Initial Draft

Method Mix of Family Planning In Iran

Amir H. Mehryar[1], Aliyar Ahmadi[2], M. G Tabatabaei[3] and T. Aghayari-hir

European Population Conference
Vienna, Austria 1-4 September 2010

Abstract

Iran is a well known country in terms of demographic transition and its fast fertility decline. Although the distant socio-economic variables influencing fertility are well recognized and studied, use of family planning programs as a proximate determinant needs more investigation in the context of Iran. This study investigates the determinants of method mix of family planning in the country. It is based on Iran's DHS- type survey conducted in 2000 and makes use of logistic regression for estimating the probability of each method's utilization. With regard to Macro level variables, the study indicates that provincial level of development is a major factor in determining prevalence of different methods. There is a negative correlation between provincial level of development and use of modern methods. Modern methods are mostly prevalent in less developed provinces while the traditional method of withdrawal is most frequently used in more developed provinces. Similarly, the barrier method of condom is mostly used in more developed provinces whereas pill is more frequently used in less developed areas. In terms of micro level analysis, level of education emerges as the most important variable in method choice. Pill and Tubectomy enjoy a higher place among illiterate women. Vasectomy, Norplant and Condom use is positively related to level of education. More educated women are also more likely to use traditional method of withdrawal regardless of their place of residence.

Key words: method mix of family planning, traditional methods, modern methods, Iran

[1] . *Ministry of Science, Research & Technology, Iran,* ahmehryar2003@yahoo.com
[2] . *Department of Sociology, Shiraz University, ahmadi_78@yahoo.com*
[3] . *Department of Demography, Tehran University*
4. *Department of Social Sciences, Tabriz University*

Introduction

Iran's family planning programs has been acclaimed for the largest and fastest fall in fertility ever recorded (Hashemi 2009). This fall in fertility rate was such fast that Mehryar (2001) called it Iranian Miracle. Total fertility rate fell sharply after 1989, dropping from 5.5 in 1988 to below 2.8 in 1996, more than a 50 per cent decline in 8 years. The estimates of fertility for Iran based on the 2000 Iran Demographic and Health Survey also indicate that the TFR has declined further and reached replacement level (2.26) in 2000 (Abbasi-shavazi 2002,). Meanwhile, contraceptive prevalence raised from the rate of 37% in 1977 to 65% in 1992 (Aghajanian and Mehryar 1999) to 74.6 in 2000 (Ahmadi and Aghayari-hir 2010).

Increases in the use of contraceptives have been the principal direct cause of the fertility declines in the developing world (Zlidar, V.M., and et.al 2003). The decline in Iran’s fertility has coincided with development of family planning programs too, so further study of these programs is of great importance. Many available reports on family planning has studied prevalence of contraceptives; while despite its importance, combination of family planning programs, i.e. method mix, has gained a little consideration.

“Method mix” refers to the distribution of contraceptive methods used by a population (i.e., the percentage that uses each method) and there is no “optimal” or “ideal” method mix recognized as such by the international reproductive health community (Bertreand and et.al 2000) so that there are different method mix patterns across and even within countries.

The method mix in a country reflects many factors, including the availability of various contraceptive methods and people’s awareness of them, their cost, and where they can be obtained. In addition, personal preferences, social norms, and perceived acceptability of family planning use affect contraceptive choices (Zlidar, V.M., and et.al 2003).

In this paper, the status as well as the determinants of method mix of family planning in Iran is investigated. This study is based on Iran’s DHS- type survey conducted in 2000 considering both macro and micro level of analyses.

Data and Method

Data for the study are from Iran DHS-type survey conducted in 2000 by the Ministry of Health and Medical Education of Iran. The Survey was financially and technically was supported by the Statistical Center of Iran, UNFPA, UNICEF and some national and international agencies. The Iran 2000-DHS is almost unique inside country because it captured a huge sample which had the country coverage. A total of 114,000 households

with a total population of about 537,000 representatively drawn from rural and urban areas of 28 provinces, plus one additional sample from the capital city, Tehran (The survey covered around 4000 households in each province, 2000 households in rural and 2000 households in urban areas). The sample was chosen in such a way that it makes one enable to do separate analyses for the urban and rural areas of each of the 28 provinces of Iran as well as the Tehran metropolitan city. In the survey around 93000 ever-married women were interviewed, which are the subjects of analyses in this study.

The study is carried out considering both macro and micro level of analyses. In Macro level of analysis the study enjoys Pearson correlation to indicate the relationship between provincial level of development and mean use of each contraceptive method. In Micro level of analysis, the usage probability of each method was estimated based on determinant variables, using logistic regression.

Contraceptive Use

In Iran more than 74 % of 15-49 married women were using contraception in 2000. The percentage of women using contraception is higher in the urban areas, at 77.8% than in the rural areas of the country, at 68.8% (Table 1). This percentage both in urban and rural areas is even higher than that of the developed world, estimated as 68%. On average,

nearly 76% of contraceptive users rely on modern methods, while only about 24% rely on the traditional methods of withdrawal and safe periodic abstinence (56.8% vs. 17.8%). Traditional methods been used for a long time in Iran, accounted for less than one third of urban and less than one sixth of rural contraceptive use in 2000. Based on statistics about contraceptive prevalence, Iran is about to terminate demographic transition based on contraceptive prevalence. Levels of contraceptive use of 75% to 84%, as found in North America and Northern Europe, reflect the completion of the transition (Zlidar, V.M., and et.al 2003). The highest contraceptive prevalence rate found is 86%, in Hong Kong and 82%, in the United Kingdom (WCU 2007).

