

Original Article

The Relationship of Married Women's Marriage Duration with Their Reproductive Practices

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ABSTRACT

Background: Low fertility rate is currently a serious health problem both in developed and developing countries. **Objective:** The objective of this study was to assess the women's reproductive practices based on their marriage duration. **Methods:** This cross-sectional study was completed in urban and in rural healthcare centers in Babol, Iran. A sample of 880 married women aged 15–49 was recruited through the cluster sampling. Data on participants' reproductive practices were collected and analyzed through the one-way analysis of variance and the Chi-squared tests. **Results:** Women with different marriage durations significantly differed from each other respecting their age at the first pregnancy, the time interval between their marriage and their first pregnancy, the number of their children, the interval between their first and second pregnancies, their contraceptive use before the first pregnancy, a history of abortion, and a history of unwanted pregnancy ($P < 0.01$). The most commonly used contraceptive method was the withdrawal method. **Conclusions:** While the rate of fertility and the duration of reproductive life have decreased among women, the rates of unwanted pregnancy, induced abortion, and unreliable contraceptive method use are still high among them. Health-care providers, particularly midwives, are recommended to provide women with educations about the best contraceptive methods, the best marriage-pregnancy interval, and ideal spacing between pregnancies to reduce the rates of unwanted pregnancy and induced abortion.

KEYWORDS: *Birth interval, Marriage, Timing, Reproductive behavior*

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INTRODUCTION

Reproduction has different biomedical and sociocultural aspects.^[1] The immediate sociocultural context has different consequences for human behaviors,^[2] including reproductive practices.^[3]

Issues related to reproductive health were perceived as social problems in the past decades and were considered as areas of concern in both developed and developing countries.^[4] Studies showed that the reproductive

practices are affected by difference factors such as age, religion, contraceptive methods, social position, work hours, educational level, and employment status.^[5-7]

Currently, more than half of the countries in the world have low fertility rates or below-replacement fertility.^[8]

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Studies in Iran also showed that the fertility in Iran is close to the replacement level, and therefore, a rapid population decline occurred in 2000 and another will occur in near future.^[9] Declines in population will lead to crises in the socioeconomic system. Therefore, the Government of Iran has recently developed and implemented several pro-natalist policies for population growth.^[10] A key prerequisite to the successful implementation of such policies is to assess the women's reproductive practices and their determinants in different areas of Iran.

Objectives

The objective of this study was to assess the women's reproductive practices based on their marriage duration.

METHODS

This cross-sectional study was started in April 2013 and was completed in January 2014. The sample size was estimated relying on the results of a pilot study on eighty women in which the number of children per woman was considered as the most important reproductive practice. In other words, the primary outcome of that pilot study was the number of children per woman. The pilot study showed that the number of children ranged from 1 to 6 with a mean value of 1.90 ± 0.88 . Then, considering an α of 0.05, an S of 0.88, and a d (i.e., a degree of precision) of 0.06, a sample of 821 women was estimated to be enough for this study. However, to improve the representativeness of the sample, we recruited 880 women to this study. Women were included if they aged 15–49, had one or more children, had no history of infertility or mental illnesses, and were not widowed or divorced. Participants were recruited through the cluster sampling from urban and rural healthcare centers in Babol, Iran. The number of women to be recruited from an each cluster was proportionate to the total number of women in it.

Study instrument

Four interviewers, who held university education, collected study data in the study setting through the interview method and using a researcher-made sociodemographic questionnaire and a researcher-made reproductive practice questionnaire. The first questionnaire contained items on age, educational status, current place of residence, employment status before the first pregnancy, employment status at the time of the study, marital satisfaction, socioeconomic status, age at first marriage, marriage duration, and husband's educational status. The items of the second questionnaire were on the number of children, time interval between marriage and the first pregnancy, birth interval, contraceptive use before the first pregnancy, number of unwanted pregnancies, and a history of abortion.

Ethical considerations

Permission and approval for the study were received from the Ethics Committee of Tehran University of Medical Sciences, Tehran, Iran (approval number: 23263-1297; date: March 22, 2013). A written informed consent was signed by each participant and all questionnaires were kept anonymous.

