



## The Effect of Changing Policies to Increase the Birth Rate on Reproductive Health Rate over a Twelve-Year Period in Islamshahr

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### **Abstract**

**Introduction:** In recent years, population growth, birth rate promotion and reproductive health policies have been the main approach of population control programs. In this study, the researcher was going to investigate and get a close look to this important issue in the city of Islamshahr. The comparative study of prophylactic methods and their prevalence was conducted among fertile women in 2004 and 2016 to examine how their approach change following the changes in national policy has affected on reproductive health.

**Materials and Methods:** Two thousand reproductive-age women who reside in Islamshahr voluntarily and confidentially participated using a questionnaire. All data were analyzed using SPSS software.

**Results:** The findings indicated that despite the decrease in contraceptive use in 2016 compared to 2004 (from 90.8% to 42%), the level of public awareness has been increased about their benefits and reproductive health. So that we observed an increased awareness of sexually transmitted diseases and ways to fight them (from 27% to 56%). A decline in illegal abortion rate (from 60% to 22%) and an increase in the knowledge of appropriate lactation methods (from 25.8% to 40%) observed during the study period. Natural methods had the highest prevalence among contraceptive methods at both times of the survey. The knowledge of women about the proper methods for early marriage (from 25.3 to 11%) and emergencies showed a decrease (from 12.2% to 5.6%).

**Conclusion:** Therefore, education on reproductive health issues needs to be continued and strengthened.

**Keywords:** *Contraceptive Method; Sexual Diseases; Reproductive Health; Fertile Women*

## 1. Introduction

Due to the close relationship between development and population, the countries have come to believe that population control is the first step towards development all over the world. It is not always a threat and declining population, rather it might be related to increasing and promoting of fertility, because when the population is commensurate with the living facilities, it is considered as the best capital of the country, and would provide the basis for all developments. Outside this framework, it would impede the country's development. Meanwhile, Iran has been also one of the countries that have payed close attention to this issue and has implemented several policies relating to family planning and fertility control programs that have led to population control since 1993. According to a demographic and health characteristics survey in Iran (2000), 74% of married women aged between 15 and 47 years used various contraceptive methods including traditional (periodic abstinence, coitus interruption, Lactation, vaginal foam) and modern methods (female and male sterilization, pills, Norplant, condoms) to achieve this goal. (1) In this regard, the downward trend of annual population growth rate from 4.9% to 1.35% from 1986 - 1996 to 2006 -2011 was the major outcome of applying fertility control methods that shows the importance of paying attention to this vital issue. (2) In recent years, policymaking in most countries, including Iran, has aimed at an increase of the birth rate and families and focuses on reproductive health; maternal and child health education; reducing maternal mortality due to multiple births; declining child mortality under the age of four; sexually transmitted diseases; illegal abortions; unwanted children; genetic and hereditary diseases. So, observing community reproductive health programs not only make a balance between births and living facilities, but it also results in improving the economic situation of families; alleviating poverty; Improve the education and culture of families by promoting education, and preventing youth delinquency and it drives education in the way that people benefit the most in terms of health and general well-being in the society.

In the present study, the researcher intended to conducting a comparative study to evaluate the knowledge of women about the reproductive health details including familiarity with contraceptives and the prevalence of their use and reproductive health care in Islamshahr (2004-2005).( as a small community),and reveal the awareness level of women of childbearing age and changes in their health-status parameters over a 12 years, and provide a better strategy targeted toward promotion of their overall health and raising the reproductive health to the country's health planners.

## 2. Materials and Methods

### 2.1. A Variety of Contraceptive Methods

Choosing the right method of prevention is essential in terms of maintaining reproductive health, including factors such as: one's willingness to delay or prevent pregnancy; the need for immediate reversibility of the procedure; The choice of method of prevention with the type of culture and religion; the degree of closeness of the relationship; the number of sexual partners; the tendency for the opposite person; the number of closeness; And consultation with them is necessary (3) (27).

### 2.2. Temporary Methods

Temporary methods are some of the cross-sectional methods that include: Hormonal methods, mechanical methods, and natural methods.

### 2.3. Hormonal Methods

Hormonal methods include oral medications, injectable drugs, and implant drugs.

