Health Scope. 2026 May; 15(2): e168296 https://doi.org/10.5812/healthscope-168296

Published Online: 2026 February 2 **Brief Report**

Determinants of Fertility Desires and Associated Factors among Married Women Attending Comprehensive Health Centers in Iran

Azam Mohamadloo [1,*]

[1] Department of Public Health, Faculty of Health, Kashan University of Medical Sciences, Kashan, Iran

[*] ***Corresponding Author:*** Department of Public Health, Faculty of Health, Kashan University of Medical Sciences, Kashan, Iran. Email: azammohamadloo@gmail.com

Received: 17 November, 2025; **Revised:** 27 December, 2025; **Accepted:** 30 December, 2025

Abstract

Background: Iran's total fertility rate (TFR) has experienced a steep decline, from approximately 7.0 in 1960 to an estimated 1.6 in recent years (2024 - 2025), which is significantly below the replacement level, necessitating research on fertility determinants.

Objectives: This study examined factors influencing childbearing reluctance among married women in Kashan.

Methods: A cross-sectional study was conducted with 578 married women (aged 18 - 49 years) selected through a two-stage cluster random sampling method from five comprehensive health centers (2023). The sample size was calculated using the Cochran formula, yielding a minimum of 578 participants. Data were collected via a structured questionnaire comprising socio-demographics, a validated 15-item fertility attitude scale, and a 24-item barrier inventory. Analyses included descriptive statistics and multivariable logistic regression (SPSS v26).

Results: Of the participants, the mean age was 32.5 ± 6.8 years. In total, 68.2% (n = 394) reported no fertility desire. Key deterrents were: Financial constraints (76.1%, OR = 3.2, 95% CI: 2.1 - 4.9), career conflicts [65.3%, adjusted odds ratio (aOR) = 2.7, 95% CI: 1.8 - 4.0], and marital dissatisfaction (58.9%, OR = 2.1, 95% CI: 1.4 - 3.2). Higher education (aOR = 1.9, 95% CI: 1.3 - 2.8) and employment (OR = 2.4, 95% CI: 1.6 - 3.6) significantly predicted reluctance ($P < 0.001$).

Conclusions: Economic pressures primarily drive fertility decline. Policy interventions addressing childcare costs and workplace flexibility are urgently needed. Future policies must move beyond short-term financial incentives to address the fundamental structural and normative barriers shaping reproductive decisions.

Keywords: Fertility, Socioeconomic Factors, Women's Health, Iran

1. Background

Iran's fertility transition represents one of the world's most rapid declines, with Total Fertility Rate (TFR) falling from 7.0 in 1960 to an estimated 1.6 in recent years (2024 - 2025), far below replacement level (1, 2). This demographic shift carries profound implications for population aging and socioeconomic structures. While early declines stemmed from successful family planning and female education (3), contemporary drivers reflect complex economic and cultural dynamics (4). Significant urban-rural disparities persist, with Tehran's TFR at 1.5 compared to 2.3 in some rural areas (5). Kashan, with a TFR of 1.8 (6), presents an ideal case study amid 40% youth unemployment and expanding female higher education (7, 8).

2. Objectives

This study aimed to examine the determinants of fertility desires and the associated factors among married women attending comprehensive health centers in Kashan, Iran.

3. Methods

3.1. Study Design and Setting

A cross-sectional study was conducted in 2023 at five

How to Cite: Mohamadloo A. Determinants of Fertility Desires and Associated Factors among Married Women Attending Comprehensive Health Centers in Iran. Health Scope. 2026; 15 (2): e168296. https://doi.org/10.5812/healthscope-168296.

comprehensive health centers in Kashan, Iran.

3.2. Sample Size and Sampling

The sample size was calculated as 586 using the Cochran formula for estimating a proportion. A design effect of 1.5 was applied to account for cluster sampling.

$$n = \frac{Z^2 \times P \times q}{e^2} \quad (1)$$

Parameters were: Z = 1.96 (95% CI), P = 0.5 (maximum variability), q = 1-P, and e = 0.05 (margin of error). A total of 578 married women were ultimately enrolled. A two-stage cluster sampling method was employed. First, five health centers were randomly selected from all comprehensive health centers in Kashan. Second, a proportional number of eligible women from each center's roster were randomly invited to participate.

3.3. Participants

Eligible participants were married women aged 18 - 49 years, attending the selected health centers for any reason, who provided informed consent. After ethical approval, 578 married women aged 18 - 49 were recruited, excluding those pregnant, infertile, or with severe psychiatric conditions.