Data analysis

Data were analyzed through the SPSS software version 16.0 (SPSS Inc., Chicago, IL, USA). Normality of the data was assessed through the Kolmogorov–Smirnov test. The Chi-squared test and the one-way analysis of variance (ANOVA) were performed to examine the differences among women with different marriage durations respecting their reproductive practices.

RESULTS

The study participants aged 35.0 ± 7.91 , on an average, and most of them aged 26–35 years, lived in urban areas (55.1%), and were housewives both before their first pregnancy (76.9%) and at the time of the study (71%). Moreover, most of them reported a great marital satisfaction (62.4%) and had a medium socioeconomic status (60.7%). More than one-third of participants had a secondary education (36.7%) and more than one-third of their husbands had a primary education (35.9%); [Table 1]. Around 43.2% of participants had two children and 5.9% of them were pregnant at the time of the study. The prevalence of pregnancy under the age of eighteen and above the age of 35 was 16.1% and 0.3%, respectively.

The results of the one-way-ANOVA illustrated a statistically significant difference among women with different marriage durations respecting their age at the first marriage ($P < 0.001$) so that women with marriage duration of more than 30 years had a marriage age of around 5 years less than women with marriage duration of <10 years [Table 2]. Besides, there were statistically significant differences among women with different marriage duration respecting their age at the first pregnancy, the time interval between their marriage and their first pregnancy, the number of their children, and birth interval ($P < 0.001$). In other words, compared to women with shorter marriage duration, women with longer marriage duration were significantly younger at their first pregnancy, reported significantly shorter time interval between their marriage and first pregnancy, had significantly more children, and reported shorter time interval between their first and second pregnancies [Table 3].

The one-way-ANOVA also showed a statistically significant difference among women with different educational status respecting the interval between the

Table 1: Socio-demographic characteristics of participants

| Socio-demographic characteristics | Frequency (%) |
|--|---------------|
| Age (years) (n=880) | |
| 15-25 | 111 (12.6) |
| 26-35 | 371 (42.2) |
| 36-45 | 293 (33.3) |
| 46-49 | 105 (11.9) |
| Women's level of education (n=879) | |
| Illiterate | 38 (4.3) |
| Primary and guidance school | 301 (34.2) |
| High school and diploma | 323 (36.8) |
| Higher education | 217 (24.7) |
| Employment status before the first pregnancy (n=880) | |
| Unemployed | 677 (76.9) |
| Laborer | 29 (3.3) |
| Employee | 85 (9.7) |
| Self-employed | 56 (6.3) |
| Student | 33 (3.8) |
| Current place of residence (n=880) | |
| Urban | 485 (55.1) |
| Rural | 395 (44.9) |
| Economic status (n=878) | |
| Low | 184 (20.8) |
| Middle | 534 (60.7) |
| High | 160 (18.2) |
| Husband's level of education (n=877) | |
| Illiterate | 34 (3.9) |
| Primary and guidance school | 316 (36.0) |
| High school and diploma | 298 (33.9) |
| Higher education | 229 (26.2) |
| Current employment status (n=880) | |
| Unemployed | 625 (71.0) |
| Laborer | 37 (4.2) |
| Employee | 103 (11.7) |
| Self-employed | 91 (10.4) |
| Student | 24 (2.7) |
| Marital satisfaction (n=860) | |
| Greatly satisfied | 549 (63.8) |
| Satisfied | 210 (24.5) |
| Moderately satisfied | 81 (9.4) |
| Dissatisfied | 20 (2.3) |

time of marriage and the time of the first pregnancy so that this interval was 8.26 ± 7.89 months among women with lower educational status and 16.88 ± 12.90 months among women with higher educational status ($P < 0.001$).

Before their first pregnancy, 46.5% of participants had used at least one contraceptive method [Table 4], chiefly the withdrawal method (70.7%). At the time of the study, the prevalence of contraceptive use was about 89.2% and the most common contraceptive method was again the withdrawal method (38.4%).

Around 20.6% of participants reported that they were using their current contraceptive method for 5–10 years. The prevalence of abortion and unwanted pregnancy among participants was 22.4% and 19.9%. The main reasons behind considering their pregnancies unwanted were low income (24%) and lack of psychological preparation (23.4%). The results of the Chi-squared test illustrated that women with different marriage duration significantly differed from each other respecting contraceptive use before their first pregnancy, history of abortion, and history of unwanted pregnancy ($P = 0.001$); [Table 4].

