



RESEARCH ARTICLE

PREVALENCE, PATTERNS AND DETERMINANTS OF CONTRACEPTIVE USE AMONG WOMEN ATTENDING ANTENATAL CLINICS IN WESTERNS REGIO OF SAUDI ARABIA

^{*},¹Monerah Al Hemedi, ²Majid Alghamdi and ³Farzana Rizwan Arain

¹MBBS, SDFM, Ministry of Health, Jeddah City, Saudi Arabia

²SBCM, ABCM, Consultant Community Medicine, Joint Program of Community Medicine, Jeddah City, Saudi Arabia

³Taif Medical College, Taif City, Saudi Arabia

ARTICLE INFO

Article History:

Received 19th September, 2017
Received in revised form
04th October, 2017
Accepted 10th November, 2017
Published online 31st December, 2017

Key words:

Contraception; Contraception;
Cultural factors; Beliefs;
Saudi Arabia.

ABSTRACT

Despite the popularity of contraceptives, their use and choice may vary depending on social, cultural and personal beliefs. This cross-sectional study estimated the prevalence and analyzed the determinants of contraception use among women attending antenatal care clinic in primary healthcare centers in two cities of Saudi Arabia. The prevalence of contraceptive use was 84.2% (95%CI= 80.5%; 87.5%). Oral contraceptive pills were the most frequently used (68.2%), followed by Intrauterine devices (17.6%) and male condom (7.1%). Non-use of contraceptives was predicted by belief that contraception constitute a religious transgression, lack of woman's decision autonomy and husband's refusal. Results from this study suggest that a high proportion of contraceptive use is beyond medical supervision, which exposes to misuse and serious side effects.

Copyright © 2017, Monerah Al Hemedi et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Monerah Al Hemedi, Majid Alghamdi and Farzana Rizwan Arain, 2017. "Prevalence, patterns and determinants of contraceptive use among women attending antenatal clinics in westerns regio of Saudi Arabia", *International Journal of Current Research*, 9, (12), 63408-63414.

INTRODUCTION

Contraception, also referred to as fertility or birth control, is defined as the deliberate use of artificial methods to prevent pregnancy in presence of sexual intercourse. The two principal aims of contraception are woman's health protection and family planning; which from an individual perspective refers to a physical and or social convenience, but from a political perspective refers to control of human population growth (Bass, 1978; Harlap, 1991; Schenker, 1993 and Ahmed, 2012). During the past 50 years, more than 200 million women worldwide have taken the pills. By 2016, a range of safe, efficient options is available to women or families who wish to inhibit conception and prevent unintended pregnancy. Consequently, a substantial decline of fertility has been observed in the last decades, neighboring the replacement level (2.3 births per women) in some regions. This decline is partially explained by the increase in contraceptive use, besides other factors such as the escalation in induced abortion and decline in sexual relationships (Singh, 2017 and Goldin, 2002). However, there are still a great deal of unmet needs for contraception especially in developing countries, where there

is lack of knowledge and inadequate access to services that provide clear information and counseling to help women choose the effective and appropriate contraceptive method. In most of these countries, lack of knowledge is associated with misconceptions about contraception and cultural and social barriers; in addition to concerns about related health risks (Sedgh, 2014 and Motlaq, 2013). This results in high rates of unintended pregnancies, in addition to maternal morbidity and mortality remaining high in some countries, such as Sub-Saharan Africa and South Asia (Sedgh, 2014 and Motlaq, 2013; Erfani, 2013). Therefore, the aim of the study was to provide insight into contraception use and investigate sociodemographic, cognitive and cultural factors that may constitute an obstacle to contraception use among women attending antenatal care clinic (ANC) in primary health care (PHC) centers.

MATERIALS AND METHODS

A cross-sectional study conducted between 1 and 31 May 2016, at PHC centers in Jeddah and Al Lith, Kingdom of Saudi Arabia. This study targeted women attending ANC in PHC centers in Al Lith, Jeddah, Saudi Arabia. A multi-stage stratified sampling technique was used for this study. In Stage 1, Jeddah was divided into 5 strata corresponding to the 5

*Corresponding author: Monerah Al Hemedi,
MBBS, SDFM, Ministry of Health, Jeddah City, Saudi Arabia.

health sectors Northern, Western, Eastern, Southern and Centre. From each stratum, one PHC was randomly selected. One PHC center was randomly selected in Al Lith. In Stage 2, a convenience sampling was used to include all eligible participants among women attending the ANC clinics in the selected PHCs from the two cities, in the period 1st May-31st May 2016. The target sample size was calculated using Raosoft calculator (http://www.raosoft.com/sample_size.html), to detect an expected 67% prevalence of contraceptives use (Albezrah, 2015), with 5% margin error and 80% statistical power, among a total population of 2000 in Jeddah PHCs and 277 in Al Lith centers. Calculated sample sizes in Jeddah and Al Lith were N=293 and N=153, respectively (Total=446).

