

Research Article,

Predictor Associated with Unmet Need for Family Planning among Saudi Postpartum Women: Mind the Gap.

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Abstract

Objective: This study aimed to explore the magnitude and related factors of the unmet need for postpartum family planning among Saudi women in Riyadh.

Methods: The cross-sectional survey was conducted in 2018 among postpartum women of less than 12 months. A structured questionnaire was used to collect the required data from 400 participants in primary health care (PHC) settings in Riyadh. Logistic regression model was used to determine the factors of unmet need.

Results: The proportion of unmet need for postpartum family planning among women was found to be 20.5%. Around half (55.8 %) of the participants reported that they had used family planning methods in the past. About 62% of the participants reported using modern contraceptive methods. Women over 30 years were 3 times more likely to be pregnant without using contraceptives (AOR:3.17; CI: 1.55-6.50; p: 0.002). Women who have 3 or more kids were 2.51 times more likely to experience unwanted pregnancies than women with fewer kids (OR: 2.55, CI: 1.17-5.56, p = 0.018).

Conclusion: The unmet need for postpartum family planning is almost double the global average and neighbour countries. There is a need to educate women about the importance of contraceptives use in the kingdom.

Key words: Family planning; unmet need; Postpartum; Contraceptives.

Introduction:

Background

Unmet need is the gap between women's childbearing intentions and their contraceptive behavior, resulting in unintended or mistimed pregnancies [1-3]. Around 25% of inter-birth spacing in developing countries is shorter than 24 months [4]. Premature births, low birth weight, infant mortality, and elevated maternal health risks, such as puerperal endometritis, anemia, rupture of membranes, and even death, are usually associated with closely spaced pregnancies[5 6]. In 2017, there were 142 million married women with unmet need, according to the United Nations; however, the number is expected to decline to 139 million in 2030[7].

Postpartum family planning (PPFP) is a relatively recent field of academic interest, and after being neglected for a long time, PPFP is gaining momentum. A few studies surrounding PPFP have been carried out globally. Some of these studies have broadly investigated the issue, while others have chosen to focus on

particular regions of the world, such as Africa, Asia, and the Middle East [8 9]. The East African countries seem to have the highest rates of PPF (43%), more than three times the global average. Women usually neglect or avoid FP after childbirth, which results in a higher unmet need for PPF. In 2016, the unmet need for PPF represented 65% of all unmet needs in the Arab world [2].

In Saudi Arabia, studies have provided empirical data on the use of contraception in the cities of Abha, Al Madinah, and Al Qassim Region [3 6 10 11]. In Aseer and Abha, only one study was performed exploring the unmet need in such a population [3]. These studies aimed to investigate Saudi women's reproductive behavior in the wake of new socio-demographic shifts in the region [3 6 10 11]. They also suggested an unmet need for family planning; despite this change (FP). These findings offer insights into the unmet need for FP in some regions of the kingdom. However, because of their regional scope, they do not represent unmet needs nationwide [3 6 10].

Research on other regions of the country must be carried out to get an adequate understanding of the phenomenon, and this is where the scope of this research falls. Riyadh city offers a fertile ground for the study of unmet need because it is the capital and one of the country's biggest cities, which will increase the reliability of the findings. Moreover, the above-mentioned studies in Saudi Arabia focused on FP in general, whether to space pregnancies or to stop giving birth [3 10 11]. Since postpartum pregnancies bring a high health risk for both mother and child, it is necessary to assess the burden of unmet need of postpartum family planning in Saudi Arabia to address their need. Thus, the objective of this study was to measure the magnitude and factors of the unmet need for PPF in Riyadh, Saudi Arabia.

Material and Methods:

Study design and setting

To measure the rate of unmet need for PPF, we conducted a cross-sectional descriptive study in Riyadh, which is Saudi Arabia's second biggest city in terms of demographic density. According to the 2016 demographic survey, Riyadh topped in the age and sex distribution of the population with 37.6 % of its population in the age group of 15-65 years and of this group 48% are women. This is suitable for the research scope as most of the fecund and sexually active women are in this group. As this study used women attending primary health care (PHC) centers in Riyadh city, these centers were the framework of our sample. A round of 95 PHC centers distributed in five main regions (South, North, Central, East, and West).

