) felt that contraceptive counseling at primary health care centers was insufficient. Only 26.5% (n=111) thought it was good enough and a further 14.1% (n=59) chose partially adequate.

Table 4: Summary of Key Outcome Variables (n = 419)

Variable	Response	n	%
Heard of contraception	Yes	384	91.6
	No	35	8.4
Consider contraception safe	Yes	185	44.2
	No	138	32.9
	Don't know	95	22.7
Currently using contraception	Yes	250	59.7
	No	150	35.8
	Considering	17	4.1
Experienced side effects (among users)	Yes	89	35.6
	No	138	55.2
	Uncertain	23	9.2
Considering changing method	No	152	36.3
	Yes	123	29.4
	Uncertain	96	22.9
Health center counseling adequate	No	226	53.9

4. Discussion

4.1 Lack of Modern Methods Despite High Awareness

However, the most notable result of 91.6% awareness regarding contraception is comparable to other urban areas and the Arab World [5, 9]. This is clear that the awareness has approached to some segments of society maybe because of advantage of media, rural or urban residency and because more education in this good sample. But just being aware only gives half of the story. But even more so, it is whether women have sufficient and accurate information about specific

methods- including how they work, their effectiveness rates and how to properly use them.

This is confirmed by studies from several countries in the MENA region, which show that beside a general knowledge about contraception methods there are misconceptions regarding many individual methods, most of all with hormonal ones [9, 12]. The limitation of this study, which did not assess knowledge depth, is addressed directly by future work.

4.2 Safety: A Major Limitation

Just 44.2% indicated belief that contraception is safe — in addition to another 32.9% deliberately thinking it dangerous. These figures are impressive and corroborate previous observations from a multi-country study among women of the UAE, Egypt, Jordan, Syria and Iraq showed that women in Iraq had greater adjusted odds of reporting contraceptive-related adverse events compared to women from other participating countries (AOR: 25.71; 95% CI: 9.93–66.60; p = 0.001) [12]. Misperceptions on fertility consequences, cancer risk [9], and hormonal imbalance [12] in the long term are known determinants of nonuse of contraception across LMICs.

In its guidelines, all contraceptive methods have been rigorously tested for safety; the WHO recognizes that these safety profiles of most contraceptives will be applicable to 95% or more users [1]. The problem is that such evidence-based reassurances also do not map closely onto perceptions on the ground in Najaf, where women's fears need to form the basis of health communication with populations using trusted channels rather than standard awareness-raising campaigns.

4.3 Removing: Overextending a Second-best Option

Coitus interruptus, used by 34.4% of current users, is the single finding most characteristic of the local pattern with major public health implications for typical use in Najaf. However, the failure rate of withdrawal is 20 per 100 woman years for typical use meaning that as a contraception method this traditional method has high failure as compared to modern methods [11]. It is free, available everywhere, without prescription or even an appointment doctor visit needed, and no health risks associated with use [13], although any putative effect relies entirely on perfect execution that cannot be guaranteed in real practice.

The reliance of both Iraq and the rest of the Arab world on withdrawal from cities has been proven conclusive already. Though a survey [4] from Basrah revealed that withdrawal was practiced by 21.4% of all contraceptive users in Ramadi, it still is the most widespread traditional method used according to another report [5]. The withdrawal method has been a cornerstone of the family planning practice in Lebanon [14]. This is a trend that is still strong in Najaf according to current data. Some cultural and religious attitudes towards hormones, most of withdrawal (an ecologically supported method) with 'naturalness', financial barriers that prevent using more effective methods in countries were issues, as are inappropriate counseling regarding more efficacious methods.