Inclusion criteria were applied as follows

Adult (age >18 years), married women of childbearing age, who attended the ANC in the participating centers during the study period (May 2016)

Exclusion criteria were applied as follows

Women aged 18 years or less or those in menopause or premenopausal age; as well as mentally disabled patients. A self-administered, semi-structured questionnaire was designed by the researcher for the only purpose of this study. The questionnaire was administered in the Arabic language and auto-filled by the participant. It included 4 parts: 1) sociodemographic and economic data such as age, years of marriage, educational level of both participant and her husband, etc.; 2) history of contraceptives use and type(s) of contraceptive method(s) used including pills, loop, injections, patch, vaginal ring, male condom, withdrawal or any other methods; in addition to experienced side effects; 3) obstacles to contraceptives use including the presence of any obstacle (yes/no); participant's perception and beliefs regarding contraceptive use (whether it is opposite to religious rules, may be recommended in some health conditions, expensive, should better be used after medical visit); husband's attitude (always accepts, sometimes accepts, refuses) and eventually reasons for his refusal; 4) self-assessed knowledge about contraceptives including knowledge about side effects, whether a doctor visit is required to choose the appropriate contraceptive, whether participant needs more information about the correct usage and different types of contraceptives, and knowledge source (doctor, friends, internet, others). Both the study protocol and questionnaire were approved by the Department of Medical Research and Studies, Directorate of Health Affairs, Jeddah, Ministry of Health. Confidentiality was assured by anonymous data collection (only first name of the participant) and coding of collected data in the database. Verbal consent was obtained from all participants prior to interview.

Statistical analysis was carried out using SPSS, version 21 (IBM SPSS Statistics for Windows, Armonk, NY: IBM Corp. 2012). Descriptive statistics were used to calculate the prevalence and 95% confidence interval (CI) of contraceptives use, as well as to describe the patterns of contraception methods used. Demographic factors associated with contraceptives use as well as correlation between contraceptive use and knowledge were analyzed by comparing the group of users with nonusers, using chi-square test for categorical variables and independent t-test for continuous variables. Univariate and multivariate binary logistic regression models were carried out to analyze predictors of contraceptives use;

results were presented as odds-ratio (OR) and 95% CI. Statistical significance level was fixed for a p-value < 0.05.

RESULTS

Prevalence and pattern of contraceptives use

The prevalence (95% CI) of contraceptive use was 84.2% (80.5%; 87.5%) in pooled population, 80.8% (75.57%; 85.1%) in Jeddah and 91.0% (85.4%; 95.0%) in Al Lith; (p-value=0.004). Pills were the most frequently used contraceptive method reported by 68.2% of the users, followed by loop in 17.6% and male condom in 7.1%. Other contraceptive methods included electronic fertility monitor (1 case), ligature (1 case), pills for breastfeeding (1 case), and 1 case of unspecified method (Figure 1).

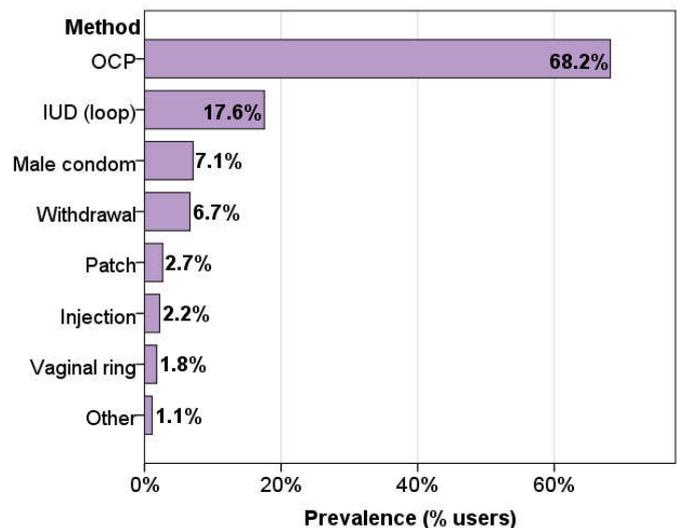


Fig. 1. Types of contraceptive used by attendees of antenatal care clinic

Demographic and lifestyle characteristics of contraceptives users

Table 1 presents sociodemographic factors associated with contraceptive use. These showed higher prevalence of contraceptives among 20-29 and 30-39 years old categories (88.8% and 87.7%, respectively), as compared to younger participants (21.4%); p=0.000. The prevalence of contraceptives use was also correlated with the number of years of marriage (p=0.000; Figure 2); as well as the number of alive male (p=0.000; Figure 3) but not female (p=0.284; Figure 3) children. Women coming from households with a low monthly income (<3K SAR) were less likely to use contraceptives as compared to those with higher income (70.2% versus 82.1% to 87.7%, respectively; p=0.025). No statistically significant association was found between contraceptive use and participants' (p=0.591) or husbands' (p=0.176) educational level. Separate analysis of factors associated with pills, loop and male condom use are presented in Table 2, and Figure 4 shows prevalence of each contraceptive method by number of years of marriage. By opposition to pills, both loop and male condom were more frequently used by women of relatively older age, with professional activity and high educational and economic levels; in comparison with their counterparts.