Table 1- Percentage of married women age 15-49 practicing traditional and modern methods of contraception by place of residence

	Total	Urban	Rural
1976[a]	**37.0**	**53.8**	**19.9**
1992[a]	**64.6**	**74.1**	**51.5**
Modern	**44.6**	**47.1**	**41.1**
Traditional	**20.0**	**27.0**	**10.4**
1997[a]	**72.9**	**77.4**	**65.9**
Modern	**55.4**	**54.8**	**56.6**
Traditional	**17.5**	**22.6**	**9.3**
2000	**74.6**	**77.8**	**68.8**
Modern	**56.8**	**55.7**	**58.9**
Traditional	**17.8**	**22.1**	**9.9**

a: Aghajanian and Mehryar 1999

Method Mix of family Planning in Iran

In table 2 Method Mix of Family Planning is shown in terms of residence. The pill is the most frequently used method by all married women who were practicing contraception. About 18.8% of women (16.8% in urban areas and 22.5% in rural areas) rely upon the pill. Tubectomy is the second modern method frequently used both in urban and rural areas. 16.3% of women in urban areas and 19.5% of rural women have practiced tubal ligation. These methods are followed by the IUD in urban (10.1%) and IUD and Injectables in rural areas (5.6%). A greater proportion of urban women than rural women use condom as contraceptive (7.3% vs. 3.6%), and relied on vasectomy (3.5% vs. 1.3% respectively).

Reliance on traditional method of withdrawal is common in Iran. Withdrawal is mostly used in urban areas, as 21.6 percent of women make use of it. This percentage for rural areas is 9.8% which is still higher than the world average use of this method.

In table 3 method mix of family planning in terms of development of regions is shown.

Table 2- Method Mix of Family Planning by residence in Iran 2000 and in world by level of development in 2007

	Variables	All	Modern	Traditional	Tubectomy	Vasectomy	IUD	Norplant	DMPA	Pill	Condom	Withdrawal	Safe Period
Iran	Total	74.6	56.8	17.8	17.4	2.7	8.5	0.5	2.9	18.8	6.0	17.4	0.4
	Urban	77.8	55.7	22.1	16.3	3.5	10.1	0.4	1.4	16.8	7.3	21.6	0.5
	Rural	68.8	58.9	9.9	19.5	1.3	5.6	0.8	5.6	22.5	3.6	9.8	0.2
World[a]	MDC[b]	67.4	56.1	11.3	8.6	4.5	9.4	1.0		16.5	13.9	6.8	4.3
	LDC[c]	62.4	56.1	6.3	21.5	2.5	16.5	3.7		7.2	4.4	2.3	3.4

a: World Contraceptive Use 2007. b: More Developed Countries c: Less Developed Countries

The contraceptive prevalence use in low developed provinces is 69.5% while it reaches to 73.4% and 80.1% in medium and high developed provinces. Even though the percentages for modern methods dose not differ much in terms of provincial development, the traditional methods (mainly withdrawal) vary substantially. The average use of traditional contraceptives in low developed provinces is 8.2% which increases to 16.6% in medium level and to 25.1% in highly developed provinces. Pill is the most frequent used method in low developed provinces (24.3%) and most one besides tubectomy in medium level provinces (19.1%). In more developed provinces tubectomay places the first rank in modern methods of contraceptive use.

Table 3. Method mix of Family Planning in Iran by Provincial Level of Development, 2000

Level of Development	All	Modern	Traditional	Tubectomy	Vasectomy	IUD	Norplant	DMPA	Pill	condom	Withdrawal	Safe Period
Low	69.5	61.3	8.2	17.9	1.2	7.6	1.0	5.4	24.3	3.9	7.8	0.4
Medium	73.4	56.5	16.9	19.1	2.2	5.7	0.4	3.1	19.1	6.9	16.6	0.4
High	80.1	55.0	25.1	18.0	3.9	9.8	0.2	1.2	14.2	7.6	24.8	0.3

In table 4 method mix of family planning in different provinces sorted by level of development is shown. Relationship between development and contraceptive use is a positive direct relationship. Sistan & Balouchestan as the least developed province enjoys a prevalence rate of 40.1 and Tehran city as the highest case of development has the highest rate of contraceptive use as 78%. Interestingly, the use of traditional methods is highly correlated to the level of development. The more the level of provincial development is, the higher the use of traditional methods. As indicated in the figures 2-9 use of withdrawal, Condom, IUD, and Vasectomy is positively correlated to provincial level of development and Pill, Injectables and Norplant are negatively related to the level of development. Tubectomy and Modern methods on the whole show no relationship with level of development.