Sampling and Study Population

The study included all postpartum Saudi women aged between 15- and 49-yearsold living in Riyadh who had given birth in the last 12 months prior to the study. Women who did not provide written informed consent were excluded from the study. Based on the sample size assumption, we required a minimum of 400 participants to conduct the study. We used a simple random sampling method to select the study participants. The sample size in each primary health care was based on the percentages of the PHC in each region strata. For the sake of consistency, only 2 centers have been selected for each region, making 10 of the total number of health centers surveyed.

Primary Outcome variable

The primary Outcome variable was an unmet need for postpartum family planning, and it was defined as women who perceived themselves as not being fecund (even though they are physiologically fecund) either because they don't have sex frequently or those who, after six months postpartum, still think they are amenorrhoeic, and women who don't want to become pregnant, who think they are at risk of pregnancy and yet don't use any contraceptive method.

On the other hand, met need for postpartum family planning was defined as women who were currently on a modern contraceptive plan, and women who used traditional contraception method and believe that their need is met.

Independent variables

The dependent variables were regressed against several socio-demographic variables. These included participant's age at the time of the survey and marriage, place of living (city or countryside), occupation

(housewife or working), mother's education, income level (enough/not enough), number of living children, and number of sons and history of wanted pregnancy (Yes/No).

Data collection and study measures

The data were collected between August 1st and October 1st, 2018. A validated questionnaire was used and self-administered for the randomly enrolled women who met the inclusion criteria. The questionnaire was translated into Arabic to make it accessible to all women in the health centers. A pilot study was conducted to check the questionnaire's validity on 20 women (5%) in settings other than study areas.

Statistical Analysis

Data were analyzed using SPSS version 25. We calculated descriptive statistics in numbers, percentage, mean, standard deviation or median and range whenever appropriate. We used t-test, Chi-squared/Fisher's exact tests compare the groups for various continuous and categorical variables, respectively. Univariable analysis was done to identify the factors associated with unmet need and crude odds ratio with 95% confidence intervals were calculated. Univariable analysis was followed by multicollinearity assessment. This was followed by multivariable analysis by the purposeful selection method. Each independent variable's significance was assessed by its p-value of less than 0.05 and likelihood ratio testing. Confounding was assessed by change in estimate of coefficient by 15 percent.

Results

Socio-demographic characteristics of the participants

A total of 400 women were studied. The mean age for the participants was 30.6 years (\pm SD: 6 years) and the mean age at the time of marriage was 22.1 years. The total unmet need for postpartum family planning was 20.5%. All the participants were from Riyadh, and none of the participants came from a rural background (Table 1).

Table 1 Socio-demographic characteristics of the participants (n=400)

Characteristics		n	%
Age groups (years)	≤25	70	17.5
	25-29	128	32.0
	30-34	77	19.3
	35-39	100	25.0
	≥40	25	6.3
Age at marriage (years)	17-19	90	22.5
	20-22	144	36.0
	23-25	110	27.5
	≥26	56	14.0
Occupation	Housewife	233	58.3
	Working	167	41.8
Mother education	Basic education and below	30	7.5
	Secondary	142	35.5
	Diploma	110	27.5
	University	118	29.5
Husband education	Basic education and below	59	14.8
	Secondary	199	49.8
	Diploma	86	21.5
	University	56	14.0
Level of income	Good	369	92.2
	Poor	31	7.8

Fertility and reproductive characteristics

Table 2 is shown that most of the mothers reported having 3 to 4 children (40.3%). Having male children is significant in understanding unmet need. Almost high percentage of participants expressed wanted pregnancy (83.8%). Only 16.3% of the women had previous unwanted pregnancies. Around half (54.7%) of

the pregnant women reported that this pregnancy was wanted. A high percentage (74.7%) expressed their desire to have another child. Only 25.3% expressed their desire to limit pregnancies.

When asking the participants about the status of contraception use, almost high percentage (82, 9%) answered they are already on a contraceptive, while around half (55.8%) of them reported that they have had experienced the use of family planning in the past. Pills are the most used form of modern contraception with 51.2% use. Among the other modern contraceptives, hormonal methods, male condoms, and vaginal ring were the least used at 4.1 and 5.7% respectively (Figure 1).