Table 1. Sociodemographic factors associated with contraceptive use among attendees of antenatal care clinic

Parameter	Category	Contraceptive use				p-value
		No (N=71)		Yes (N=379)		
		Freq.	%	Freq.	%	
Age (years)	<20	11	78.6	3	21.4	0.000*
	20-29	17	11.2	135	88.8	
	30-39	26	12.3	186	87.7	
	40+	17	23.6	55	76.4	
Professional status	Active	25	18.0	114	82.0	0.406
	Inactive	46	14.9	263	85.1	
No. year of marriage	Mean, SD	7.54	7.28	11.09	6.63	0.000*
No. alive male children	Mean, SD	1.08	1.33	2.01	1.31	0.000*
No. alive female children	Mean, SD	1.44	1.35	1.61	1.20	0.284
No. alive children	Mean, SD	2.52	2.41	3.62	1.84	0.000*
Educational level	Not educated	7	17.5	33	82.5	0.591
	Up to secondary	43	17.0	210	83.0	
	University+	21	13.4	136	86.6	
Husband's educational level	Not educated	9	18.4	40	81.6	0.176
	Up to secondary	29	12.8	198	87.2	
	University+	32	19.5	132	80.5	
Residence	Jeddah	56	19.2	235	80.8	0.004*
	Al Lith	14	9.0	142	91.0	

SAR: Saudi Riyal.

Because of missing data, values do not sum up to the total for some parameters;

* statistically significant result (p<0.05);

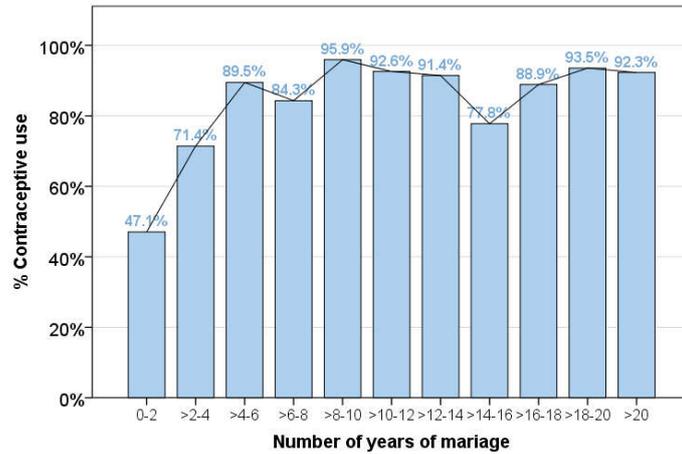


Fig.2. Prevalence of contraceptives use by number of years of marriage

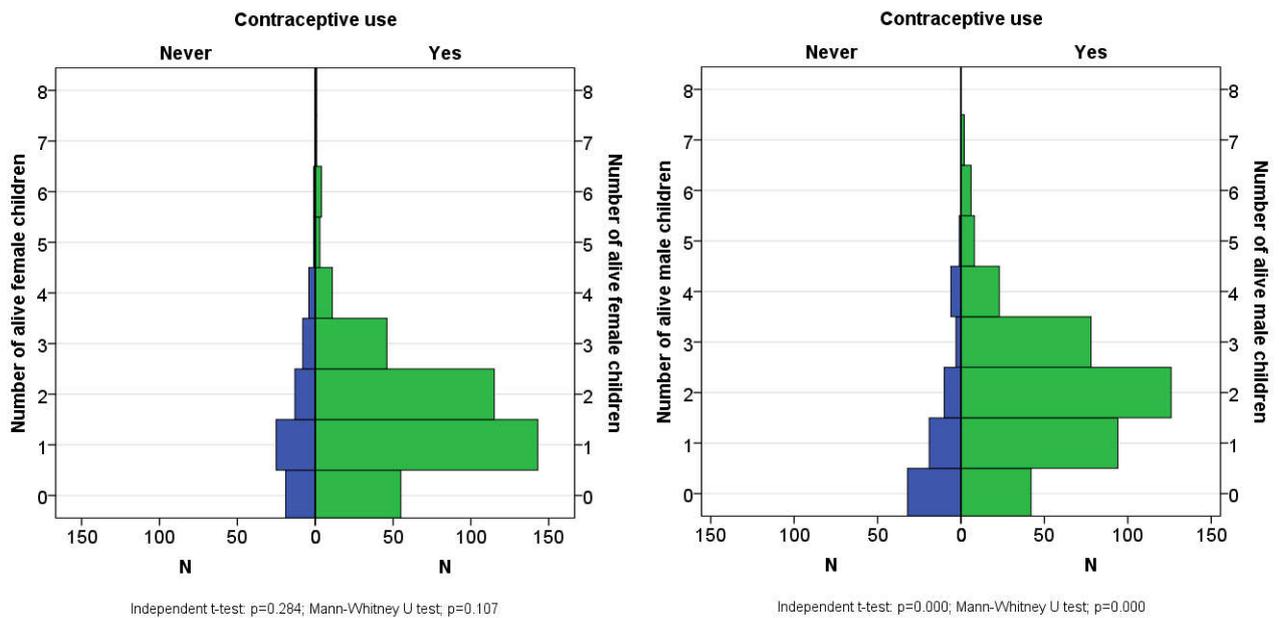


Fig. 3. Prevalence of contraceptives use by number of alive male and female children