Table 4: Method mix of Family Planning in different provinces of Iran, 2000

Variables	Level of D.	All methods	Modern	Traditional	Tubectomy	Vasectomy	IUD	Norplant	DMPA	Pill	condom	Withdrawal	Safe Period
Sistan & B.	L	40.1	35.7	4.4	5.8	0.3	2.2	0.6	4.4	19.2	3.2	4.0	0.4
Ardebil	L	70.7	64.2	6.5	19.8	0.9	8.1	1.4	4.5	26.6	2.9	6.2	0.3
Kurdistan	L	73.8	67.2	6.6	22.4	1.4	13.4	2.0	6.7	17.4	3.7	6.3	0.3
Azarbayjan, W.	L	70	60.5	9.5	15.7	1.2	8.8	1.0	6.1	24.7	2.9	9.1	0.4
Ilam	L	66.7	63.7	3.0	20.9	0.4	1.6	1.5	5.6	31.4	2.5	2.5	0.5
Kermanshah	L	70.6	64.0	6.6	22.3	0.9	5.0	1.0	5.4	25.5	3.9	6.3	0.4
Hormozgan	L	54.4	44.1	10.3	10.6	1.0	3.4	0.4	3.7	20.1	4.9	10.3	0.1
Loristan	L	68.5	61.1	7.4	20.9	0.8	7.3	0.3	5.2	22.1	4.4	7.1	0.3
Zanjan	L	71.1	61.9	9.2	15.7	2.7	13.4	0.9	8.2	17.6	3.6	8.9	0.3
Kohgilooyeh B.	L	62.2	56.5	5.7	18.2	1.9	2.9	1.1	3.8	25.9	2.6	5.3	0.5
Azarbayjan, E.	L	69.9	58.1	11.8	15.4	0.7	11.7	0.6	5.0	20.9	3.8	11.4	0.4
Hamadan	M	73.6	61.1	12.5	19.8	3.2	8.4	0.5	4.5	18.0	6.7	12.1	0.4
Khuzistan	M	63	53.9	9.1	17.1	0.7	4.3	0.3	2.5	24.1	4.9	8.7	0.3
Golestan	M	69.8	55.4	14.4	21.8	1.4	4.2	0.2	3.4	20.1	4.5	14.2	0.2
Khorasan	M	64.7	48.3	16.4	13.6	1.3	5.6	0.5	2.8	18.7	5.8	16.2	0.2
Bushehr	M	61.2	49.1	12.1	12.1	2.2	2.6	0.3	2.9	20.4	8.6	11.8	0.3
Kerman	M	66.7	49.6	17.1	18.6	1.5	4.3	0.2	2.8	14.3	8.0	16.4	0.7
Charmahal & B.	M	72.1	63.4	8.7	26.3	3.6	7.3	0.3	3.2	18.7	3.9	8.5	0.3
Fars	M	67.8	57.1	10.7	20.1	3.5	5.5	0.5	2.8	19.0	5.7	10.4	0.3
Qazvin	M	73.1	56.3	16.8	18.4	2.1	7.8	0.4	5.3	16.1	6.1	16.4	0.4
Markazi	M	73.7	55.4	18.3	20.4	2.0	4.6	0.6	4.9	15.1	7.8	18.1	0.2
Gilan	H	73	48.2	24.8	15.6	1.4	3.2	0.8	1.0	21.5	4.8	24.3	0.5
Qom	H	69.9	46.1	23.8	14.7	1.2	4.0	0.1	2.0	15.2	9.0	23.6	0.2
Mazandaran	H	76.5	51.4	25.1	24.1	1.7	3.0	0.1	1.4	16.9	4.4	25.1	0.1
Semnan	H	76.4	52.7	23.7	17.8	2.7	6.6	0.2	2.6	16.2	6.8	23.4	0.2
Yazd	H	74.4	54.2	20.2	17.6	1.9	9.5	0.2	0.5	11.5	12.9	20.1	0.1
Tehran (Province)	H	75.9	56.2	19.7	18.2	2.8	13.4	0.4	1.8	15.5	4.2	19.4	0.3
Esfahan	H	75.9	55.8	20.1	16.5	6.9	9.0	0.6	1.2	14.4	7.2	19.9	0.2
Tehran City	H	78.4	50.3	28.1	11.2	5.1	15.1	0.2	0.7	11.5	6.5	27.4	0.7

Correlates of Method Mix of Family Planning

As stated, Pill is the most popular method of contraception overall. 18.8% of women have been using it in 2000. It is the second most widely used method in urban (16.8%) and the first one in rural areas (22.5) (Table 5).

This method of contraception is more common among women of age groups 20-34 (an average of 24%). This method is mostly used by women with medium level of economic index (23%), elementary education (27.4%) and among women with 1 child (28.2). Pill use is negatively related to age, CEB, and level of Education (Table 6).

Tubectomy (female sterilization) is the second most widely used contraceptive method in the country (17.4), being more in rural areas (19.5) than urban areas (16.3). Female sterilization rises steadily with rise in age. The higher the women age is, the higher the practice of Tubectomy. Tubectomy is strongly related to the women's children ever born too. 32% of women with 4-5 children and more than 40% of women with 6 and more children have practiced Tubectomy. This method is inversely related to education, being much more common among illiterate women (28.6%). Its practice decreases substantially as education rises reaching to 4.7% among university educated women. The relation between age at marriage and Tubectomy use is also negative. Women with lower age at marriage report a lower rate of using Tubectomy.

Table 5. Method Mix of Family planning by Women's Characteristics, Iran, 2000

Variables	All	Modern	Traditional	Tubectomy	Vasectomy	IUD	Norplant	DMPA	Pill	condom	Withdrawal	Safe Period
Total	74.6	56.8	17.8	17.4	2.7	8.5	0.5	2.9	18.8	6.0	17.4	0.4
Urban	77.8	55.7	22.1	16.3	3.5	10.1	0.4	1.4	16.8	7.3	21.6	0.5
Rural	68.8	58.9	9.9	19.5	1.3	5.6	0.8	5.6	22.5	3.6	9.8	0.2
Age Group												
15-19	43.4	28.7	14.7	0.1	0.0	4.7	0.2	1.1	16.9	5.6	14.6	0.1
20-24	67.1	47.8	19.3	0.4	0.4	11.8	0.7	3.3	24.7	6.5	18.9	0.4
25-29	79.1	58.6	20.5	3.9	1.1	14.0	0.8	4.1	27.4	7.4	20.2	0.3
30-34	82.8	63.8	19.0	16.8	3.0	11.4	0.6	3.5	21.7	6.9	18.6	0.4
35-39	84.3	67.0	17.3	29.7	5.3	6.7	0.5	2.9	15.9	5.9	16.9	0.4
40-44	78.5	62.4	16.1	34.4	4.3	4.2	0.2	2.2	12.6	4.5	15.5	0.6
45-49	62.1	47.4	14.7	28.8	3.1	2.0	0.3	1.4	8.0	3.9	14.2	0.5
Economic Status												
Low	52.5	47.7	4.8	11.3	0.4	3.4	0.8	7.5	22.1	2.0	4.6	0.2
Medium	67.5	57.7	9.8	17.5	0.8	6.4	0.8	6.5	23.0	2.7	9.6	0.1
High	77.2	57.3	19.9	17.9	3.2	9.2	0.4	2.0	18.0	6.7	19.5	0.4
Literacy and Education												
Illiterate	67.8	60.2	7.6	28.6	1.7	4.1	0.7	5.4	17.7	2.0	7.4	0.2
Elementary-religious	76.8	60.8	16.0	19.2	3.1	8.4	0.5	3.0	21.4	5.2	15.8	0.2
Intermediate	78.8	55.7	23.1	10.7	3.0	11.4	0.5	1.8	20.7	7.5	22.8	0.2
Secondary	76.8	49.6	27.2	7.7	3.4	12.0	0.2	0.8	16.2	9.3	26.4	0.8
University	75.7	44.8	30.9	4.7	2.2	10.4	0.2	0.3	12.9	14.0	28.9	2.0
CEB												
1	78.5	54.2	24.3	0.1	0.2	14.2	0.5	2.0	28.2	9.0	23.8	0.5
2-3	86.0	62.1	23.9	9.1	3.6	13.8	0.7	3.1	23.5	8.4	23.3	0.6
4-5	82.6	68.6	14.0	32.4	4.8	6.1	0.4	3.6	16.7	4.6	13.8	0.2
6-8	77.6	68.8	8.8	42.2	3.3	2.6	0.5	3.8	14.2	2.2	8.7	0.1
9+	68.3	63.3	5.0	40.3	1.5	1.1	0.5	5.3	12.9	1.7	4.8	0.2
Knowledge on contraceptives												
Low	46.3	39.4	6.9	15.8	1.0	3.0	0.2	2.7	15.0	1.7	6.8	0.1
Medium	74.5	58.0	16.5	18.9	2.4	7.8	0.6	3.4	19.7	5.2	16.2	0.3
High	82.5	60.3	22.2	16.4	3.5	10.7	0.5	2.4	18.9	7.9	21.5	0.6
Age at Marriage												
10-14	72.0	59.9	12.1	25.6	3.3	6.4	0.7	4.0	16.8	3.1	12.0	0.1
15-17	76.1	59.9	16.2	20.3	2.9	9.0	0.6	3.1	18.9	5.1	15.9	0.2
18-20	76.3	56.5	19.8	14.6	2.6	9.5	0.5	2.6	19.8	6.9	19.3	0.4
21-24	74.9	52.1	22.8	10.3	1.8	9.1	0.3	2.0	20.3	8.4	21.9	0.9
25-29	68.0	45.8	22.2	8.5	2.7	6.3	0.4	1.8	17.5	8.7	21.5	0.7
30+	53.8	35.6	18.2	7.8	2.0	4.0	0.1	1.6	12.5	7.6	17.7	0.5