DISCUSSION

Findings revealed that the age at the first marriage and the age at the first pregnancy among women with marriage duration of <10 years were by 5 years more than women with marriage duration of more than 30 years. Higher age at first marriage and higher age at first pregnancy shorten reproductive life. Age at first marriage and age at first pregnancy are affected by different factors such as changes in sociocultural trends, greater educational and employment opportunities for women,^[4,11] women's higher educational status, and their presence in labor market.^[12-14] Therefore, good reproductive counseling services are needed to help couples plan for pregnancy as early as possible after marriage, and hence to improve fertility rate among married women.^[11]

We also found that the time interval between marriage and the first pregnancy was significantly higher among women with marriage duration of <10 years. In Iran, the time interval between marriage and the first pregnancy is almost the same as the global value.^[15,16] Short time interval between marriage and the first pregnancy can potentially increase the population growth. However, this time interval is currently increasing in Iran, resulting in a low fertility rate, probably due to better educational opportunities for women.^[11,16] Therefore, health policy-makers need to develop strategies to inform women, particularly educated women, about the negative personal and social consequences of postponing pregnancy after marriage.

The number of children was another reproductive practice examined in this study. It was equal to 1.90 ± 0.88 , on an average. Similarly, previous studies in Iran showed that the total fertility rate in Iran is 1.84.^[16,17] However, this value was as low as 1.20 ± 0.40 for women with marriage duration of <10 years in the present study. Of course, this value does not show the total number of children per woman because women with marriage duration of <10 years may still become pregnant later in their reproductive life cycle. One of the

Table 2: Comparing women with different marriage durations respecting their marriage age

| Marriage duration (years) | Age at first marriage | | | | F | P ^a |
|---------------------------|-----------------------|--------------|---------|---------|-------|----------------|
| | n | Mean±SD | Minimum | Maximum | | |
| <10 | 289 | 20.77 ± 4.38 | 13 | 38 | 40.22 | <0.001 |
| 10-19 | 306 | 19.78 ± 3.94 | 12 | 33 | | |
| 20-30 | 248 | 18.00 ± 2.85 | 12 | 27 | | |
| >30 | 37 | 15.24 ± 1.83 | 11 | 18 | | |
| Total | 880 | 19.41 ± 4.01 | 11 | 38 | | |

^aThe results of the one-way-ANOVA. ANOVA: Analysis of variance, SD: Standard deviation

Table 3: Comparing women with different marriage durations respecting their marriage–pregnancy interval, age at first pregnancy, number of children, and birth interval

| Marriage duration (years) | Mean±SD | | | | P ^a |
|---------------------------|---|----------------------------------|----------------------------|---|----------------|
| | Marriage to pregnancy interval (months) (n=876) | Age at pregnancy (years) (n=880) | Number of Children (n=880) | Birth interval (between first and second pregnancies) (years) (n=558) | |
| <10 | 12.68 ± 11.74 | 23.44 ± 4.63 | 1.20 ± 0.40 | 3.77 ± 1.29 | <0.001 |
| 10-19 | 13.39 ± 14.98 | 22.46 ± 4.34 | 1.84 ± 0.61 | 4.19 ± 1.17 | |
| 20-30 | 7.79 ± 8.70 | 20.26 ± 3.51 | 2.59 ± 0.78 | 3.52 ± 1.39 | |
| >30 | 10.77 ± 13.84 | 18.04 ± 3.11 | 3.46 ± 0.95 | 2.95 ± 1.34 | |
| Total | 11.61 ± 12.72 | 22.02 ± 4.45 | 1.90 ± 0.88 | 3.75 ± 0.05 | |

^aThe results of the one-way-ANOVA. SD: Standard deviation, ANOVA: Analysis of variance