### 2.3.1 Oral medications

There are two classes of drugs: one contains only progesterone and the other is a combination of estrogen and progesterone. The combination tablets are divided into two phases (LD (Low Dose) and HD (High Dose)) and three phase. These drugs affect gonadotropins and inhibit ovulation and increase the concentration of uterine secretions, altering uterine motions and reducing uterine energy storage (glycogen). (4) (5) (30)

Their benefits include: having a low side-effect compared to other methods; reducing monthly bleeding leading to anemia; reducing the incidence of functional ovarian cysts; reducing the incidence of benign breast cysts; reducing uterine cancer; reducing ovarian cancer; Menstrual pain; reduction of premenstrual syndrome; reduction of acute tubal infection; decrease in ectopic pregnancy; decrease in osteoporosis and decrease in inflammatory arthritis (5) (30).

### 2.3.2 Injectable Drugs (DMPA Drugs)

These drugs are given intramuscularly. They have progesterone and have a potency of thirteen weeks. They affect uterine secretions through inhibition of ovulation and increased concentration. Benefits such as: high spacing; no effect on breastfeeding; no dependence on mating;

### 2.3.3 Implant medicines

Norplant contains six capsules of progesterone that are surgically implanted under the arm and through ovulation inhibition, a decrease in the concentration of uterine secretions, and benefits such as: long-acting; non-interdependent; lack They have adverse effects on lactation and return to previous status after discontinuation of the drug (5) (30).

Hormonal methods also have disadvantages, including: menstrual disorders; weight gain; facial pimples; breast tenderness; sexual desire change and depression. These effects can range from mild to severe, depending on the type of medication and physiology of the body. (30)

### 2-3-2- Mechanical methods

#### **Condoms**

Condoms are a very effective way to prevent pregnancy and prevent sexually transmitted diseases and to prevent viruses associated with viruses such as cervical cancer. There are two types of masculine and feminine. The advantage of using a female condom is that the woman controls it herself and does not interrupt her sexual activity. (5) (27) (30)

#### **Aperture**

The diaphragm is a latex plastic container that is inserted in the vagina four hours before proximity and should remain on the cervix for up to eight hours after proximity (5) (30).

#### **Cervical Caps**

The cervical cap is a diaphragm-like cup device (5) (30)

#### **Spermicides**

Spermicides are available in foam, gel, suppository and cream and are placed just before the vagina. It has both contraceptive and disinfectant effects. Increased risk of urinary tract infection if used alone (27) (30).

## Sponge

The sponge is a suppository-like device inserted just before proximity into the vagina and embedded in spermicide (27) (30).

### Uterine intrauterine device (IUD)

The IUD is a contraceptive device commonly used for both copper and progesterone and prevents egg replacement, ovulation and sperm entry into the uterus (5) (30).

#### 2-3-3-Natural methods

##### 2-3-3-1- Lactation

During lactation at night due to an increase in the lactogen hormone, no ovulation occurs and as a result the person will not periodically become pregnant. Effective up to six months after delivery. (5) (6)

##### 2.3.3.2 Discontinuous proximity method

This procedure stops the semen before the semen is removed (5) (6)

##### 2-3-3-3- Periodic Avoidance Method

This method involves three methods: the chronological method, the body temperature measurement method, and the cervical secretion method. In women who have regular monthly cycles, the ovulation time is two weeks before the next period; during which time intercourse is prevented; body temperature and genital discharge increase at the same time, which may be helpful in calculating the desired time. This procedure has many limitations and high rates of unwanted pregnancy. Understanding the benefits of this method will help women to know more about fertility and less complications. (5) (6) (19) (30)

## 2.4. Permanent Methods

Permanent methods are other methods of contraception and include male tube closure (vasectomy) and female tube closure (tubectomy).

So, the present study is a descriptive cross-sectional study that investigated the knowledge level of married women aged 15-49 years in Islamshahr city about reproductive health and the use of Modern Contraceptive Devices in 2004 and 2016. The volunteers were randomly selected and clustered in two stages. Each region in the city was considered as a cluster and health centers referred to as sub-cluster. Samples were selected randomly based on family case number. The sample size was estimated to be 385 subjects using the Cochran formula and according to Islamshahr official censuses of population (485688) in 2011. But a total of 1000 women were enrolled in our study in 2004, therefore we consider the sample size to be 1000 in order to reduce the percentage error of comparative results. After selecting the intended households, a questionnaire investigating the participants' familiarity with fertility attitudes and the use of modern contraceptives was used according to the study objectives. The questionnaire was completed by participants and it has previously been validated. The results were compared with those of a similar study in 2004.