The IUD ranks third among modern family planning methods used by married women (8.5%). IUD method is used more in urban than rural areas (10.1 vs. 5.6). It is more popular in middle ages of 20-34, highly reported in age group 25-29 (14%). Its use increases by a rise in economic Index, education and knowledge on contraceptives and a fall in CEB.

Reliance on the male Condom for family planning is rare among married women (6%). This method is more common among urban communities (7.2%) than rural ones (3.6%). Its use increases with a rise in economic index and education. It is mostly used among university educated women as it is the most widely used modern method among university educated women (14%)

Injectables and Norplant are rarely used in Iran (2.9% and 0.5% respectively). Injectables appears to be used mostly in rural (5.6) than urban areas (1.4). Its use is reversely related to economic index and education.

Withdrawal as the main traditional method in Iran is the second most widely used contraceptive method occupying the same rank by tubectomy (17.4%).

Table 6: Results of logistic Regression for Estimating Method Mix of Family Planning In Iran

	Tubectomy		Pill		Withdrawal		IUD		Condom		Vasectomy		Modern		Traditional	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Residence (Urban)																
Rural	1.14	n.s	1.17	n.s	0.81	*	0.72	*	0.88	n.s	0.81	n.s	1.22	n.s	0.81	n.s
Age Group (15-19)																
20-24	0.64	n.s	0.72	n.s	1.27	n.s	1.20	n.s	0.97	n.s	3.83	n.s	0.78	n.s	1.28	n.s
25-29	2.48	n.s	0.66	*	1.66	*	1.00	n.s	1.05	n.s	4.22	n.s	0.60	n.s	1.68	*
30-34	6.51	n.s	0.47	***	1.92	*	0.77	n.s	1.13	n.s	8.03	n.s	0.51	*	1.97	*
35-39	9.20	n.s	0.33	***	2.30	**	0.49	*	1.17	n.s	12.9	n.s	0.43	**	2.33	**
40-44	9.80	n.s	0.27	***	3.00	***	0.38	**	1.20	n.s	12.0	n.s	0.32	***	3.16	***
45-49	9.00	n.s	0.20	***	4.6	***	0.26	***	1.57	n.s	11.7	n.s	0.21	***	4.90	***
CEB (1)																
2-3	40	***	0.91	n.s	0.61	***	1.20	n.s	0.78	n.s	9.22	**	1.64	***	0.61	***
4-5	139	***	0.68	**	0.29	***	0.76	n.s	0.51	**	11.8	***	3.5	***	0.28	***
6-8	214	***	0.59	**	0.19	***	0.45	**	0.31	***	10.8	**	5.25	***	0.19	***
9+	244	***	0.60	*	0.13	***	0.29	*	0.32	*	7.62	*	7.83	***	0.12	***
Family (Extended)																
Nuclear	0.97	n.s	0.84	n.s	1.20	n.s	1.02	n.s	1.14	n.s	1.12	n.s	0.83	n.s	1.2	n.s
Employment (Employed)																
Unemployed	1.08	n.s	1.17	n.s	1.00	n.s	0.63	n.s	1.45	n.s	0.838	n.s	1.05	n.s	0.95	n.s
Householder	1.07	n.s	0.96	n.s	1.14	n.s	0.94	n.s	1.06	n.s	0.912	n.s	0.90	n.s	1.11	n.s
Economic Index (Low)																
Medium	1.35	n.s	0.79	n.s	1.42	n.s	1.52	n.s	0.78	n.s	1.16	n.s	0.77	n.s	1.36	n.s
High	1.50	n.s	0.72	*	1.63	n.s	1.53	n.s	1.15	n.s	1.95	n.s	0.67	n.s	1.57	n.s
Education (Illiterate)																
Elementary	0.88	n.s	0.91	n.s	1.35	*	1.00	n.s	1.60	*	1.45	n.s	0.76	*	1.33	*
Guidance	0.84	n.s	0.77	*	1.59	***	0.98	n.s	1.81	*	1.67	n.s	0.64	*	1.59	**
Secondary	0.65	***	0.67	**	1.53	**	1.15	n.s	2.19	**	1.68	n.s	0.65	**	1.55	**
University	0.50	**	0.56	**	1.41	n.s	1.08	n.s	3.63	***	1.14	n.s	0.66	*	1.53	*
Knowledge on Contraceptives (Low)																
Medium	0.93	n.s	0.73	**	1.24	n.s	1.16	n.s	1.42	n.s	1.33	n.s	0.81	n.s	1.25	n.s
High	1.00	n.s	0.63	***	1.26	n.s	1.17	n.s	1.57	n.s	1.62	n.s	0.790	n.s	1.30	n.s

There is a considerable difference between urban women (21.6%) and rural ones (9.8) making it an urban method. As expected withdrawal use increases by rise in education, being much more common among women

with university education (28.9%) secondary (26.4%) intermediate (22.8%) than those with primary (15.8) or no education (7.4%).