Table 4: Comparing women with different marriage durations respecting their contraceptive use, history of abortion, and a history of unwanted pregnancy

| Marriage duration (years) | Contraceptive use before the first pregnancy | | History of abortion | | History of unwanted pregnancy | |
|---------------------------|--|------------|---------------------|------------|-------------------------------|------------|
| | | | Frequency (%) | | | |
| | No | Yes | No | Yes | No | Yes |
| <10 | 100 (11.4) | 189 (21.5) | 248 (28.2) | 41 (4.7) | 255 (29.0) | 34 (3.9) |
| 10-19 | 148 (16.8) | 158 (18.0) | 232 (26.4) | 74 (8.4) | 240 (27.3) | 66 (7.5) |
| 20-30 | 192 (21.8) | 56 (6.4) | 175 (25.6) | 73 (37.1) | 184 (20.9) | 64 (7.3) |
| >30 | 31 (3.5) | 6 (0.7) | 28 (3.2) | 9 (1.0) | 26 (3.0) | 11 (1.2) |
| Total | 471 (53.5) | 409 (46.5) | 683 (77.6) | 197 (22.4) | 705 (80.1) | 175 (19.9) |
| P ^a | <0.001 | | <0.001 | | <0.001 | |

^aThe results of the Chi-squared test

aims of the First National Development Program in Iran was to reduce the total fertility rate to reach 2.3 children per woman by 2010. This aim was attained a decade later.^[18,19] Of course, demographers believe that this transition from high to low fertility in Iran was more due to socioeconomic developments than fertility-related programs.^[20] The low fertility rate of around 1.9 children per woman highlights the importance of developing strategies for increasing the total fertility rate.

The birth interval between the first and the second child was 3.75 ± 0.05 years in this study. This finding shows a considerable increase in the birth interval in recent years compared to 30 years ago (i.e., before 1983). Wide birth interval is due to the intentional spacing between pregnancies. Generally speaking, women with higher educational status, women who secure employment, women with a marriage age of eighteen or more, and women who use contraceptives have longer birth

intervals.^[17] Differences in the birth interval in different areas result in different fertility rates.^[21] Therefore, policy-makers need to consider birth interval as a key component of any pro-natalist policy.

As the findings of this study revealed, around two-third of women with marriage duration of <10 years had been unwilling to be pregnant immediately after their marriage and hence, they had used at least one contraceptive method before their first pregnancy. Although a study attributed the success of family planning programs in Iran to the availability of modern contraceptive methods,^[18] our findings revealed that the most common contraceptive method was withdrawal. This is consistent with the findings of an earlier study.^[11] Together with high abortion rate, the withdrawal contraceptive method has played a significant role in demographic transitions in both Western European and Islamic countries. However, the withdrawal method is associated with a

high failure rate and a high risk of unwanted pregnancy and subsequent induced abortion. It is estimated that 73,000 unsafe secret abortions are annually performed in Iran, mostly by incompetent practitioners.^[22] The possible reason behind the wide use of the withdrawal method may be people's lack of knowledge about its shortcomings.^[11] To reduce unwanted pregnancies and subsequent induced abortions, public education about the benefits of modern contraceptive methods seems necessary. Such public education not only can reduce the financial problems associated with unwanted pregnancy^[23] but also can promote women's health and empowerment.^[24]

This study had some limitations. The first was related to recall bias, particularly among older women. Another limitation was the descriptive design of the study. In descriptive studies, cause-effect relationships cannot be assessed. Moreover, the size of the study sample was relatively small. On the other hand, one strength of the study was the evaluation of key issues concerning married women's reproductive practices which provided information for developing better policies on population management and women's health promotion.