Data collection was done in the field and subjects completed the questionnaire on reproductive health and contraception after obtaining the written consent form and assuring women that all information would be confidential and only used for research. Finally, the researcher scored the completed questionnaires and converted the participants' raw scores to meaningful numbers using SPSS software.

### 3. Research results

883 (88.3%) of the subjects were 15-29 years old and 117 (11.3%) were 29-45 years old. Also, the age distribution was comparable in both groups in the years 2004 compared with 2016 and showed a statistically significant difference, as shown in Table (1).

**Table 1: Age Distribution in Participants**

Age	2004		2016		P-value
		Freq.(%)		Freq.(%)	
15-19	(22)220	(32.2)322			0.001
20-24	(28)280	(48.9)489			
25-29	(25)250	(7.2)72			
30-34	(1)100	(4.9)49			
35-39	(9.5)95	(4.3)43			
40-45	(5/5)55	(1.5)15			
Total		100(1000)		100(1000)	

The results according to of Chi - square test are shown in Table (2). The frequency distribution of contraceptive methods use by women was statistically significant in 2004 and 2016. In other words, there was a significantly higher prevalence of contraceptive methods use in 2004.

**Table 2: Comparison the frequency distribution of the methods use in 2004 and 2016**

Methods use	2004		2016		P-value
		Freq.(%)		Freq.(%)	
IUD	(9.9)99	(4)40			0.001
LD	(13.8)138	(2)20			
Three phases	0	0			
condom	(18.4)184	(9)90			
natural	(43.3)433	(17)170			
Tubectomy	(3.4)34	(7)70			
Vasectomy	(0.1)10	(1)10			
Norplant	(0.1)10	0			
no methods	(9.2)92	(58)580			
total	(100)1000	(100)1000			

The results of the Chi-square test regarding women's awareness of the contraceptive benefits are shown in Table (3). It also shows that there is a statistically significant difference between women's knowledge about the benefits of contraceptive methods in 2004 and 2016. Women's awareness of the contraceptive methods use benefits was significantly higher than in 2004, confirming the statistical difference between 2004 and 2016.

**Table 3: Comparison of frequency distribution of knowledge of women about the benefits of contraceptive methods in 2004 and 2016**

Women's awareness of the contraceptive methods benefits	2004		2016		P-value
	Freq.(%)		Freq.(%)		
People who know how to prevent sexually transmitted diseases	27	270	(56)	560	0.001
People who know the methods used during lactation	(25.8)	258	(40)	400	
People who are familiar with the proper ways of young couples	(25.3)	253	(11)	110	
people who are aware of emergency methods	(12.2)	122	(5.6)	56	

According to Table 4, the results of the Chi-square test show that there was no significant difference in the failure rate between different methods of contraception in 2004 and 2016.

**Table 4: Comparison of Frequency Distribution Percentage of Contraceptive Methods Use in 2004 and 2016**

Methods use	2004				2016		P-value		
	Frequency	of users(%)	Frequency of failure(%)	of users(%)	Frequency of failure(%)	of failure(%)			
IUD	(9.9)	99	0	(4)	40	(7.5)	3	0.061	
LD	(13.8)	138	0	(2)	20	(10)	2		
Three phasic	0		0	0		0%			
Condom	(18.4)	184	0	(9)	90	(11.1)	10		
Natural	(43.3)	433	(0.69)	3	(17)	170	(16.47)		28
Tubectomy	(3.4)	34	0	(7)	70	0%			
Vasectomy	(0.1)	10	(10)	1	(1)	10	0%		
Norplant	(0.1)	10	0	0		0%			

Table 5 shows a statistically significant difference in women's perception of contraceptive methods in 2004 and 2016 according to the Chi-square test. As a result, the women's awareness of using contraceptive methods was significantly higher in 2016 than in 2004.