It is also higher among women with high economic index (19.5%), women with 3 or less children (23%) and women with high level of knowledge on contraceptives (21.5). Among all women, university educated ones ranks first in use of withdrawal (28.9%).

References

Abbasi-Shavazi, M.J., 2002. Recent changes and the future of fertility in Iran, In *United Nation's Population Division, Completing the Fertility Transition*, New York, pp: 425-439.

Aghajanian Akbar and Amir-Hooshang Mehryar (1999) Fertility, Contraceptive Use and Family Planning Program Activity in The Islamic Republic of Iran, International Family Planning Perspectives, Volume 25, Number 2.

Ahmadi Aliyar and Aghayari-hir Tavakkol (2010) "Further analysis demographic and health indices based on IDHS" Research center for population studies, Tehran, Iran

Bertrand, J.T., Rice, J., Sullivan T. M., Shelton, J. (2000). "Skewed Method Mix: A Measure of Quality in Family Planning Programs." MEASURE Evaluation Project, Working Paper Number 23

Hashemi Ali (2009) Family Planning Programs Effects in Rural Iran, Virginia Polytechnic Institute and State University, Department of Economics Blacksburg, VA 24060

Mehryar, A. H., B. Delavar, G. A. Farjadi, M. Hosseini-Chavoshi, M. Naghavi, and M. Tabibian (2001). Iranian miracle: How to raise contraceptive prevalence rate to above 70 percent and cut TFR by two-thirds in less than a decade? Paper presented at the IUSSP World Congress, Brazil 2001

WCU (2007) World Contraceptive Use, United Nations, Department of Economic and Social Affairs, Population Division

Zlidar, V.M., Gardner, R.. Rutstein, S.O, Morris, L, Goldberg, H.; and Johnson, K. *New Survey Findings: The Reproductive Revolution Continues. Population Reports*, Series M, No. 17. Baltimore, The Johns Hopkins Bloomberg School of Public Health, The INFO Project, Spring 2003.

APPENDICES

Figure 1- Method Nix of Family Planning by Residence

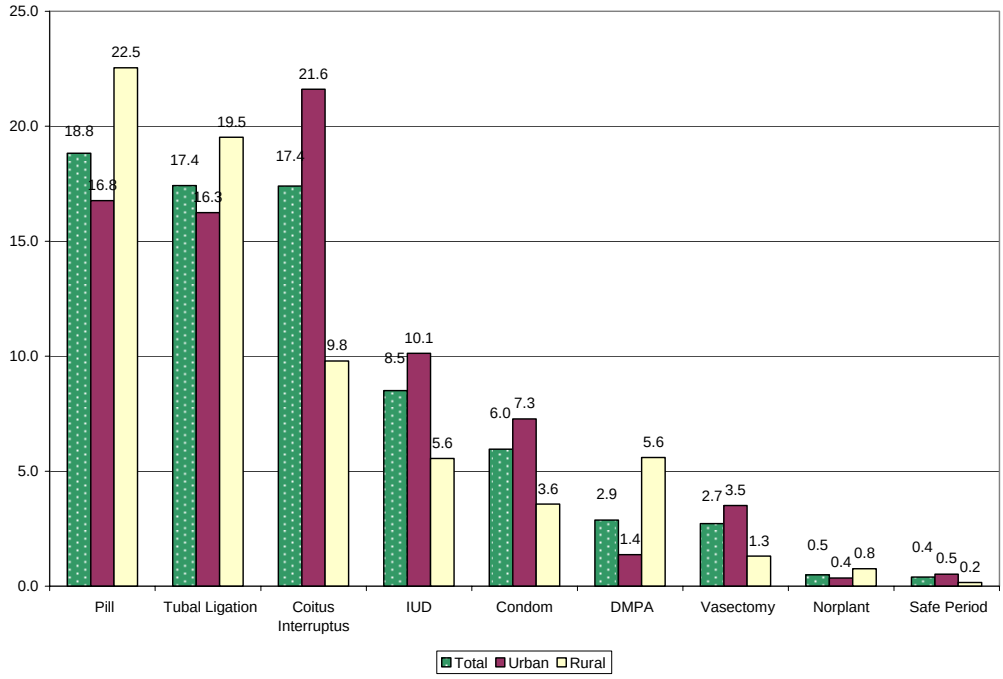

Figure 2: Correlation between Provincial Level of Development and Contraceptive Use, Iran 2000