Table 2. Sociodemographic factors associated with different contraception methods

Parameter	Category	Contraceptive Method					
		Pills		Loop		Male condom	
		Prev.	p-value	Prev.	p-value	Prev.	p-value
Age (years)	<20	14.3	0.000*	0.0	0.001*	0.0	0.692
	20-29	73.0		9.9		7.9	
	30-39	72.2		20.8		6.6	
	40+	56.9		27.8		8.3	
Professional status	Active	60.4	0.020*	20.1	0.350	13.7	0.000*
	Inactive	71.5		16.5		4.2	
Year of marriage	Mean, SD	6.50	0.000*	6.97	0.001*	7.49	0.786
Living male children	Mean, SD	1.26	0.000*	1.31	0.151	1.41	0.034*
Living female children	Mean, SD	1.13	0.325	1.59	0.002*	1.44	0.816
No. alive children	Mean, SD	1.75	0.001*	1.96	0.003*	1.78	0.110
Educational level	Not educated	72.5	0.021*	7.5	0.000*	0.0	0.000*
	Up to secondary	72.7		13.0		2.0	
	University+	59.9		27.4		17.2	
	University+	54.9		27.4		15.2	
Husband's educational level	Not educated	71.4	0.000*	8.2	0.000*	0.0	0.000*
	Up to secondary	76.7		12.3		3.7	
	University+	54.9		27.4		15.2	
Residence	Jeddah	58.4	0.000*	25.8	0.000*	10.7	0.000* ^F
	AL Lith	86.5		1.9		0.0	

SAR: Saudi Riyal;

Because of missing data, values do not sum up to the total for some parameters;

* Statistically significant result ($p < 0.05$);

^F significance calculated using Fisher's exact test.

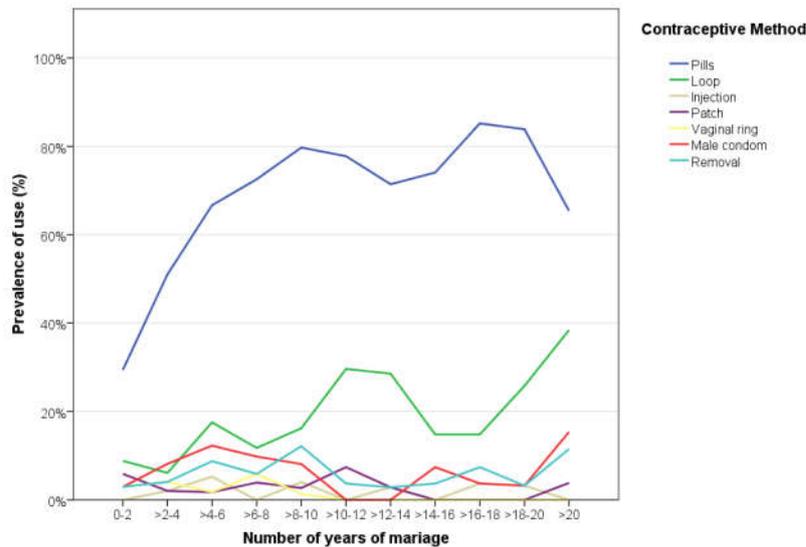


Fig. 4. Contraception method by number of years of marriage

Obstacles to contraceptive use

A minority of the participants (6.2%) reported having obstacles for using contraceptives, 4.7% believed that it constitutes a religious transgression, while 70.0% agreed that contraception may be necessary in some cases according to woman's health status. Regarding husband's attitude, only 12.9% admitted that their husbands systematically refused the use of contraception; while the remainders accepted, always (47.6%) or sometimes (36.0%). Contraceptive users, as compared to nonusers, were less likely to believe that contraceptives are incompatible with religion rules (2.9% versus 14.9%; $p=0.000$) and more likely to believe that contraceptives should be dispensed free by healthcare centers (95.5% versus 75.0%; $p=0.000$), respectively. Furthermore, nonusers were more likely to be lacking of decision autonomy (30.4% versus 8.8%; $p=0.000$); and 53.2% of them declared that their husbands refused contraceptives versus 6.7% among users' husbands ($p=0.000$) (Table 3).

