Unmet Need for Postpartum Family Planning in Riyadh, Saudi Arabia: Findings from a cross-sectional study

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Abstract

Background: The use of contraceptives in the postpartum period is usually neglected by women, which results in an unmet need for postpartum family planning, and unintended or closely spaced pregnancies. Therefore, this study aimed to explore the magnitude as well as related factors of unmet need for postpartum family planning among Saudi women in Riyadh.

Methods: A cross-sectional survey was conducted in Riyadh between August 1st and October 1st, 2018. All women who were less than 12 months postpartum period at the time of the study and residents of Riyadh were included in the study. The study used the systematic random sampling technique to collect data from 400 participants. The research tool consisted of a structured questionnaire. Univariate and multivariable logistic regression was used to determine the factors of unmet need.

Results: The mean age of the participants was 30.6 years and the mean age at the time of marriage was 22.1 years. 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. Our findings reveal that women with a university-level education were 2 times more likely to become pregnant than those with basic education (OR: 2.321, CI: 1.06-5.07, P=0.035). Women who have 3 or more kids 2.51 times likely to experience unwanted pregnancies when compared to women who have a fewer number of 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 level of unmet need, and higher than many Arab countries. There is a need to educate women about the dangers of unintended pregnancies and increase access to contraceptives in the kingdom.

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). Pregnancies that are not well-spaced are usually associated with premature births, low birthweight, infant mortality and expose the mother to high health risks, such as puerperal endometritis, anemia, rupture of membranes and even death (5, 6). According to the United Nations, there were 142 million married women with unmet need in 2017, and is projected to make a slight decline to 139 million in 2030 (7).

Postpartum family planning (PPFP) is a relatively new area of academic interest and after being neglected for a long time, PPFP is gaining momentum. Globally a few studies have been carried out about PPFP. Some of these studies investigated the issue at the global level, while others chose 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 level of PPFP with proportion of 43%, more than three times than global level. Women usually neglect or avoid FP after childbirth, which results in a high level of unmet need for PPFP. In 2016, unmet need for PPFP represented 65% of all unmet need in the Arab world (2).

In Saudi Arabia, studies have provided empirical data on the use of contraceptives in the cities of Abha, Al Madinah, and Al Qassim Region (3, 6, 10, 11). Only one study has been conducted in Aseer and Abha investigating the unmet need in such a population (3). These studies sought to explore the reproductive behavior of Saudi women in the wake of the new socio-demographic changes in the country (3, 6, 10, 11). They also indicated that, despite this increase, there is unmet need for family planning (FP). The results of these studies give an insight into unmet need for FP need in some regions of the Kingdom. However, they don't reflect unmet need nationwide because of their regional specificities (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 biggest cities in the country, 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. Since pregnancies that happen postpartum carry with them a high health risk for both mother and child, therefore, it is important to measure the burden of unmet need of postpartum family planning to address its need in Saudi Arabia. Thus, the objective of this study was to measure the magnitude and factors of the unmet need for PPFP in Riyadh, Saudi Arabia.

Material And Methods

Study design and setting

To measure the rate of unmet need for PPFP, we conducted a cross-sectional descriptive study in the Riyadh, which is the second biggest city of Saudi Arabia 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 scope of the research 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 95 PHC centers located in the city distributed in five main regions (South, North, Central, East, and West).

Sampling and Study Population

All postpartum Saudi women living in Riyadh, aged between 15-49 years old and who gave birth in the last 12 months before the study were included in 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, 2 centers were chosen per region, which makes the total number of health centers surveyed 10.

Primary Outcome variable

Primary Outcome variable was 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 + 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 + 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 at 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 was collected between August 1st and October 1st, 2018. A validated questionnaire was used and was 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. To check the validity of the questionnaire, a pilot study was conducted on 20 women (5%) in settings other than study areas.

Statistical Analysis

Data were analyzed using SPSS version 25. We calculated descriptive statistics in the form of numbers, percentage, mean, standard deviation or median and range whenever appropriate. We used t-test, Chi-squared/Fisher's exact tests to make comparisons between the groups for various continues 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 purposeful selection method. The significance of each independent variable 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

Sociodemographic characteristics of the participants

The 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 belonged to city of Riyadh, and none of the participants came from a rural background (Table 1).

Fertility and reproductive characteristics

Table 2 shows 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 of them (74.7 %) expressed their desire to have another child another and only 25.3 % expressed their desire to limit pregnancies.

When asking the participants on the status of contraceptive use, almost high percentage (82, 9%) of them answered they are currently using 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 type of modern contraceptives with 51.2% use. Of the modern contraceptives, hormonal methods, male condoms, and vaginal ring were the least used at 4.1 and 5.7 % respectively (Figure 1).

