The Mean first Birth Interval and Popular Contraceptive Method Use Before First Pregnancy in Women Attending Public Health Center of Ahvaz City, Iran 2010

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The period between the marriage to first pregnancy is one of the most important indicators for fecundability. The aim of this study was to estimate spacing from marriage to first pregnancy and popular contraception methods which used in women at the beginning of marriage. In a cross- sectional study 900 primiparus   women attending health centers after first delivery were studied.   Filling a questionnaire by trained questioner was used for data collection. SPSS 17 used for data entering and analysis. Chi square, Pierson correlation test and logistic regression were done. The mean age of marriage was 21.9±4.21 years. Short interval between marriage to first pregnancy was reported in majority (62.7%) of women. The mean interval between marriage to first pregnancy was estimated 11.8± 13.5months (median interval 8 months). 68.3% of women had used at least one type of contraceptive methods before pregnancy. Prevalence of unwanted pregnancy was 19.5%. Logistic regression showed a significant association between use of contraceptive methods and educational level of women and her husband, women age, ageat marriage and unwanted pregnancy. More continues education at the beginning of marriage help these couples make better decisions about the timing of their first pregnancy.

1. Introduction

Population change is a global pattern. This phenomenon varies even among countries within a region (1).In Iran many aspects of family and gender have changed. Rapidly decline of fertility during 1985-2000,increased women's educational level from 36% in 1976 to 80% in 2006,inspte of traditional pattern in marriage(getting marred eventually, consanguinity, marriage in relative younger age) make a mixture of family change in Iran(2).

Although total fertility rate (TFR) estimates   the effect of population policies, but it seems we need more indicators for estimation of fertility parameters. The period between marriage and first pregnancy has served for the estimation of fertility indicators, especially fecundability(3,4).Without use any method of contraception, based on normal physiology of women, About 25% of women will be pregnant in each cycle and 80-90 of women will experience pregnancy in the first year of marriage if couple don't use any contraceptive method. (5)

As an important human reproductive right, couples must able to decide freely and responsibly timing of birth, number of children and spacing between of their birth. Despite decrease the total fertility rate in Iran, Millions of children who were born before approval rules rated to population control in Iran are now reaching the age of marriage and childbearing (3, 4).Short interval between marriage and first birth is a potential risk factor for costly and excessive increase in the growth of population (3).Fertility as an essential population dynamic's component play an important role in changes in combination and size of a given population. Many direct and indirect factors affect on fertility. Age of being sexually active, use of contraceptive methods, abortion and sterility are direct factors which are related to biology. Socio- cultural factors affect on fertility indirectly by affect on bio-behavioral factors. Longer intervals between marriage to first pregnancy decrease the number of children a woman can have (6).Beneficial effects of longer interval on population size and on mothers and children health is well documented. Short spacing between marriage to first birth introduced as a risk factor for duration of breast feeding, physical and psychological development of children (7).

In the other site, annually approximately 200 million pregnancies occur in the world, which more than one third of them are unwanted (8). Each year more than half a million women die of pregnancy-related illnesses or lose. Unwanted pregnancy and illegal abortion result in unwanted pregnancy is cause of about one fourth of maternal deaths , In addition to unwanted pregnancy associated with many poor outcomes in new born(9,10). Studies

have shown that first unwanted pregnancy is associated with many problems including increase in divorce (7).

Proper use of contraceptive methods improves the quality of life for of couples and have the freedom and to decide about number of children and proper interval between their pregnancies. Use of contraceptive methods in newly married couples, not only is very important for population growth control but also will be given an opportunity, to adjust with new conditions (3).Necessitates the use of contraceptive methods at the beginning of the marriage was the most important objective of approval of premarital counseling centers in 1999 in Iran (7).

Due to importance of use of contraception in the first years of marriage, no existence data about first birth interval in this region, we designed this study to determine the mean interval between marriage to first pregnancy and popular contraceptive method use before first pregnancy in women attending health center of Ahvaz city.

2. Material and Methods

In this cross- sectional study, 900 married primiparus women attending west and east health centers of Ahvaz after first delivery(Interval<6 month) were studied in 2010. Ahvaz is capital of Khuzestan province where is located in southwestern of Iran. The study was carried out from June to December of 2010.Every women seeking routine care for children or family planning services during first 6 months after delivery included study after acceptance. Women were assured of the confidentiality of their information. We used an interviewer-administered questionnaire for data collection. Trained investigators attended the selected health centre for3 days a week.