**Table 5: Comparison of the Frequency Distribution of Women's awareness of Contraceptive Methods in 2004 and 2016**

Volunteer knowledge rate	2004		2016		P-value
	Freq(%)		Freq(%)		
no information	(12.8)	128	(9)	90	0.001
incomplete information	(81.1)	811	(71)	710	
Complete information	(6.1)	61	(20)	200	
Total	(100)	1000	(100)	1000	

Table 6 shows the results of the comparison of ratios of the incidence of intentional (illegal) abortions that there was a statistically significant difference between the frequency of illegal abortion in 2004 and 2016. The frequency of illegal abortion in 2016 was significantly lower than that in 2004.

**Table 6: Comparison of the ratio of the incidence of intentional (illegal) abortions in 2004 and 2016**

Deliberate abortions	2004		2016		P-value
	Freq(%)		Freq(%)		
	(6)60	(2.2)22		0.0001	

The results of the comparison of the ratios in Table 7 concerning spouses who participate in reproductive health in 2004 and 2016 showed a statistically significant difference. Thus, the frequency of spouse cooperation in 2016 was significantly higher than in 2004.

**Table 7: Comparison of the Frequency Ratio of Spouses Contributing to Reproductive Health in 2004 and 2016**

Spouses who contribute to reproductive health	2004		2016		P-value
	Freq(%)		Freq(%)		
	(20)200	(63)630		0.0001	

Also, there was statistically significant difference for frequency ratio of sexual dissatisfaction among women using reproductive health methods in 2004 and 2016 as shown in Table (8). The prevalence of sexual dissatisfaction in women using those methods in 2016 was significantly higher than in 2004.

**Table 8: Frequency ratio of sexual dissatisfaction among women using reproductive health methods in 2004 and 2016**

Frequency of sexual dissatisfaction in women using reproductive health methods	2004		2016		P-value
	Freq(%)		Freq(%)		
	0	(10)100		0.0001	

Finally, as shown in Table (9), there was no statistically significant difference in the frequency ratio of education through health houses in 2004 and 2016 and frequency ratio of education through those was at its highest rate in 2004 and 2016

However, there was a significant difference between mass media education in 2016 and 2004, and awareness was increased through the media in 2016.

**Table 9: Comparison of the Frequency Ratio of Users of Reproductive Health Methods were trained in 2004 and 2016**

The rate of education of women regarding various methods of reproductive health	2004	2016	P-value
	Freq(%)	Freq(%)	
mass media	(0.008)8	(24.3)243	0.001
health houses	(48.7)487	(54.6)546	
personal studies	(1.2)12	(2.0)20	
Doctor's visits	(8.7)87	(12.3)123	

#### 4. Discussion

From the results of the study, there was a significant difference between the distributions of participants ages in reproductive health planning in 2016 compared to 2004. In 2016, most participants were under 25 years of age (81.1%) whereas the number was 50% in 2004. This shows that not only the number of young women of childbearing age has increased, but also their enthusiasm for participating in researches has increased because of increased awareness.

According to the findings of the present study, the rate of contraceptive use in 2016 has been significantly reduced compared to 2004, which is in line with the government's policies to increase birth rate. Therefore, the amount of training and propaganda in order to increase the birth rate can be considered very effective; although women's awareness of contraceptive methods has increased significantly. This has been completely conscious and has progressed according to the policies of the country. In 2016, 58% of the participants did not use any reproductive health methods and 52% of them were expecting pregnancy, whereas in 2004 only 9.2% did not use those methods and 15% of them waited for pregnancy. However, it is worth noting that the rest of the subjects did not use any methods due to the lack of awareness or fear of possible complications, Of course, it declined from 85% in 2004 to 48% in 2016.

The rate of failure of contraceptive methods did not change during 12 years from 2004 to 2016 and the highest failure rates were related to natural and barrier methods such as condoms, respectively. Also, the results showed that the rate of deliberate or illegal abortions decreased significantly in 2016 compared to 2004, indicating a positive increase in reproductive health and increased awareness and interest in women to increase birth rates. The rate of men's participation in reproductive health in the year 2016 has significantly increased compared to the year of 2004, which is a result of the positive growth of education and increased awareness of families about this issue. Meanwhile, the findings of the study showed a significant decrease in female sexual satisfaction in 2016 compared to 2004, which could be due to increased literacy, awareness and expectations of women in marital relationships.

