



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>
Journal DOI: [10.21474/IJAR01](https://doi.org/10.21474/IJAR01)

**INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH**

RESEARCH ARTICLE

BIRTH CONTROL METHODS AMONG WOMEN OF ERBIL GOVERNORATE.

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Manuscript Info

Manuscript History:

Received: 18 April 2016
Final Accepted: 26 May 2016
Published Online: June 2016

Key words:

Birth control, contraception, method.

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Abstract

Background and objectives:- Birth control or contraception or fertility control refers to the methods which are used to prevent pregnancy. About 45% of married women worldwide who are able to bear children use one or more method of contraception. In this study we assessed the methods of birth control which are used by women and we found out the correlation of the methods with the women's socio-demographic characteristics.

Methods:- This analytical cross sectional study had been conducted on 1527 women who visited the hospitals and health centers of Erbil Governorate, the capital of Kurdistan region of Iraq. Search engine, review of literature and data analysis had been made during the period 1st of March to 1st of May 2016. Descriptive and inferential statistics were used through the Microsoft Access Database and the Statistical Package for Social Sciences (SPSS, Version 21). Bivariate correlations were used for data analysis. The P value of ≤ 0.05 was considered as statistically significant.

Results:- The mean (\pm SD) age of the 1527 studied women was 37.06 ± 9.69 years ranging from 16 to 80 years. The most commonly used birth control method was cumulative methods including vasectomy, injectables, sterilization and different fertility awareness methods. The intrauterine contraceptive device (IUCD) was the most used method. Pills, and condoms came at the end of the list. About 14.9% of the women didn't use any type of birth control.

Conclusions:- Collaborative teamwork of different specialties is necessary for conduction of such research. Selection of the contraception types should be done by specialized physicians. Birth control describers must take into consideration the women with some habits and conditions like smoking, obesity, diabetes, high cholesterol, high blood sugar or migraines, and menopause in order to avoid stroke and other complications of the pills in women.

Introduction:-

The methods, practices, and devices which are used for pregnancy prevention are called birth control among the sexually active women. Birth control also known as contraception and fertility control. These methods are used to prevent fertilization of an egg or implantation of a fertilized egg in the uterus (MedicineNet.com, 2016). There are two main methods of birth control which are permanent and temporary methods. All methods include tubal ligation (Female surgical sterilization), hormonal, chemical, barrier, intrauterine devices, and fertility awareness methods (Birth control paper, 2016). Recently, implants became another new method of birth control (Ferrara J, 2016). Each method has its own failure rate, which is the number of pregnancies resulting during twelve months. Barrier methods include condoms, diaphragms, spermicides, sponges, cervical caps, with failure rate of 15-24%. Combinations of barrier and spermicidal chemicals have lower failure rates than separately used methods. Synthetic progesterone or and in combination with estrogen are considered as hormonal methods for inhibition of hypothalamus from releasing Follicle Stimulating Hormone (FSH) or Luteinizing Hormone (LH), to prevent egg from fertilization. These methods have 8% of failure rate. Methods with failure rates <1% include implantation of the hormone under the skin, vasectomy in men, tubal ligation in women, and intrauterine device (IUD) which lead to an inflammatory condition preventing eggs from implanting into the uterine wall (Boundless Biology, 2016).

In this study, the researchers aimed to know the most common methods of birth control among the women of Erbil governorate and to associate the findings with the women's socio-demographic characteristics.

Subjects and methods:-**Subjects:-**

This study has been conducted during the period 1st of March to 1st of May 2016. After looking for databases and search engines, the researchers selected the data about the methods of birth control of 1527 women for the year 2009 which had been obtained by the physicians who have interviewed all the women who attended the hospitals and health centers of Erbil governorate during the year 2009. Our research partners participated in data collection and data analysis. The data were recorded in the pregnant mothers' health profile sheet.

Statistical analysis:-

Descriptive and inferential statistics were used through the Microsoft Access Database jointly with the Statistical Package for Social Sciences (SPSS, Version 21). Bivariate correlations were used for data analysis. The P value of ≤ 0.05 was considered as statistically significant.