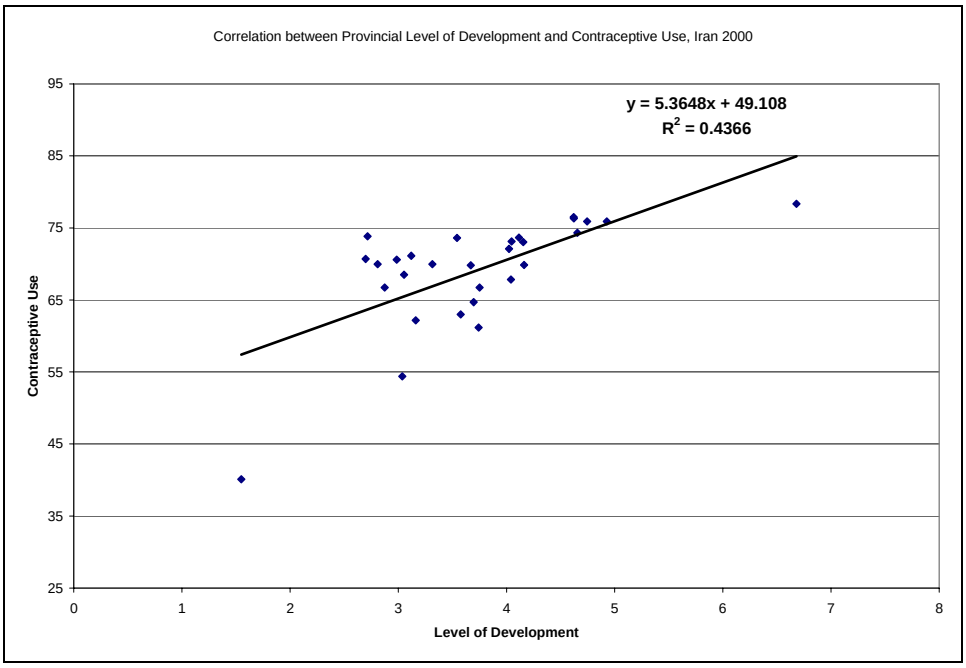

Figure 3: Correlation between Provincial Level of Development and Use of Traditional (Withdrawal) Method, Iran 2000

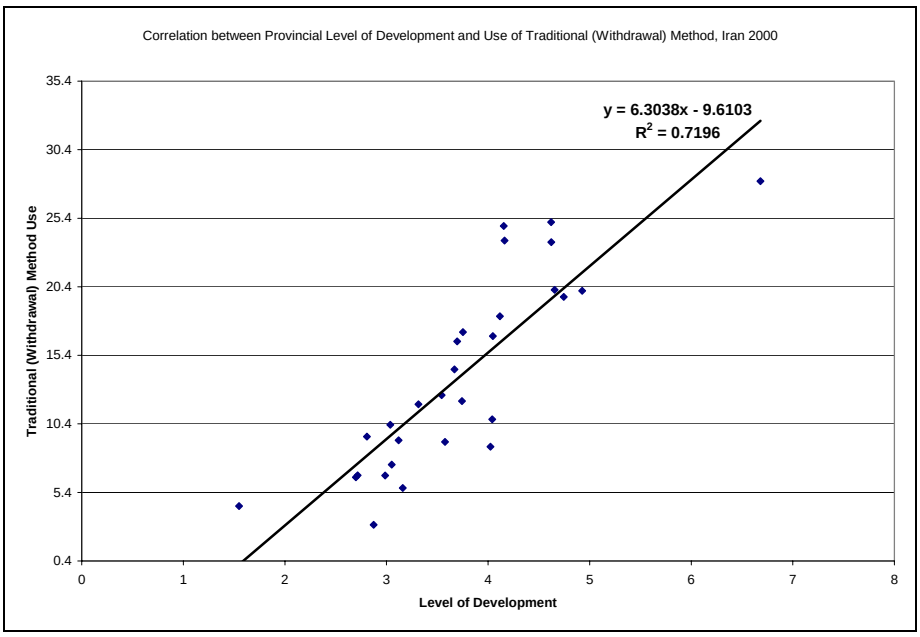

Figure 4: Correlation between Provincial Level of Development and Use of Modern Methods, Iran 2000

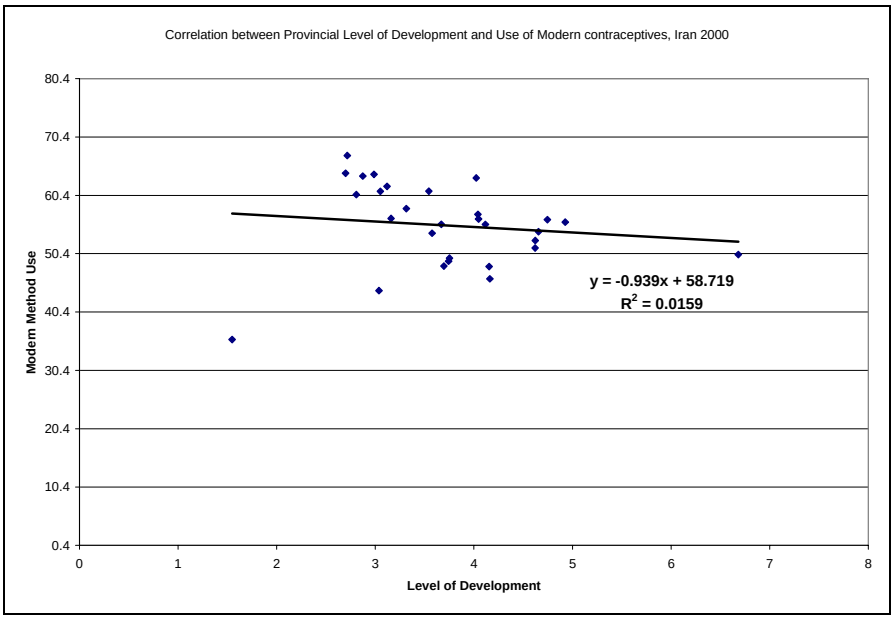

Figure 5: Correlation between Provincial Level of Development and Use of Condom, Iran 2000