Table 2: Fertility and reproductive characteristics of the participants (n=400)

Characteristics		n	%
Living Children	1-2	153	38.3
	3-4	161	40.3
	≥5	86	21.5
Number of male children	0	52	13.0
	1	123	30.8
	2	106	26.5
	≥3	119	29.8
History of dead child	Yes	36	9.0
	No	364	91.0
Unwanted pregnancy in the past	Yes	65	16.3
	No	335	83.8
Pregnancy status	Currently pregnant	95	23.8
	Not pregnant	305	76.3
Current Pregnancy in months	2	4	1.0
	3	20	5.0
	4	23	5.8
	5	27	6.8
	6	21	5.3
Pregnancy Intention	Yes	52	54.7
	No	43	45.3
Want another child or stop	Another child after a while	71	74.7
	To stop having children forever	24	25.3
Are you still menstruating	Yes	291	95.4
	No	14	4.6
Currently used family planning methods	Yes	252	82,9
	No	52	17.1
Used family planning method in the past?	Yes	223	55.8
	No	177	44,3
Usedcontraceptive/currently using?	Modern	248	78.0
	Traditional	56	17.6
	Both	14	4.4
Which type of family planning is used?	Pills	205	64.5
	IUD	35	11.0
	Hormonal *	13	4.1
	Barriers **	18	5.7
	Natural***	47	14.8
Reason for Using it	Spacing	259	86.9
	Stop giving birth forever	39	13.1

*(Injection + Implant + Patch); ** (Condom + Vaginal Ring); *** (Coitus+ calendar +breast feeding)

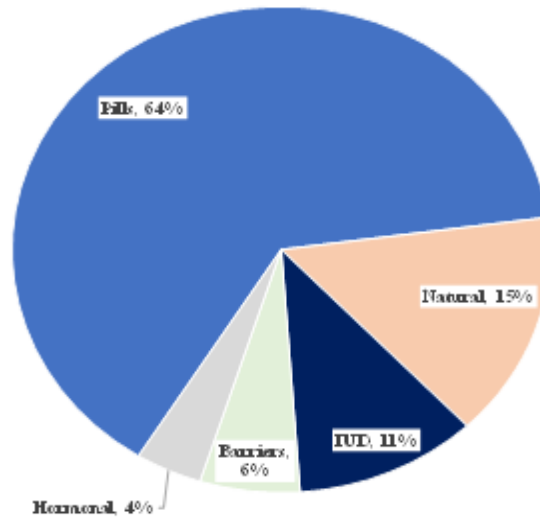


Figure 1 Prevalence of Contraceptive Use per Type

Table 3 Univariate and Multivariate Regression Analysis for Pregnancy Related factors (n=400)

Factors		Univariate			Multivariate		
		OR	95% CI	P value	AOR	95% CI	P value
Age groups	< 30 years	R	-	-	R	-	-
	≥30 years>	2.000	0.898-4.457	0.090	1.809	0.889-3.680	0.102
Age at marry (years)	< 23 years	R	-	-	-	-	-
	≥23 years	0.851	0.442-1.641	0.631			
Mother education	≤ Secondary	R	-	-	-	-	-
	University	0.924	0.469-1.819	0.819			
Husband education	≤ Secondary	R	-	-	-	-	-
	University	1.082	0.572-2.048	0.808			
Occupation	Housewife	R	-	-	R	-	-
	Working	0.516	0.258-1.030	0.061	1.863	1.030-3.368	0.039
Total children	1-2 children	7.655	2.669-21.961	0.000	8.916	3.409-23.320	0.000
	3-4 children	2.537	1.198-5.373	0.015	2.499	1.208-5.170	0.014
	≥5 children	R	-	-	R	-	-
Male child	No male children	1.383	0.434-4.404	0.583			
	1 child	1.424	.599-3.380	0.424			
	2 male children	0.834	0.416-1.670	0.608			
	≥3 male children	R	-	-	-	-	-
Level of income	Good	1.125	0.403-3.143	0.822			
	Poor	R	-	-	-	-	-

Table 4 Univariate and Multivariate Regression Analysis for Factors on Contraceptive Use (n=400)