Results:-

One thousand and five hundred and twenty seven women were studied. The mean (\pm SD) age of the studied women was 37.06 ± 9.69 years ranging from 16 to 80 years. It has been found that the number and percentage of the women who use birth control methods is raised by age until the age group 31-40 years and the usage of birth control methods declines in the older age groups. The most common method is using other methods which include vasectomy, injectables, sterilization and different fertility awareness methods. This finding will not cover the fact that intrauterine contraceptive device is the most used contraception method by the women. Data analysis showed that the birth control methods are used by the age group 31-40 years old was more than the other age groups. There was a highly significant relationship between the age and the birth control methods that had been used by the women ($p < 0.05$) ($r = 0.176$) (Table 1 & 2).

The majority of the studied sample 1511 (99%) were Muslims, while only 16 (1%) of them were Christians. There was a significant correlation between religion and the birth control methods of the studied women ($p = 0.013$) and ($r = 0.063$) as it is shown in (Table 3).

About two thirds 1148 (75.2%) of the women's socioeconomic status was moderate and the other third 379 (24.8%) were with low socioeconomic status. There were no responses to the high socioeconomic status. There was no significant correlation between the socioeconomic statuses of the women with their choices in preferring the birth control method ($r = 0.002$) (Table 4).

This study revealed that the majority 1374 (90%) of the women were not smokers and 153 (10%) of them were cigarette smokers. Only 2 (0.1%) of them were alcohol drinkers and 1525 (99.9%) of them were not alcohol

drinkers. Correlation was not significant between cigarette smoking and birth control method in one hand and between alcohol drinking and birth control method in another at ($r = -0.24$) and ($r = -0.21$) respectively (Table 5).

The study showed that the most of the women 1276 (83.5%) were households and only 2 (0.1%) of them were workers, including six jobs. While 39 (2.6%) of them had other jobs which were not listed in this study. Correlation was significant ($p = 0.034$) and ($r = 0.057$) at the 0.05 level (Table 6).

This study found that about half 722 (47.3%) of the studied sample didn't read and write while 81 (5.3%) of them were college graduates and over. Pearson correlation test indicated that there was no significant relationship between the educational level and the birth control methods which had been practiced by the women of the study ($p = 0.153$) and ($r = 0.037$) (Table 7).

Figure 1 shows distribution of the sample by the birth control method regardless of the demographic variables of the study sample. This figure reveals that fewer than half (45%) of the studied sample used other birth control methods including vasectomy, injectables, sterilization and different fertility awareness methods. Data analysis indicated that 18.3%, 15.1%, 6.7% of them were using intrauterine contraceptive devices, pills and condoms respectively. Meanwhile, 6.7% of the women used condoms and 4.9% of them didn't use any birth control method.

Discussion:-

Birth control is well accepted by most communities and groups, after it was considered offensive or controversial previously (Anonymous, 2014). Although birth control is one of the health services which promote the health and wellbeing of women (Gossett DR et al, 2013), but this notion is not applied on all women, for example one of the studies reported that the association of venous thromboembolism and cerebral venous thrombosis with oral contraceptives in the presence of obesity (Zuurbier S. et al, 2016). In late 2015, and based on a review of contraception among 25 years old and younger women by Cochrane Collaboration, listed the top 5 methods of birth control which included implants, vasectomy, intrauterine device, injectables, and female sterilization (Ferrara J, 2016). The age group of 31-40 years old studied women in the latter study were the top users of all the birth control methods. While the age groups 21-30, 41-50, and 51-60 years came at the second, third and fourth top users of birth control methods respectively. While the other age groups were the fewer users of the birth control methods. This means that the age group 21-30 years old women didn't come in the first top users of birth control. This will lead us to conclude that the population of the studied community will increase gradually due to the reason that the age group of 21-30 is the highest sexually active group and has the highest chance for child bearing. Although the most common birth control method which was used by the studied women of the current study (45%) was using group of other methods which include vasectomy, injectables, sterilization and different fertility awareness methods, but intrauterine contraceptive device (IUCD) remains the most common individual used method (18.3%) among the studied women. Zangana, 2010 in her study on 400 women of Erbil city which had been conducted in 2008, reported that most of the women preferred IUCD although about two thirds of them suffered from complications. Probably this preference is due to the fact that women who use this method they do not worry about missing a dose and it's low cost in a long run. The only cause for avoiding this type of contraception is fear of pain and risks of the device. After IUCD, the second method (15.1%) was using pills. Daily taking of pills at the same time can be effective by 99.7%, but this percentage will drop down if the woman does not follow the daily and timely schedule of taking the contraceptive pills (Ferrara J, 2016). This type of birth control must be used with special considerations such as smoking, obesity, diabetes, high cholesterol, high blood sugar or migraines. Pills can be used until the age of menopause. In order to avoid stroke and other complications of the pills in women with the mentioned conditions, physicians prescribe estrogen only pills. Unfortunately 10% of the studied women were smokers. This habit will expose them to many mentioned complications if they use pills as a contraception method. Fortunately, using pills in a long time base will help women to reduce the severity of bleeding and irregular menstruation period. In perimenopausal women, pills may reduce the risk of osteoporosis and acne in the middle ages as well. The other benefits of contraceptive pills include reduced risk of endometrial cancer, colorectal cancer, pelvic inflammatory disease, fibroids, endometriosis, and alleviate bleeding related to fibroids and endometriosis (Utian WH, 2016). For emergency contraception, pills can be used in two doses. The first dose is taken during the 72 hours of unprotected intercourse and the second dose after 12 hours. Insertion of an IUCD will prevent pregnancy up to five days after the intercourse (Trussell J et al, 2016).