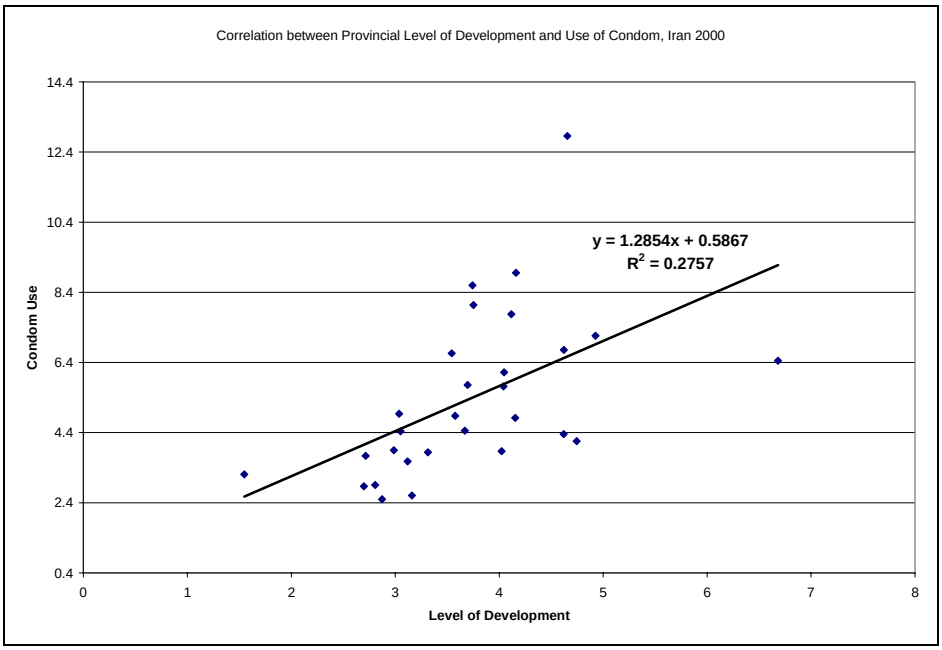

Figure 6: Correlation between Provincial Level of Development and Use of Pill, Iran 2000

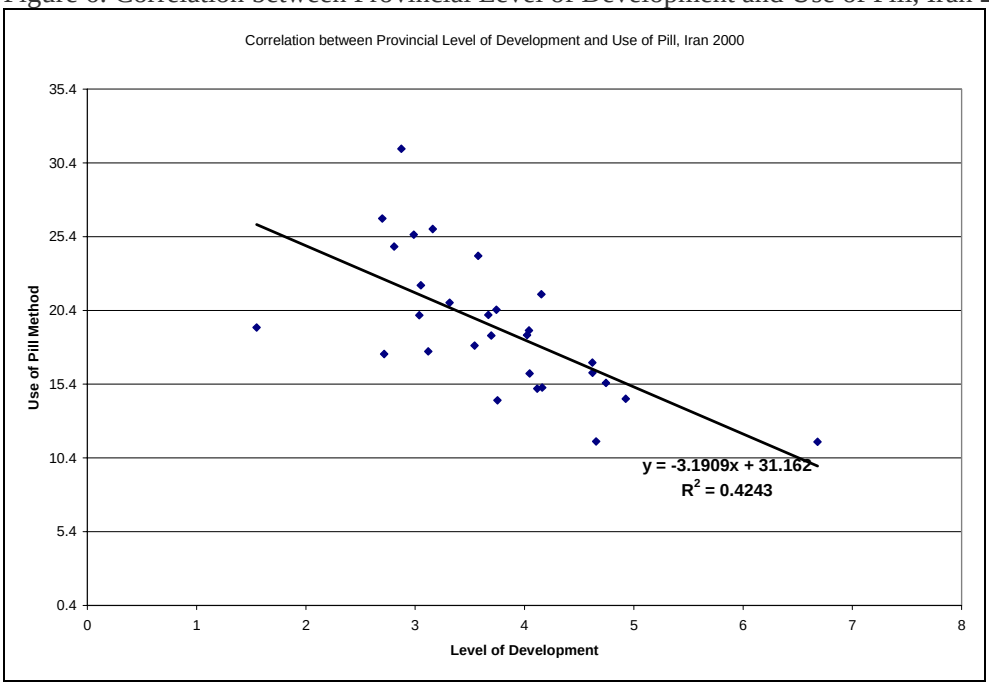

Figure 7: Correlation between Provincial Level of Development and Use of IUD, Iran 2000

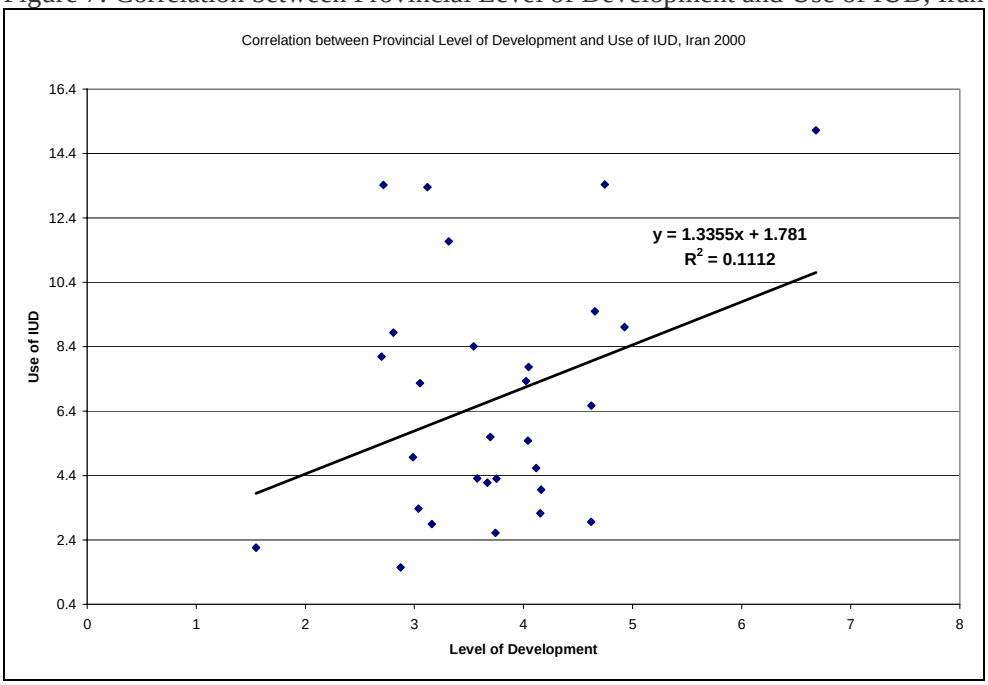

Figure 8: Correlation between Provincial Level of Development and Use of Vasectomy, Iran 2000