CONCLUSION

Declines in fertility rate in Iran may be attributed to increases in marriage age and age at the first pregnancy, wide marriage-pregnancy interval, and wide contraceptive use. Population policy-makers need to consider all these factors to improve the fertility rate. Health-care providers, particularly midwives, are recommended to provide women with educations about the best contraceptive methods, the best marriage-pregnancy interval, and ideal spacing between pregnancies to reduce the rates of unwanted pregnancy and induced abortion. Mixed method studies are needed to explore the determinants of the low fertility in Iran.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Weeks JR. Population: An Introduction to Concepts and Issues: An Introduction to Concepts and Issues. Cengage Learning, Nelson Education; 2011.
2. Morita M, Ohtsuki H, Sasaki A, Hiraiwa-Hasegawa M. Factors affecting the number of children in five developed countries: A statistical analysis with an evolutionary perspective. *Lett Evol Behav Sci* 2012;3:7-11.
3. Morgan SP, Bachrach CA. Is the theory of planned behaviour an appropriate model for human fertility? *Vienna Yearb Popul Res* 2011;9:11-8.
4. Alam MR. Impact of socio-economic, demographic and health related factors on reproductive health behavior among ever married rural women: A study from Bogra Sadar Upazila, Bangladesh. *J Soc Sci Res* 2012;1:69-77.
5. Colleran H, Jasienska G, Nenko I, Galbarczyk A, Mace R. Community-level education accelerates the cultural evolution of fertility decline. *Proc Biol Sci* 2014;281:20132732.
6. Ezeh AC, Bongaarts J, Mberu B. Global population trends and policy options. *Lancet* 2012;380:142-8.
7. Wang C. History of the Chinese family planning program: 1970-2010. *Contraception* 2012;85:563-9.
8. Taghizadeh Z, Vedadhir A, Behmanesh F, Ebadi A, Pourreza A, Abbasi-Shavazi MJ, *et al.* Reproductive practices by patterns of marriage among Iranian women: Study protocol for an explanatory sequential mixed methods design. *Reprod Health* 2015;12:89.
9. Abbasi-Shavazi MJ, McDonald PF, Hosseini-Chavoshi M. *The Fertility Transition in Iran: Revolution and Reproduction*. Netherlands: Springer; 2009.
10. Saberi F. Attitudes of Iranian women toward population growth: A Questionnaire-based study. *Nurs Midwifery Stud* 2016;5:e33325.
11. Ranjbar F, Shirzad M, Kamali K, Akhondi MM, Ghodjani A, Behjati Ardakani Z, *et al.* Fertility behaviour of Iranian women: A community-based, cross-sectional study. *Arch Iran Med* 2015;18:2-5.
12. Matysiak A, Vignoli D. Diverse effects of women's employment on fertility: Insights from Italy and Poland. *Eur J Popul* 2013;29:273-302.
13. Lan M, Kuang Y. The impact of women's education, workforce experience, and the one child policy on fertility in China: A census study in Guangdong, China. *Springerplus* 2016;5:1708.
14. Torabi F, Abbasi-Shavazi MJ. Women's education, time use and marriage in Iran. *Asian Popul Stud* 2016;12:229-50.
15. Vedadhir A, Taghizadeh Z, Behmanesh F, Ebadi A, Pourreza A, Abbasi-Shavazi MJ, *et al.* Patterns of marriage and reproductive practices: Is there any relationship? *Hum Fertil (Camb)* 2017;20:30-6.
16. McDonald P, Hosseini-Chavoshi M, Abbasi-Shavazi MJ, Rashidian A. An assessment of recent Iranian fertility trends using parity progression ratios. *Demogr Res* 2015;32:1581-602.
17. Abbasi-Shavazi MJ, Torabi F. Women's Education and Fertility in Islamic Countries. *Population Dynamics in Muslim Countries*. Berlin: Springer, Heidelberg; 2012.
18. Hosseini H. Demographic Transition, Window of Opportunity, and Population Bonus: Toward a New Population Policy in Iran. Paper Accepted for Presentation at the European Population Conference. Stockholm, Sweden; 2012.
19. Abbasi-Shavazi MJ, Morgan SP, Hossein-Chavoshi M, McDonald P. Family change and continuity in Iran: Birth control use before first pregnancy. *J Marriage Fam* 2009;71:1309-24.
20. Hosseini G, Hosseini H. Comparing determinants of fertility

- behaviour among Kurdish women living in rural areas of Ravansar and Gilangharb cities. *J Kermanshah Univ Med Sci* 2013;17:316-24.
21. Rafalimanana H, Westoff CF. Gap Between Preferred and Actual Birth Intervals in Sub-Saharan Africa: Implications for Fertility and Child Health. Calverton, Maryland USA: ORC Macro; 2001.
 22. Erfani A, Yuksel-Kaptanoglu I. The use of withdrawal among birth limiters in Iran and Turkey. *Stud Fam Plann* 2012;43:21-32.
 23. Gebeyehu D, Admassu B, Sinega M, Haile M. Assessment of prevalence and reasons for termination of pregnancy at Jimma University teaching hospital, Ethiopia. *Univ J Public Health* 2015;3:251-5.
 24. Kohan S, Simbar M, Taleghani F. Empowerment in family planning as viewed by Iranian women: A qualitative study. *J Biosoc Sci* 2012;44:209-19.