Regardless of other methods which had been mentioned at the beginning of this discussion, condoms came as the third top method after IUCD and pills. Condom use formed 6.7% of the entire methods of the latter study. This

method is the oldest method which is used by men. People use this method because it is easy and cheap method beside it's free of side effects and without needing for supervision (Frazier M, 2016). In another hand, condom method prevents sexually transmitted diseases (Boundless Biology, 2016). Another advantage of condoms is that it does not affect the quality or quantity of the breast milk. It can be used in combination with a contraceptive sponge in order to enhance the effectiveness of birth control (The Society of Obstetricians and Gynaecologists of Canada, 2016). This combination is nominated in a study by Lopez et al, 2016 as dual-method use (Lopez LM et al, 2014). In a study on 2288 sexually active female participants 40.8% of them used condoms (Steiner RJ, et al, 2016). This result comes in coincide with the result of the current study in which 40.2% of the women of the age group 31-40 years were using condoms for birth control. This study indicated a significant correlation between the ages of the sample and their selected birth control method. This finding attracted the researchers to conclude that the studied women between the ages 21 to 50 years were the top users of the contraceptives due to having more sexual activity, specially the age group 31 – 40 years old women who had the lion share in contraception. The age group 21 – 30 years old women came under the latter age group in using birth control methods which can be interpreted through the notion that they have more desire to have children. Hence, this will predict increased community population in the future. Although Christian women formed the minority within the wider majority of Muslim women, but the significant relationship between religion and the birth control methods can be contributed to that none of the Christian women have preferred both methods which are IUCD and pills probably due to the fact that these methods are contemporary methods. The significant correlation between the types of jobs of the women and their birth control methods is related to that the householders controlled all and each type of the birth control methods for being the top users of the contraception methods. Another finding of this study is the absence of significant correlation between the birth control methods with the socioeconomic statuses, cigarette smoking and alcohol drinking habits (although only 2 women had been recorded as alcohol drinkers) and educational levels of the sample.

Conclusions and recommendations:-

Researchers of this study reached to a conclusion that collaborative teamwork of different specialties is necessary for conduction of such research. Description of birth control methods must be supervised by the monitors of the health care services. Selection of the contraception types should be done by specialized physicians. Birth control describers must take into consideration the women with some habits and conditions like smoking, obesity, diabetes, high cholesterol, high blood sugar or migraines, and menopause in order to avoid stroke and other complications of the pills in women.

Appendices:-

Table 1:- Birth control methods according to age.

Age	Pills		IUCD*		Condom		Others		Nil	
	No.	%	No.	%	No.	%	No.	%	No.	%
≤20	3	1.3	5	1.8	2	2.0	15	2.2	6	2.6
21-30	65	28.3	102	36.4	37	36.3	188	27.4	33	14.5
31-40	99	43.0	125	44.6	41	40.2	258	37.6	58	25.6
41-50	44	19.1	43	15.4	22	21.6	195	28.4	65	28.6
51-60	18	7.8	5	1.8	1	1.0	29	4.2	50	22.0
61-70	1	0.4	0	0.0	0	0.0	2	0.3	13	5.7
≥ 71	0	0.0	0	0.0	0	0.0	0	0.0	2	0.9
Total	230	100	280	100	102	100	687	100	227	100

IUCD* : Intrauterine Contraceptive Device

Table 2:- Statistical correlation of birth control with age.