Knowledge about contraception

Of the total participants, 80.0% declared having knowledge about contraceptives' side effects, 93.3% think that it is better to consult a doctor before to use contraceptives and 87.3% admitted that they need more information about the correct usage and different types of contraceptives. The two major sources of knowledge about contraceptives were doctors and the internet, reported by 51.8% and 38.2% of the participants, respectively. In comparative analysis, users were more likely to be having knowledge about contraceptives' side effects (85.5% versus 50.7%, respectively; $p=0.000$) and to be using the internet to have information about contraceptives (40.9% versus 23.9%; $p=0.007$), but were more likely to be informed by doctors (48.5% versus 69.0%; $p=0.002$), as compared to nonusers, respectively (Table 4).

Predictors of contraceptives use

Univariate regression models showed that older age category, longer duration of marriage, greater number of alive male

Table 3. Obstacles to contraceptive use among attendees of antenatal care clinic

Parameter	Answer	Total (N=450)		Contraceptive use				p-value
				No (N=71)		Yes (N=379)		
				Freq.	%	Freq.	%	
Do you have an obstacle for using contraceptives?	Yes	28	6.2	6	8.8	22	5.8	0.350
	No	417	92.7	62	91.2	355	94.2	
Do you think that contraceptives use is a religious transgression?	Yes	21	4.7	10	14.9	11	2.9	0.000*
	No	246	54.7	34	50.7	212	56.5	
	I don't know	175	38.9	23	34.3	152	40.5	
Do you think that the woman's health condition may require the usage of contraceptives?	Yes	315	70.0	42	61.8	273	72.0	0.215
	No	34	7.6	6	8.8	28	7.4	
	I don't know	98	21.8	20	29.4	78	20.6	
Do you think that side effects constitute an obstacle to contraceptive use?	Yes	190	42.2	34	49.3	156	41.3	0.283
	No	124	27.6	14	20.3	110	29.1	
	I don't know	133	29.6	21	30.4	112	29.6	
Do you think distance from provider source (pharmacy... etc.) is an obstacle to contraceptive use?	Yes	88	19.6	12	17.6	76	20.4	0.329
	No	147	32.7	28	41.2	119	119	
	Sometimes	206	45.8	28	41.2	178	178	
Decision autonomy: Do you decide for yourself whether to use contraceptive and which type to use?	Yes	225	50.0	33	47.8	192	50.9	0.000*
	No	54	12.0	21	30.4	33	8.8	
	Sometimes	167	37.1	15	21.7	152	40.3	
Do you think the cost of contraceptives is high?	Yes	127	28.2	17	25.8	110	29.1	0.579
	No	317	70.4	49	74.2	268	70.9	
Do you think contraceptives should be provided by healthcare center for free?	Yes	410	91.1	51	75.0	359	95.5	0.000*
	No	34	7.6	17	25.0	17	4.5	
Does your husband accept the use of contraceptives?*	Yes	214	47.6	18	29.0	196	52.7	0.000*
	No	58	12.9	33	53.2	25	6.7	
	Sometimes	162	36.0	11	17.7	151	40.6	

* Statistically significant result ($p < 0.05$); because of missing data, values do not sum up to the total;

Table 4. Knowledge about contraception and its correlation with use among attendees of antenatal care clinic

Parameter	Answer	Total (N=450)		Contraceptive use				p-value
				No (N=71)		Yes (N=379)		
				Freq.	%	Freq.	%	
Do you have knowledge about the contraceptives side effects?	Yes	360	80.0	36	50.7	324	85.5	0.000*
	No	86	19.1	35	49.3	55	14.5	
Do you think it is better to consult the physician to help you chose the appropriate contraceptive?	Yes	420	93.3	66	93.0	354	93.4	0.800 ^F
	No	21	4.7	5	7.0	25	6.6	
Do you need more information about the correct usage and different types of contraceptives?	Yes	393	87.3	59	83.1	334	88.1	0.242
	No	49	10.9	12	16.9	45	11.9	
What is your source of knowledge about contraceptives?	Doctor	233	51.8	49	69.0	184	48.5	0.002*
	Friends	126	28.0	16	22.5	110	29.0	
	Internet	172	38.2	17	23.9	155	40.9	
	Other *	4	0.9	1	1.4	3	0.8	

* Statistically significant result ($p < 0.05$);

^F significance calculated using Fisher's exact test; because of missing data, values do not sum up to the total.