The data collection instrument was a questionnaire consisting of 28 questions. Validity of the questionnaire was evaluated by expert instructors and reliability by Cronbach's alpha (0.81). Variables included female's age, age at marriage, employment status and educational level of women, husbands education and reproductive behavior before first pregnancy. SPSS 17 used for data entering and analyzing. Chi square, Pierson correlation test and logistic regression were done.

3.Results

The results of the study on 900 primiparus mothers attending health centers showed that the mean age of women was 24.5 (standard deviation 4.8) years. Demographic characteristics of the women in this study are presented in Table 1. The mean age of the husbands of the participants was 28.9 (standard deviation 5.5) years. Of couples 5.9% of them were in same age and 65.8% had less than 6 years differences in age. The mean age of women at marriage was 21.9 (standard deviation 4.21) years. The mean duration of marriage was 31.69 months.

Table 1. Demographic characteristics of women under study

Women's age	Number	Percent
15-18	100	11.1
19-29	664	73.8
30≥	136	15.1
Husband's age		
17-19	47	5.2
20-29	558	62.0
30≥	295	32.8
difference between couple's age at marriage(year)	53	5.9
No difference	539	59.9
1-5	249	27.7
6-10	48	53.0
11-15	7	0.8
16-19	4	0.4
20≥		
Women's age at marriage		
13-17	139	15.4
18-24	515	57.2
25-29	205	22.8
30-36	41	4.6
Duration of marriage(month)		
1-11	115	12.9
12-23	203	22.7
24≥	575	64.4
Women's ethnic group		
Fars	354	39.3
Arab	381	42.3
Lor	165	18.3
Women's education		
Less than high school	234	26.0
High school	433	48.1
University	233	25.9
Interval between marriage to first pregnancy		
No space	103	11.4
1-11 months	462	51.3
12-23 months	178	19.8
≥24 months	157	17.4
Duration of contraception use(months)	355	57.7
1-11	171	27.8
12-23	89	14.5
≥ 24		
Type of pregnancy		
Wanted	725	80.5
Unwanted	175	19.5
Women's Job		
Housewife	717	79.5
Occupied	185	20.5
Use of contraceptive methods		
Yes	615	68.3
No	285	31.7
Type of contraception		
OCP	365	40.6
Condom	188	20.9
Natural	171	19.0

*All of data less than 900 is related to missing data

The mean interval between marriage and the first pregnancy in this study was estimated 11.9(standard deviation1.35) months. 11.4% of women experienced pregnancy at the first month of marriage. 62.7% of mothers experience first pregnancy before the end of first year of marriage. The mean interval of marriage to first pregnancy increased from 5.9 months to 17.01 months with increase age of women. The lowest mean interval between marriage to first pregnancy were estimated in 2 aged groups, women getting married less than 18 and more than 30 years. The lowest mean interval of marriage to first pregnancy was reported in Arab ethnic group. Increasing level of education in women result in increase interval between marriage to first pregnancy from 9.2 months to14.05 months. With increase differences in age of couples, interval between marriage to first pregnancy reached from 13.7 months to 4.2 months (table 2).

Table 2. Mean (standard deviation) interval between marriage to first pregnancy based on women's characteristic

Women's characteristic	Mean($\pm$ SD)
Women's age 15-18 19-29 ≥30	5.9($\pm$ 7.5 11.6($\pm$ 11.6) 17.01($\pm$ 21.2)
Husband's age 17-19 20-24 ≥30	3.91($\pm$ 5.3) 11.01($\pm$ 11.3) 14.5($\pm$ 17.0)
Women's age at marriage 13-17 18-24 25-29 30-36	9.5($\pm$ 12.3) 12.7($\pm$ 14.4) 11.5($\pm$ 12.1) 9.19($\pm$ 10.5)
Women's ethnic group Arab Lor Fars	9.17($\pm$ 12.07) 13.7($\pm$ 14.07) 13.7($\pm$ 14.2)
Women's education Less than high school High school University	9.2($\pm$ 12.7) 11.04($\pm$ 3.9) 14.05($\pm$ 13.1)
Type of pregnancy Wanted Unwanted	13.6($\pm$ 14.1) 4.5($\pm$ 6.9)
Use of contraceptive methods No Yes	4.6($\pm$ 10.3) 15.09($\pm$ 13.5)
Participate in premarital consuling No Yes	11.5($\pm$ 12.1) 14.5($\pm$ 22.6)
Type of contraceptive methods OCP Condom Natural	17.4($\pm$ 14.9) 14.1($\pm$ 9.6) 12.3(10.6)

The mean duration of contraceptive use before first pregnancy was 11.8±9.6 (range 1-66)   months. The minimum duration of contraceptive methods use was reported in the Arab women 10.7 months. With increase level of education of Spouse, the mean duration of use of contraceptive methods was 12.8 months vs 10.7 months (Table 3). .   With increase level of education of Spouse, the mean duration of use of contraceptive methods was 12.8 months vs 10.7 months (Table 3).