Factors		Univariate			Multivariate		
		OR	95% CI	P value	AOR	95% CI	P value
Age groups	< 30 years	R	-	-	R	-	-
	≥30 years	4.620	1.879-11.358	0.001	3.169	1.545-6.500	0.002
Age at marry (years)	< 23 years	1.316	0.590-2.933	0.502	-	-	-
	≥23 years	R	-	-	-	-	-
Mother education	≤ Secondary	1.348	0.583-3.119	0.485	-	-	-
	University	R	-	-	-	-	-
Husband education	≤ Secondary	0.683	0.330-1.413	0.304	-	-	-
	University	R	-	-	-	-	-
Occupation	Housewife	1.634	0.687-3.888	0.267	-	-	-
	Working	R	-	-	-	-	-
Total children	1-2 children	1.553	0.504-4.784	0.443	-	-	-
	3-4 children	2.692	0.955-7.589	0.061	-	-	-
	≥5 children	R	-	-	-	-	-
Male child	No male children	5.644	1.644-19.377	0.006	3.735	1.272-10.963	0.016
	1 child	3.505	1.166-10.539	0.026	2.686	1.040-6.939	0.041
	2 male children	3.586	1.320-9.746	0.012	2.909	1.145-7.392	0.025
	≥3 male children	R	-	-	R	-	-
Level of income	Good	0.431	0.130-1.436	0.171	-	-	-
	Poor	R	-	-	-	-	-

R= reference

Reasons for not using any means to prevent or regulate pregnancy

The highest percentage of women reported that they were not on a contraceptive plan because they were either breastfeeding and/or because they did not have frequent sexual intercourse (31.7%). The second-high percentage was assigned to reasons related to family issues (30.5%). Health issues and reasons related to contraceptives scored the lowest at 3.7% and 6.1%, respectively. 17% of the participants who reported not having been on contraceptive plan lacked knowledge of contraception, and 11% avoided it for religious reasons.

Univariate and Multivariate Regression Analysis

A univariate and multivariate analysis was conducted to determine pregnancy-related factors. Among women who got married between the ages of 20-22, there was a higher chance of falling pregnant than those who got married 23-25 years old (OR: 3.894, CI: 1.30-11.61, p= 0.015). Among those who have more than 2 male children, the likelihood of becoming pregnant were higher than those who have one male child (OR: 3.591, CI: 1.49-8.65, p= 0.001), while those who have more than 5 children had a higher chance of falling pregnant than those who have 2-3 children (OR: 2.55, CI: 1.17-5.56, p=0.018). Similarly, findings were found with multivariate regression analysis for both factors, as shown in table 3.

Another model was used for assessing factors affecting the probability of using contraception with socio-demographic variables. Women of age ≥30 yearshave shown a higher chance of using contraceptives in comparison to those <30 years old (odds ratio [OR]: 4.62, confidence interval [CI]: 1.88-11.36, p value [p]=0.001). Also, women having no male child or only one male child were more likely to use contraceptives of five times and three times higher than for those with three male children respectively (OR: 5.64, CI: 1.64-19.38, p =0.006; OR=3.51, 95%CI=1.166-10.539, and p=2.686, respectively). Similarly, findings were found with multivariate regression analysis for both factors, as shown in table 4.

Discussion:

This study aimed to determine the level of unmet need for postpartum family planning (PPFP)and associated factors. The study found a rate of 20.5% of unmet need for PPFP among women in Riyadh city. Whileour findings were slightly lower than what was found at the national level, it is important to emphasize that this study is focused on PPFP and not on unmet needs in general. Two other studies conducted in the Southern Region of Saudi Arabia in general and in Abha and Asser in particular, of 34% and 32.6% of unmet need for

family planning, respectively[3 12]. However, these two studies examined the women's contraceptive behavior up to 5 years prior to the time of their study. When comparing our findings to similar studies in the Arab world, the unmet need for PFP in Saudi Arabia is higher than in Egypt (20.5% versus 16.3%) in 2017[5]. However, the estimated rate of unmet need in the Arab countries was found as 12%, according to the last UN report (2017) on contraceptive prevalence [7].

Worldwide, the rates of unmet need for postpartum family planning vary significantly. Our findings are comparable to other studies conducted across the globe. For example, a group of researchers conducted a family planning study of six-week postpartum women in five low-income countries (2015): India, Zambia, Pakistan, Guatemala, and Kenya, they found that the unmet need for family planning ranged from 25.5% in Zambia to 96.6% in Pakistan [13]. Controversial findings were found between different studies conducted in the region. For example, a higher rate of unmet need for family planning was observed in Pakistan, Iraq, and Ethiopia than what we recorded in our study(32 %, 28.1%, 44%, respectively)[14-16].