Table 5. Predictors of contraceptive use among women attending antenatal care clinic

Predictor	Category	z							
		Univariate model				Multivariate model			
		OR	95%CI	p-value	OR	95%CI	p-value		
Age (years)	<20	(ref)	-	-	-	-	-	-	-
	20-29	29.12	7.38	114.89	0.000*	9.03	1.22	66.97	0.031*
	30-39	26.23	6.68	100.27	0.000*	4.71	0.65	34.05	0.124
	40+	11.86	2.96	47.51	0.000*	1.15	0.09	14.62	0.913
No. years of marriage	(years)	1.10	1.05	1.16	0.000*	1.09	0.97	1.22	0.145
No. alive male children	(N)	1.93	1.51	2.48	0.000*	1.87	1.10	3.18	0.021*
No. alive children	(N)	1.42	1.21	1.67	0.000*	1.5	0.70	1.57	0.828
Residency	Jeddah	(ref)	-	-	-	-	-	-	-
	Outside Jeddah	2.42	1.30	4.50	0.005*	4.12	0.86	19.72	0.077
Household income	Up to 3K	(ref)	-	-	-	-	-	-	-
	3K-5K	3.04	1.38	6.68	0.006*	2.68	0.60	12.08	0.198
	5K-10K	2.70	1.25	5.83	0.011*	1.17	0.29	4.68	0.823
	>10K	1.94	0.83	4.55	0.127	1.11	0.24	5.06	0.895
Smoking status	Smoker	0.33	0.14	0.78	0.011*	0.77	0.19	3.06	0.710
Believing that contraception is a religious transgression	Yes	0.18	0.70	0.45	0.000*	0.47	0.08	2.67	0.395
Women's decision autonomy	No	0.27	0.14	0.52	0.000*	1.21	0.33	4.39	0.773
Believing that contraceptives should be provided free by healthcare centers	Yes	7.04	3.38	14.66	0.000*	7.65	1.86	31.56	0.005*
Husband's refusal	Yes	0.07	0.03	0.14	0.000*	0.02	0.01	0.08	0.000*
Knowledge about the contraceptives side effects	Yes	5.73	3.32	9.89	0.000*	5.82	2.13	15.87	0.001*
Knowledge source	Doctors	0.42	0.25	0.73	0.002*	0.34	0.11	1.08	0.068
	Internet	2.20	1.23	3.94	0.008*	1.16	0.40	3.38	0.787

CI: confidence interval; OR: Odds-ratio; ref: reference category;

* statistically significant result ($p < 0.05$);

children, being resident of Al Lith and being from average or high economic classes were significant predictors for contraceptive use. In addition, contraceptive use was also predicted by belief that contraceptives constitute a religious transgression or should be dispensed free by PHC centers, decision autonomy and husband's refusal. However, in multivariate model, significant predictors of contraceptive use included being in 20-29 years category (OR [95%CI]=9.03 [1.22; 66.97]; $p=0.031$); number of alive male children (1.87 [1.10; 3.18]; $p=0.021$); believing that contraceptives should be afforded by PHC centers (7.65 [1.86; 31.56]; $p=0.005$); husband's refusal (0.02 [0.01; 0.08]; $p=0.000$) and knowledge about contraceptives side effects (5.82 [2.13; 15.87]; $p=0.001$) (Table 5).

DISCUSSION

This study showed high overall prevalence of contraceptive use (84.2%), which was unexpectedly higher in Al Lith (91.0%) than in Jeddah (80.8%). It showed also a clear preference for OCP, especially in Al Lith, followed by loop, which was more commonly used in Jeddah. Previous data from Saudi Arabia showed more or less prevalence, ranging from 44.8% to 86.2% depending on regional variability and study design. Regarding the contraceptive method, OCP was the most common method in all Saudi studies, and IUD was in the 2nd position; except in the study by Algharabawy in Al-Qassim where male condom was found to be the second most used method and IUD ranked third (Albezrah, 2015; Al Sheeha, 2010; Elgharabway, 2015 and Al-Turki, 2011). Regionally, a lower prevalence of use was reported in Qatar and United Arab Emirates; although the OCP and IUD were similarly reported as the most prevalent methods in Qatar, but not in UAE where natural methods were the most common (Ghazal-Aswad, 2001 and Arbab, 2011). In other neighboring countries such as Egypt, the prevalence of use was comparable to that reported in our study (80.3%); however, IUD were more frequently used followed than OCP (Awadalla, 2012). In Pakistan, prevalence of current use was reported as less than 21%, while ever use did not exceed 40.2%, which is far lower than prevalence found in our study (Azmat, 2015 and Saleem, 2005). In Europe, America and Australia, prevalence was around 60-80%, which is near the prevalence found in our study; and OCP was the most frequently reported method in most of these countries as well as in the Nordic countries (Johnson, 2013; Richters, 2003 and Lindh, 2017). In this study, older age, longer duration of marriage, high parity, especially male children, higher economic class and residence in Al Lith were the significant factors associated with contraceptive use. Unexpectedly, no correlation of contraceptive use was found with woman's or husband's educational level, woman's professional status, or with the number of female children. Conversely, woman's working status and high educational level in addition to husband's educational level were demonstrated to be significant factors by other studies from Saudi Arabia (Al Sheeha, 2010 and Elgharabway, 2015), as well as by several other regional and international studies (Ghazal-Aswad, 2001; Arbab, 2011; Awadalla, 2012; Azmat, 2015 and Saleem, 2005). Only in Australia, contraceptive use was not predicted by any of the sociodemographic factors (Richters, 2003). In our study the woman's age and the number of living male children represent the most significant determinants of contraceptive use in the Saudi society; which is in line with the local culture characterized by the desire for large families (Farrag, 1983 and Al-Sibai, 1986) and may