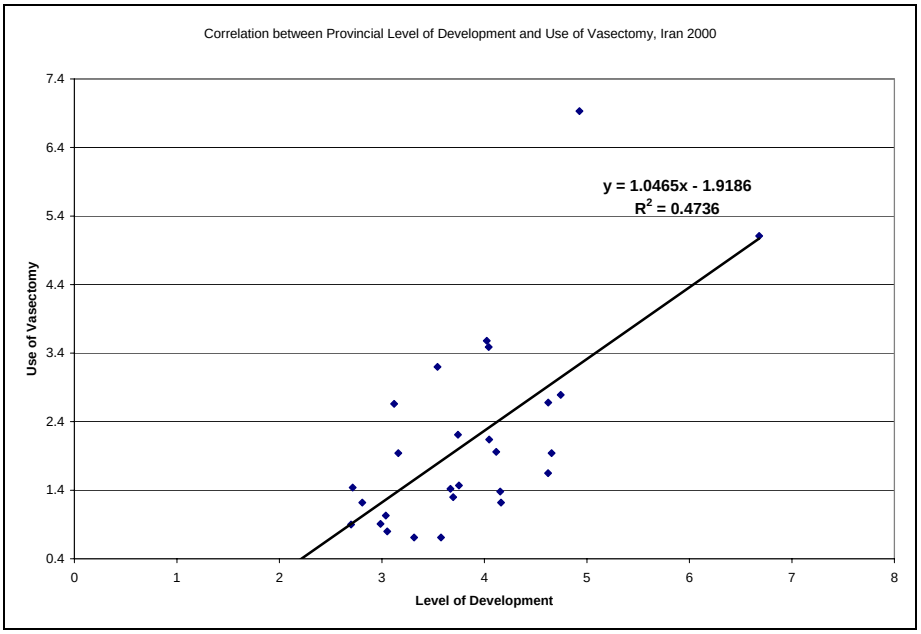

Figure 9: Correlation between Provincial Level of Development and Use of Tubectomy, Iran 2000

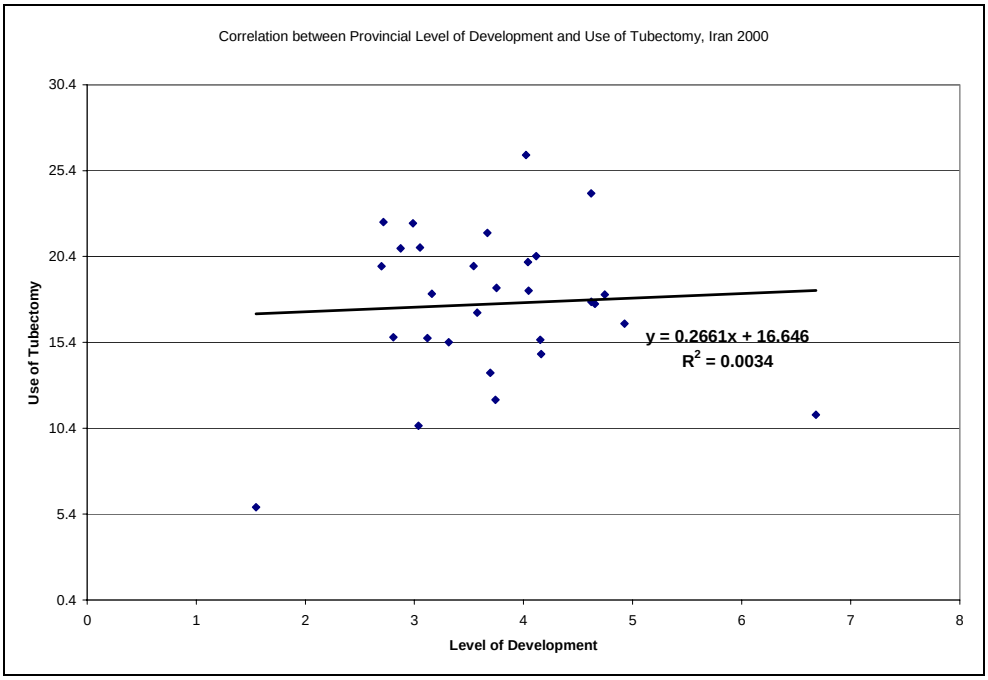

Figure 10: Correlation between Provincial Level of Development and Use of Injectables, Iran 2000

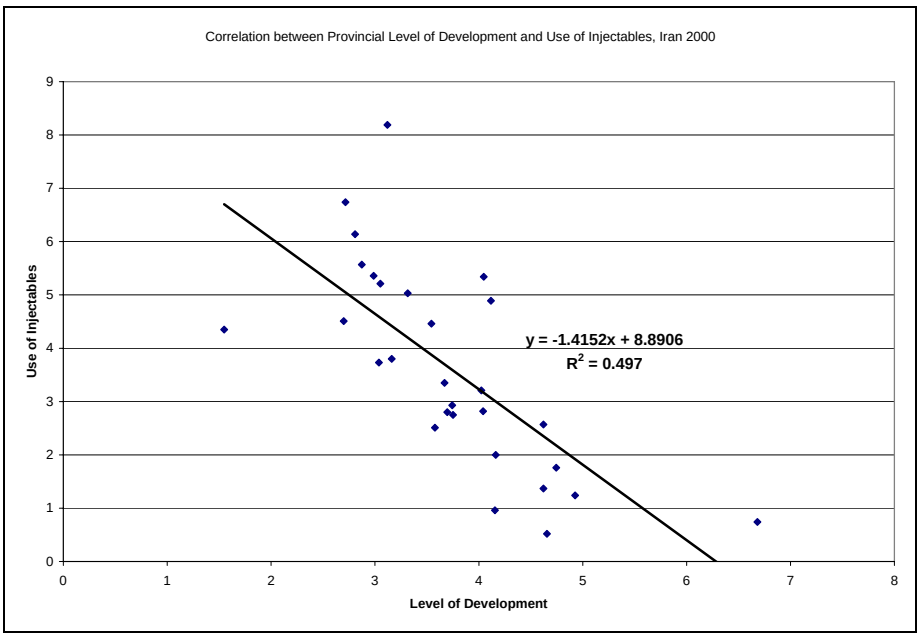

Figure 11: Correlation between Provincial Level of Development and Use of Norplant, Iran 2000