As to the prevalence of contraception use, this study has shown that 62% of women use modern contraceptive methods whereas 14% use traditional methods. It is noted here, that this level is higher than the national prevalence of unmet need which is 30% according to the UN report on contraceptive prevalence [7]. This level could vary between rural, semi-urban, and urban regions. All the study participants were from urban area. The educational level and the occupation of the participants explain the high prevalence of contraceptive use. When compared to other studies, the level of prevalence of contraceptive in this study is lower than prevalence from Al Madinah (88.0%)[10], and Taif (67.7 %) in Saudi Arabia, as well as in Egypt (80.7 %) [5 17]. However, it was higher than the prevalence reported in Abha and Asser, the southern part of the country (54.7%) [3].

Postpartum family planning seeks to prevent closely spaced and unintended pregnancies in the first 12 months postpartum. Studies have revealed that 30% of maternal deaths and 10% of under-five child mortality can be prevented with the 2-years inter-birth interval[18]. Preventing closely spaced and accidental pregnancies should target not only those women who indicated no use of family planning (perceived unmet need) but also those who don't automatically feel vulnerable to pregnancy (perceived no need) and those who use traditional FP methods (perceived met need). In this study, 14% of FP's total need was met with traditional methods, and 2.8% do not see themselves at risk of falling pregnant.

Studies on unmet need for family planning usually distinguish four types of reasons: fear of side effects of the contraceptive methods, infrequent sex, opposition from partners and family members, and cultural and religious barriers [9 15 19 20]. The WHO is intensifying its efforts to increase the prevalence of contraceptive use globally, with a focus on the least developed regions. The Family planning initiative of 2020 seeks to promote family planning to empower women in developing countries. This study has investigated the reasons for unmet need among the participants. The findings of the study reveal that breastfeeding and infrequent sex were the most reported reasons for unmet need, whereas family and health issues were the least reported reasons. The findings of the study concerning health issues are in contrast with many studies. In Egypt, fear of side effects were reported in 25% of the participants [21] in 2018, and 19.2% in postpartum women in 2017[5]. Family issues were strongly reported in this study, at 30.5%. The issues involved the opposition of the husband and the opposition of the relatives. Much of the literature focuses on the role of the spouse in unmet need. Husband opposition appeared in 15.9% of the cases in rural Egypt in 2018[21], and 16.4% in Iraq[14].

Limitations of the study

As this study was conducted in only one city of Saudi Arabia (Riyadh), the findings could not be generalized for the whole country and considered among the study's limitations. A nation-wide study is therefore needed to determine the real level of unmet need. The questionnaire used in the study addressed some critical areas of the unmet need, such as demographic characteristics, fertility preferences and contraceptive behavior. There are, however, a few variables that could have been included, such as the ideal number of children and the spouse's role in choosing family planning. These variables could have affected the level of unmet need. However, the current global trend is also using to measure unmet need by studying on men, as it usually investigates the attitudes and the collaboration of the husband in family planning. In this study, females were

exclusively investigated. Therefore, a future study should be a male-based study to yield more results regarding the husband's opposition/permission to contraceptives.

While this study has some limitations, it is considered among the few studies conducted in Saudi Arabia and is the first to be conducted among attendees of the primary health care centers in the kingdom. Moreover, it is also the first study that investigates women in the postpartum state.

Conclusion and recommendations

Determining the level of unmet need for postpartum family planning has significant implications for policymakers. Unmet need for family planning is a burden to any government. It increases expenses in the health sector and hampers economic development. Meeting this need would have positive consequences for the health sector in Saudi Arabia, and the national economy.

Based on the findings of this study, we suggest that contraceptive methods should be given free of charge at the level of public health centers to increase the rate of contraceptive use. Since family planning applies to men and women, we would like to draw the attention of the Ministry of Health to the need to establish strategies for the unmet needs of both men and women. A suggestion can be made to the Ministry of Education to schedule health education programs for postpartum women to educate them about the use of modern contraception. We also recommend physicians and midwives in the public health centers speak to postpartum women about the use of family planning to encourage birth spacing.

Abbreviations:

Postpartum family planning=PPFP

Family planning=FP

Primary health care=PHC

Declaration

Ethical approval: The study was approved by IRB Ethical Committee of King Abdullah International Medical Research Center (KAIMRC) at the Ministry of National Guard for Health Affairs (SP 18/070/R31). Additional IRB Ethical Approval from King Fahd Medical City (#FWA00018774).

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