denote the predilection for male children. On the other hand, this study showed that woman's professional status and educational level, as well as husband's educational level may determine the choice of method. Results suggested that working and highly educated women were less likely to use OCP and more likely to use male condom and IUD, by comparison to their counterparts. Similarly, highly educated women showed preference to IUD in Egypt (Awadalla, 2012), while in China, they showed preference for short-acting methods (He, 2012). In Europe, it was demonstrated that change in life circumstances in one woman was associated with a switch to a different contraceptive method (Junod, 2002). In this study, 4.7% of the respondents believed that contraception is incompatible with Islamic rules and 38.9% were not knowledgeable about its religious status; which was associated with low prevalence of contraceptive use and predicted nonuse of contraception in univariate regression model. With the exception of abortion and infanticide, no Islamic religious text forbids contraception although some Islamic jurists and scholars put condition to use of contraception (Junod, 2002). However, traditional religious concepts encourage fertility and large families; which is in line with several other religious concepts, such as fulfilling God's will to perpetuate the human race, seeking blessing from God through having large families, and affirming faith on God's grant to ensure all kind of subsistence for the family members. These beliefs and attitude were observed in several other religious and traditional groups, and constitute determinant factors for families' choices regarding fertility, conception and contraception (Schenker, 1993). On the other hand, the use of contraceptives may be viewed positively by society, as it enables birth spacing and reduces unintended pregnancy, which is perceived as a health and social advantage for the women, the children and the family (Al Sheeha, 2010). In several modern societies, the unintended pregnancy is associated with high proportion of abortions (Singh, 2010), which is banned in the Islamic-based Saudi society. However, the use of contraceptive may entail negative consequences such as a decrease in breastfeeding and decline in its duration, which was observed in Saudi Arabia (Shawky, 2003). Further, a dramatic decline in fertility have been observed over the last six decades in Saudi Arabia, with fertility rate decreasing from 7.18 births per woman in 1950 to 2.73 in 2015, as per the United Nation's estimates (<https://esa.un.org/unpd/wpp/Download/Standard/Fertility>) This recent decline in fertility that was observed in several other modern societies threatens the population replacement level (2.3 births per women) and is partially explained by contraceptive use (Singh, 2017 and Goldin, 2002). Consequently, contraception remains a controversial issue, especially in developing countries where it may be conflicting with religious beliefs and family values. This study demonstrated a significant impact of husband's attitude in contraception use. Husband's refusal and absence of women's decision autonomy were strongly correlated with lesser contraceptive use. In Pakistan, contraceptive use was demonstrated to be positively associated with the level of woman's decision autonomy (Saleem, 2005). In Egypt, decision for family planning and contraception use was made jointly by both partners in most of the cases, especially among women with higher educational level (Awadalla, 2012). It has also been demonstrated that the inclusion of husbands in the family planning programs enhances the use of and compliance with contraceptives (Terefe, 1993). This study demonstrated that contraceptive users had better knowledge about side effects, and were more likely to reach information via internet,

as compared to nonusers who were more likely to get informed by doctors. Previous data from Saudi Arabia reported low level of knowledge about the different contraceptive methods, and the main knowledge source were other than health professionals, including media and social connections such as family and friends (Al Sheeha, 2010). This study did not investigate the current use of contraceptive, which would provide more accurate estimation; as the past use may be non-significant in duration. In addition, patient-reported side effects are not reliable especially in combination with recall bias. As conclusion, lifetime contraceptive use is highly prevalent among women attending antenatal care clinics, both in Jeddah and Al Lith; and OCP is the most reported contraception method, followed by IUD and male condom. Woman's older age, knowledge about contraceptive side effects, number of living male children, and husband's attitude towards contraception were the major determinants of use. Awareness campaigns and education efforts should be continued to alleviate misconceptions about contraceptive use and popularize access to family planning. Husbands should be systematically convened to family planning consultations in order to open the discussion on the family project and come up with a clear decision in accordance with the vision and partners.

Acknowledgment

Authors thank Dr. Mohamed Amine HAIRECHE for his support and contribution in the preparation of this manuscript.