Age			Age	Birth control method
	Pearson Correlation		1	.176**
	Sig. (2-tailed)			.000
Birth control method	N		1527	1527
	Pearson Correlation		.176**	1
	Sig. (2-tailed)		.000	
N		1527	1527	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3:- Correlation between religion and birth control method

Birth control method	Religion		Total
	Muslim	Christian	
Others	668	9	677
IUCD	298	0	298
Pills	227	0	227
Nil	220	4	220
Condom	98	3	101
Total	1511	16	1527

$P = 0.013$ $r = 0.063$

Table 4:- Birth control according to socioeconomic statuses of the sample.

Birth control method	Socioeconomic status		Total
	Low	Moderate	
Others	149	528	677
IUCD	68	230	298
Pills	66	161	227
Nil	71	153	224
Condom	25	76	101
Total	379 (24.8%)	1148 (75.2%)	1527 (100%)

$P = 0.94$ $r = 0.002$

Table 5:- Correlation of birth control with cigarette smoking and alcohol consumption.

Birth control method	Smoking		Total	Alcohol drinking		Total
	Yes	No		Yes	No	
Pills	29	198	227	0	227	227
IUCD	18	280	298	0	298	298
Condom	7	94	101	0	101	101
Others	70	607	677	2	675	677
Nil	29	195	224	0	224	224
Total	153 (10%)	1374 (90%)	1527	2 (0.1%)	1525 (99.9%)	1527

$P = 0.35$ $r = -0.24$ $p = 0.42$ $r = -0.21$

Table 6:- Women's jobs.

Birth control method	Job									Total
	Physician	Engineer	Teacher	Household	Clerk	Health staff	Unemployed	Others	Worker	
Pills	0	0	8	202	8	4	1	4	0	227
IUCD	2	0	6	268	9	5	1	7	0	298
Condom	2	1	9	72	9	2	1	5	0	101
Others	2	3	52	552	34	9	11	13	1	677
Nil	0	0	16	181	3	6	6	11	1	224
Total	6 (0.4%)	4 (0.3%)	91 (6%)	1275 (83.5%)	63 (4.1%)	26 (1.7%)	20 (1.3%)	40 (2.6%)	2 (0.1%)	1527 (100%)

 $P = 0.034$ $r = 0.057$ **Table 7:-** Birth control methods by the women's educational levels.

Birth control method	Educational level						Total
	Don't read and write	Read and write	Primary school	Intermediate school	Secondary school	College institute and over	
Pills	111	42	33	23	11	7	227
IUCD	138	68	52	19	9	12	298
Condom	31	15	16	14	12	13	101
Others	308	97	105	90	39	38	677
Nil	130	24	20	22	17	11	224
Total	718 (47%)	246 (16.1%)	226 (14.8%)	168 (11%)	88 (5.8%)	81 (5.3%)	1527 (100%)

 $P = 0.153$ $r = 0.037$

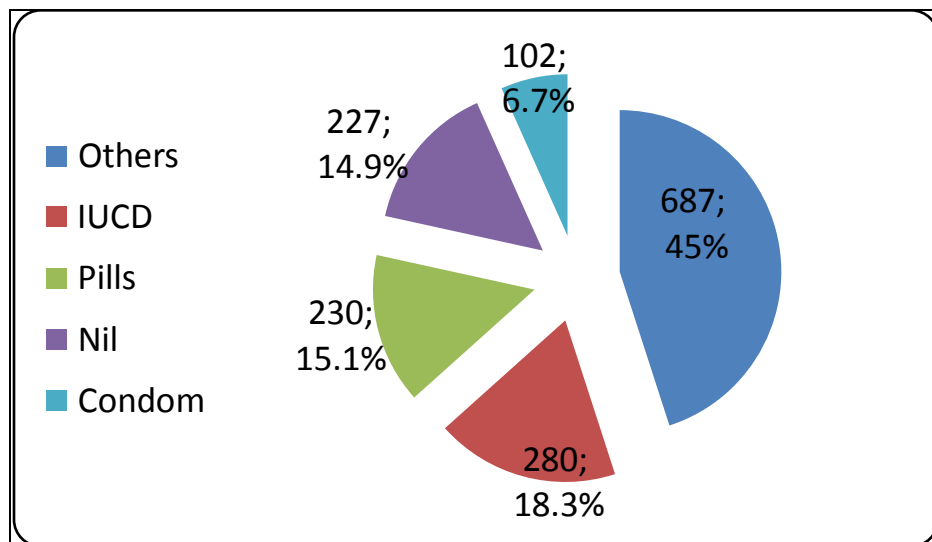


Figure 1:- Birth control methods.

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