Table 3. Mean and Standard Deviation of Duration of contraception use at beginning of marriage

Women's characteristics	Mean($\pm$ SD)
Women's age 15-19 19-29 ≥30	8.9($\pm$ 8.09) 11.7($\pm$ 9.3) 14.05($\pm$ 11.05)
Husband's age 17-19 20-29 ≥30	5.9($\pm$ 4.9) 11.6($\pm$ 9.1) 12.7($\pm$ 10.6)
Women's age at marriage 13-17 18-24 25-29 30-36	11.5($\pm$ 11.3) 12.3($\pm$ 9.6) 11.2($\pm$ 8.7) 8.2($\pm$ 8.4)
Women's ethnic group Arab Lor Fars	10.7($\pm$ 10.07) 12.5($\pm$ 10.1) 12.4($\pm$ 9.07)
Women's education Less than High school High school University	9.8($\pm$ 10.03) 11.96($\pm$ 9.07) 12.9($\pm$ 10.1)
Type of pregnancy Wanted Unwanted	12.8 ($\pm$ 9.8) 6.7($\pm$ 7.2)
Participation in premarital counseling No Yes	11.8($\pm$ 9.4) 12.3($\pm$ 12.5)
Type of contraception OCP Condom Natural	13.3($\pm$ 9.9) 12.6($\pm$ 9.1) 10.6($\pm$ 8.8)

Pearson's test showed a significant correlation between interval between marriage to first pregnancy and women and their husband's age and   duration of contraceptive method use in couple(p<0.5) .Logistic regression showed a significant association between use of contraceptive methods and educational level of women and her husband, women age, age at marriage and unwanted pregnancy.

4. Discussion

In present study the mean interval between marriage and the first pregnancy i estimated 11.9 months. Rindfuss and morgan reported shorter duration

between marriage and first birth in Taiwan, Malaysia and South Korea (11, 12). In a cross- sectional study in Sanandaj city in Iran 21% of women were pregnant in the first year of marriage and 11% had a child (7).

We estimated use of at least one method of contraception before first pregnancy in this population, 68.3%. In contrast with our results, Rindfuss and Morgan, Wang et al in Asian women, reported no contraceptive method use before first pregnancy. They concluded increase in intercourse in early years of marriage is cause of short space between marriage and first.

Pregnancy (11, 12). Similar pattern were reported by Wang and Quanhe in China(2,12).

Singh et al showed use of contraception in 19.7% of Indian women before first pregnancy (4).9.9% of women in Pakistan used birth control methods between marriage and first pregnancy(13). Ahmed et al reported use of contraception in 41% of women before first pregnancy (14). Che et al in 50% of newly marred in china reported use of contraceptive methods (15).

In a demographic study in Iran in 2002 use of contraception in the first year of marriage reached from 3.4% to 20% with Different pattern in cities of Iran (16). Abbasi-Shavazi et al reported use of contraceptive methods in newly married women in Iran as a common pattern (2). Socio- cultural context may affect on variation of this pattern.

In this study popular contraceptive method in women before first pregnancy was OCP, Condom and natural respectively. Ahmed et al reported OCP as the most common method (69.9%) in newly married women in Bangladesh (14). Popular contraceptive method in Turkish women was condom (17). Che et al reported most popular contraceptive method condom, natural and rhythm respectively (15).Prevalence of unwanted pregnancy in this population was 19.55. Unwanted pregnancies were reported as a common phenomenon (21-40%) in married couples in Shanghai, due to nonuse of effective contraceptive methods (18).

Conclusion: The use of contraception in newly married couples regardless of the duration of use is increasing. Prevalence of unwanted pregnancy in women after first delivery attending health center is high. Understanding interval between marriage to first birth and its determinants is helpful to design interventional strategies in women attending health centers. More continues education at the beginning of marriage help these couples make better decisions about the timing of their first pregnancy.

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