REFERENCES

- Ahmed, S., Li, Q., Liu, L., and Tsui, A.O. 2012. Maternal deaths averted by contraceptive use: an analysis of 172 countries. *Lancet* 380:111–25.
- Al Sheeha, M. 2010. Awareness and use of contraceptives among Saudi women attending primary care centers in Al-qassim, Saudi Arabia. *Int J Health Sci (Qassim)* 4:11-21.
- Albezrah, N.A. 2015. Use of modern family planning methods among Saudi women in Taif, KSA. 2015. *Int J Reprod Contracept Obstet Gynecol.*, 4:990–4.
- Al-Sibai, M.H. and Khwaja, S.S. 1986. Parity, related sociodemographic factors and contraceptive use in Saudi Arabia. *Biol Soc* 3:130–5.
- Al-Turki, H.A. 2011. Contraception: attitudes and experiences of Saudi Arabian women. *Health Care Women Int* 32:134–9.
- Arbab, A.A., Bener, A. and Abdulmalik, M. 2011. Prevalence, awareness and determinants of contraceptive use in Qatari women. *East Mediterr Health J.*, 17:11-8.
- Awadalla, H.I. 2012. Contraception use among Egyptian women: results from Egypt demographic and health survey in 2005. *J Reprod Infertil* 13:167–73.
- Azmat, S.K., Ali, M., Ishaque, M., Mustafa, G., Hameed, W., Khan, O.F., et al. 2015. Assessing predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan: results of a cross-sectional baseline survey. *Reprod Health* 12:25.
- Bass, M.S. 1978. Surgical contraception: a key to normalization and prevention. *Ment Retard* 16:399-404.
- Elgharabway, R.M., Ahmed, A.S., and Alsuhaibani, R.A. 2015. Awareness, prevalence, and determinants of birth control methods use among women in Saudi Arabia. *Int Arch Med* 8.
- Erfani, A. 2013. Levels, trends, and determinants of unintended pregnancy in Iran: the role of contraceptive failures. *Stud Fam Plann* 44:299–317.
- Farrag, O.A., Rahman, M.S., Rahman, J., Chatterjee, T.K. and Al-Sibai, M.H. 1983. Attitude towards fertility control in the Eastern Province of Saudi Arabia. *Saudi Med J* 4:111–6.
- Ghazal-Aswad, S., Rizk, D.E., Al-Khoori, S.M., Shaheen, H., and Thomas, L. 2001. Knowledge and practice of contraception in United Arab Emirates women. *J Fam Plan Reprod Health Care* 27:212–6.
- Goldin, C. and Katz, L.F. 2002. The power of the pill: Oral contraceptives and women's career and marriage decisions. *J Polit Econ* 110:730–70.
- Harlap, S., Kost, K., and Forrest, J.D. 1991. Preventing pregnancy protecting health: a new look at birth control choices in the United States. New York, New York Alan Guttmacher Institute 128.
- He, D., Zhang, Y., Ji, N., Zhou, Y., Mao, Q., and Cheng, Y. 2012. A cross-sectional study of contraceptive use among married women living in rural China. *Int J Gynecol Obstet* 118:129–32.
- Johnson, S., Pion, C., and Jennings, V. 2013. Current methods and attitudes of women towards contraception in Europe and America. *Reprod Health* 10:7.
- Junod, S.W. and Marks, L. 2002. Women's trials: the approval of the first oral contraceptive pill in the United States and Great Britain. *J Hist Med Allied Sci* 57:117–60.
- Lindh, I., Skjeldestad, F.E., Gemzell-Danielsson, K., Heikinheimo, O., Hognert, H., Milsom, I., et al. 2017. Contraceptive use in the Nordic countries. *Acta Obstet Gynecol Scand* 96:19–28.
- Motlaq, M.E., Eslami, M., Yazdanpanah, M., and Nakhaee, N. 2013. Contraceptive use and unmet need for family planning in Iran. *Int J Gynecol Obstet* 121:157 61.
- Richters, J., Grulich, A.E., de Visser, R.O., Smith, A.M. and Rissel, C.E. 2003. Sex in Australia: contraceptive practices among a representative sample of women. *Aust N Z J Public Health.*, 27:210–6.
- Saleem, S. and Bobak, M. 2005. Women's autonomy, education and contraception use in Pakistan: a national study. *Reprod Health* 2:8.
- Schenker, J.G. and Rabenou, V. 1993. Family planning: cultural and religious perspectives. *Hum Reprod* 8:969–76.
- Sedgh G and Hussain R. 2014. Reasons for contraceptive nonuse among women having unmet need for contraception in developing countries. *Stud Fam Plann* 45:151–69.
- Shawky, S. and Abalkhail, B.A. 2003. Maternal factors associated with the duration of breast feeding in Jeddah, Saudi Arabia. *Paediatr Perinat Epidemiol* 17:91–6.
- Singh S, Sedgh, G., and Hussain, R. 2010. Unintended pregnancy: worldwide levels, trends, and outcomes. *Stud Fam Plann* 41:241–50.
- Singh, S., Bankole, A, and Darroch JE. 2017. The impact of contraceptive use and abortion on fertility in sub-Saharan Africa: estimates for 2003–2014. *Popul Dev Rev* 43:141-165.
- Terefe, A. and Larson, C.P. 1993. Modern contraception use in Ethiopia: does involving husbands make a difference? *Am J Public Health* 83:1567–71.
- United Nations. World Population Prospects 2017. Available at: <https://esa.un.org/unpd/wpp/Download/Standard/Fertility/>. Accessed on 21 Oct 2017.