4.4 Often low incidences of long-acting reveresible contraceptives (LARC).

Less than 16% of the total prevalence for current use of LARCs (copper IUDs, hormonal IUDs and the subdermal implant). Even by the standards for lower-end smartphones, this is low. LARCs are the most effective reversible method–typical-use failure rates 0.05% per year, and reproductive health experts worldwide recommend their use as first-line for individuals who wish to avoid pregnancies [1]. This lack of adoption of LARC bolsters compelling observational evidence from other regions in Iraq and lower-middle income countries (LMICs) that logistic barriers are not major impediments to uptake in populations that value such ease-of-use effectiveness [15, 16].

In conclusion, if we are to improve LARC use, we will need simultaneous action on demand- and supply-side bottlenecks. But this kind of problem-solving- having sufficient numbers of providers trained to insert LARCs, and sufficient stockpiles at primary care sites- is only part of the solution; reforms like these relying on better access should be implemented along with educational interventions that directly address similarly durable anxieties about intrauterine- and implant-based methods. Community health workers and pharmacists- as they are accessible as doctors, or even less intimidating than doctors (as their expertise is not seen to be the same) also can help inform decision making by counselling potential users.

4.5 Discontinue risk and involve a burden

Of the current users, 35.6% reported having side effects, especially menstrual irregularities and increased body weight complaints. These results are in line with the known adverse effects of hormonal contraceptives [7, 8]. The literature on weight gain is complex: Most hormonal contraceptives do not cause clinically significant weight gain in intervention studies [17] with depot medroxyprogesterone acetate (DMPA) appearing to be a possible exception, and some observations between hormonal birth control and body weight may reflect cyclic fluid retention or perception bias [18]. However, the perceived experience of change in weight itself is very real to the individual woman- and it should ring true in a clinical setting rather than be dismissed.

The relatively high frequency of 'other' adverse effects (n = 107) suggests that the fixed response options in the questionnaire inadequately characterised the range of women's experiences. It means giving proactive side-effect counseling, tailored to the individual, before the method initiation (rather than only when a problem has occurred and often been at that point already discontinues). Globally, the main reason for discontinuation of hormonal contraception is fear of side effects, especially those related to menstruation [7, 8]

4.6 The gap in counselling on primary health care

More concerning, 53·9% of participants considered the coverage for contraceptive counselling at primary health care centres to be inadequate. Primary care is an important potential source for this information, and when it fails to perform in the context of an access environment that has

achieved a safe misconception saturation level- where most women pick up their reproductive health knowledge through informal channels- the downstream consequences can have both profound and quantifiable adverse effects on reproductive health outcomes. Less than one in four women were likely to agree that counselling they received was suitable (26.5%).

Background Evidence-based person-centred contraceptive counselling requires more than information provision: it means discussing each woman's reproductive intentions, explaining the advantages and anticipated side effects of all available methods [1]. Achieving this threshold in a low-resource environment will require training health workers, allowing adequate time for consultations and potentially decentralising the counselling function to trained pharmacists or community health workers who might be more geographically accessible to women in communities, Najaf.

4.7 Study Limitations

Several limitations deserve acknowledgment. First, the very limitation of online questionnaire convenience sampling is likely to be a positive bias in younger women and those with higher education levels working out survey populations who have wider access to the Internet, so awareness rates are inflated. This is the second lacks the capacity to prove causation so intentionally designed. Third, reporting on reproductive health issues is susceptible to social desireability bias. Fourth, although the survey implemented by Al-Hawari et al is called rural-urban, it appears to be urban and hence results may not generalise beyond other areas of the Najaf governorate outside a metropolitan area. Future studies are needed to use probability based sampling and qualitative measures, which can then tokenize the experiential and sociocultural elements non-accessible to survey methodologies.

5. Conclusions

This study found high awareness of contraception among women in Najaf City, but continued reliance on traditional methods, particularly withdrawal, with limited uptake of long-acting reversible contraception. Safety concerns and perceived inadequate counseling at primary health care centers may influence contraceptive choices. Strengthening evidence-based counseling and improving access to effective contraceptive options may support more informed reproductive decision-making.

Conflict of Interest: The authors declare no conflict of interest.

Funding: This study received no external funding.

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