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 the contraceptives scored the lowest at 3.7 % and 6.1 % respectively. 17 % of the participants who reported not being on a 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 go married between the age of 20-22, there was 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 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.

A univariate and multivariate analysis was conducted to determine factors affecting the probability of using contraception. Among women ≥ 30 years of age, there was 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). Among those having no male child, the likelihood of using contraceptives was five times higher than for those having three male children (OR: 5.64, CI: 1.64-19.38, p =0.006), while those with one male child, the likelihood of using contraceptives was more than three times higher than those with three male children (OR=3.51, 95%CI=1.166-10.539, and p=2.686). 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. Although our findings were a little bit lower than what was found at the national level, it is important to emphasize that this study focused on PPFP and not unmet need in general. Other two studies conducted in the Southern Region of the Saudi Arabia in general and in Abha and Asser in particular, showed levels of unmet need for family planning of 34% and 32.6%, respectively (3, 12). However, these two studies examined the contraceptive behavior of women up to 5 years prior to the time of their study. When comparing our findings to similar studies in the Arab world, the level of unmet need for PPFP in Saudi Arabia is higher than 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 instance, a group of researchers carried out a study on family planning among six-week postpartum women in five low-income countries (2015): India, Zambia, Pakistan, Guatemala and Kenya, found the rate of unmet need for family planning ranged between 25.5% in Zambia to 96.6% in Pakistan (13). Controversial findings were found between different studies conducted in the region. For example, in Pakistan, Iraq, and Ethiopia a higher rate of unmet need for family planning was found than what we report in our study (32 %, 28.1%, 44%, respectively) (14-16).

As to the prevalence of contraceptive use, this study has shown that 62% of women use modern contraceptive methods and 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 from rural to semi-urban to urban regions. All the participants in the study were from the 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).

Post-Partum 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-year inter-birth interval (18). The prevention of closely spaced and unintended pregnancies should target not only those women who reported no use of family planning (perceived unmet need) but also who don't consider themselves susceptible to pregnancy immediately (perceived no need) and those who use traditional FP methods (perceived met need). In this study, 14 % of the total need for FP 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 as a way of empowering women in the 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 less reported reasons. The findings of the study in relation to health issues are in contrast with many studies. In Egypt, fear of side effects was reported in 25% of the participants (21) in 2018 and 19.2% in the case of postpartum women in 2017 (5). Family issues were highly reported in this study, with 30.5%. Family issues in the research included husband's opposition and opposition from 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), in 16.4 % in Iraq(14).

Limitations of the study

As this study was conducted in only one City of Saudi Arabia (Riyadh), thus, the findings could not be generalized for the whole country and considered among the limitation of the study, among others. Thus, a nation-wide study is needed to determine the real level of unmet need. The questionnaire used in the study addressed some key areas of unmet need, such as demographic characteristics, fertility preferences and contraceptive behavior. However, there are a few variables that could have been included, such as the ideal number of children and the role of the spouse in the choosing the 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. This study was exclusively investigated females. Therefore, a future study should be a male-based study to yield more results regarding the husband opposition/permission to contraceptives.

Although there are some limitations of this study, it is considered among the few studies conducted in Saudi Arabia and it is the first one done among attendees of the primary health care centers in the kingdom. Moreover, it is also the first study that investigates women at the postpartum state.

Conclusion And Recommendations

Determining the level of unmet need for post-partum family planning has significant implications for policy makers. Unmet need for family planning is a burden to any government as it increases expenses in the health sector and hampers economic development. Meeting this need would have positive

consequences not only on the health sector in Saudi Arabia, but on the national economy as well.

Based on the findings of this study, we suggest providing contraceptive methods free of charge at the level public health centers to increase rate of contraceptive use. Given the fact that FP is related to both men and women, we would like to bring to attention of the Ministry of Health the need to design strategies for unmet need for 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 on the use of modern contraceptives. We also recommend to physicians and midwives in the public health centers to talk to postpartum women about the need to space births using family planning.

Abbreviations

Postpartum family planning=PPFP

Family planning=FP

Primary health care=PHC

Declarations

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).

Consent for publication: not required.

Availability of data and materials: All cited articles are available online.

Competing interests: The authors declare that they have no competing interests.

Author contributions: Conceptualization of the project AB, designing the proposal AB and SM, collecting data: SM, Analysis of data and writing of the manuscript: AB and SM, Editing and approval of the manuscript: AB and SM.

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Tables

Table 1 Sociodemographic 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

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/ 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
Used contraceptive/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)

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	-	-	-

R= reference

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

Figures

Figure 1

Prevalence of Contraceptive Use per Type