The level of awareness of women regarding the prevention of sexually transmitted diseases such as AIDS and the identification of appropriate contraceptive methods during lactation has increased in 2016 compared to 2004; although, this has decreased significantly in relation to the appropriate methods of young couples and their knowledge of emergency contraceptive methods in 2016 compared to 2004. According to the findings, most of the education was provided by health houses, but there was no significant difference in the education of these centers during 2004 and 2016. In the meantime, the amount of training by the mass media and physician visits has increased significantly in 2016 but Training did not show a statistically significant difference.

What was found in this study is that volunteers had a high tendency to use natural methods in both 2004 and 2016. Natural methods had the highest use among the other methods in 43.3% and 17% in



2004 and 2016, respectively. Despite of its lower usage, it still was statistically significant. Since this method had the highest rate of failure and the rate of sexual dissatisfaction method was highest for this, it is necessary to educate people more about the disadvantages of this method and introduce safer methods instead.

A similar study in Iranshahr showed that if spouses participate in this program, reproductive health practices will show higher rate of success and suggested that spouses should also be involved more in education. (9) A study in Urmia showed that the highest levels of sexual dissatisfaction were with hormonal contraceptive methods, but it was related to the use of natural methods in our study. (10)

Studies in the city of Qazvin showed the highest level of sexual satisfaction with condom use, whereas in our study sterilization methods were the most preferred one. (12) Other studies in Qayem Shahr, Ahvaz and Hamadan have shown that women were more likely to use natural contraceptives and it had higher failure rate than the other ones. (19) (20) (21) and these results were similar to our results.

In a study in Ghana among young women and adolescents, the rate of contraceptive use and prevalence of sexually transmitted diseases varied widely depending on the workplace and the provision of the contraceptive devices, which actually showed the impact of education (31). Our study was conducted in two phases and it has been shown that due to the change in birth control policies, people have also taken steps in this direction. In other words, the success of reproductive health programs depends on how well people are educated.

In a study in Cameroon, comparisons were made between women working in the Palm Oil Factory and women in the village, and found that reproductive health programs were more successful in working women and in women whose husbands agreed to family planning. (33) Our study also showed that spouses were more involved in implementing the reproductive health program in 2016, ie, the success rate and achievement of population growth policy goals have been more. A study in Nigeria found that maternal mortality was much higher than the world standard. These women had increased mortality due to their husbands' lack of co-operation and the necessity of childbirth and childbearing. (34) But in our study, women had the enough knowledge needed to prevent high-risk pregnancies.

In the US, two studies were conducted separately and based on their findings, contraceptives were very popular there and the more secure the device was, the more it was used and the percentage of people who don't use any method was much lower than our study, which indicates extensive training.(35) (36) Research in Canada has shown that modern appliances are more commonly used than natural and traditional methods, and Canada has the highest rate of sterilization (pipe closure) in the world, contrary to our statistics in this study (37). In the Philippines, research has shown that as time goes on and training increases, the use of preventive devices increases. This is similar to our study in which increasing training on how to use contraceptive devices is aimed at demographic policies (38).

### ***Conclusion & Implications***

Considering that 58% of the participants in the research project did not use any prevention method in 1395 and 52% of them had plans to have children and plan to become pregnant; the rest had no choice because of fear of complications or lack of knowledge; that the number of people (278 out of 580) in this statistical population is more than a quarter of the population; failure to keep up with its progressive process will cause irreparable damage to reproductive health. Because unwanted children, deliberate abortions, the prevention of sexually transmitted diseases will be challenged. So, in spite of our successes in reproductive health, we still need more and more comprehensive education.

Since human beings are created by authority and have to make decisions with thought and consciousness To have the strong will to succeed and get the best results and that is nothing but the cultivation of a healthy generation, Therefore, it is necessary to have a child with the best reproductive health education and prevention methods possible And with timely planning and testing, it has prevented problems such as genetic diseases, metabolic diseases, maternal mortality, infant mortality, educational problems for children, and even financial poverty. Proper spacing between offspring during lactation provides ample opportunity for the baby's mother to be healthy and healthy.

To maintain this positive growth in the control of illegal abortions and the control of sexually transmitted diseases, we need to continue our extensive training. And start these trainings from an early age and later into adolescence and high school, so that in the age of information, our young people will not be challenged by the wrong information before acquiring the right knowledge.

For correct and principled education based on the fundamentals of science and religion, Education should start fro, parents' school meetings, universities, and mass media. And these training should be supervised by experts and scientists.

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