3.4. Data Collection Tool

Data were collected using a researcher-administered, structured questionnaire with three main sections.

Socio-demographic and economic characteristics: This section included items on age, duration of marriage, education level, employment status and sector, spouse's employment, housing status (owner/renter), and perceived household economic status.

Fertility attitudes and desires: This section utilized a validated 15-item scale adapted from previous studies (8) to measure fertility intentions, desired number of children, and attitudes towards childbearing. Responses were recorded on a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree) for attitude items. Example items include: "Having a child is essential for a complete family life", and "I worry that having (another) child would limit my personal freedom".

Perceived Barriers to Childbearing: This section consisted of a 24-item inventory developed based on a literature review and expert consultation. It covered four domains: Economic barriers (e.g., cost of education, housing), health-related barriers (e.g., maternal health concerns, previous pregnancy complications), social barriers (e.g., social pressure, lack of family support), and personal/occupational barriers (e.g., career ambitions, work-family conflict). Responses were binary (yes/no) or on a 3-point scale (e.g., not a barrier, minor barrier, major barrier).

3.5. Validity and Reliability

Content validity of the questionnaire was assessed and confirmed by a panel of ten experts in reproductive health, demography, and instrument development. The Content Validity Index (CVI) for the entire tool was 0.91. Face validity was established through a pilot study with 30 women who confirmed the clarity and relevance of the items. Internal consistency reliability was measured using Cronbach's alpha coefficient, which was 0.84 for the fertility attitude scale and 0.79 for the barrier inventory in the pilot study, indicating good reliability.

3.6. Ethical Considerations

The study protocol was reviewed and approved by the Research Ethics Committee of Kashan University of Medical Sciences (IR.KAUMS.NUHEPM.REC.1402.024). The objectives and procedures of the study were explained to all potential participants. Written informed consent was obtained from each woman before data collection. Confidentiality of all information was assured, and participants were informed of their right to withdraw at any time.

3.7. Data Analysis

Data analysis employed SPSS 26, using chi-square tests, *t*-tests, and multivariable logistic regression.

4. Results

4.1. Socio-demographic Characteristics

Participants averaged 32.5 ± 6.8 years. Education levels included 28.2% college graduates and 37.7% with less than high school education; 41.8% were employed. Detailed participant characteristics are presented in Table 1.

Table 1. Socio-demographic and Economic Characteristics of the Study Participants (n = 578)

Characteristic and Category	No (%)
Age (y)	
18 - 29	142 (24.6)
30 - 34	158 (27.3)
35 - 39	165 (28.5)
≥ 40	113 (19.6)
Education level	
Less than high school	98 (17.0)
High school diploma	120 (20.8)
Associate/bachelor's degree	296 (51.2)
Master's degree or higher	64 (11.1)
Employment status	
Homemaker	336 (58.1)
Employed	242 (41.9)
Housing status	
Homeowner	347 (60.0)
Renter	231 (40.0)
Perceived economic status	
Low	151 (26.1)
Middle	289 (50.0)
High	138 (23.9)
Marital satisfaction	
High	245 (42.4)
Moderate	221 (38.2)
Low	112 (19.4)

4.2. Fertility Desires and Intentions

Fertility reluctance prevalence was 68.2% (394/578). Among reluctant women, 42.3% considered their family complete while 25.9% rejected childbearing entirely. Of the 31.8% desiring children, most (18.7%) wanted one child, with only 13.1% seeking ≥ 2 children (Table 1).

4.3. Predictors of Fertility Reluctance: Multivariable Analysis

Multivariable analysis identified key predictors: Age ≥ 40 years (OR = 4.2, 95% CI: 2.8 - 6.3), economic constraints (OR = 3.2, 95% CI: 2.1 - 4.9), and employment (OR = 2.4, 95% CI: 1.6 - 3.6). The model explained 28% of variance (AUC = 0.78). A significant age-financial interaction (P = 0.021) indicated stronger economic effects on younger women (Table 2).

Employment sector significantly influenced outcomes, with private sector employees showing higher reluctance (OR = 2.8, 95% CI: 1.9 - 4.2) than public sector counterparts (aOR = 1.9, 95% CI: 1.2 - 3.0). Other significant predictors included renting versus homeownership (aOR = 2.1), workdays > 5 hours (aOR = 1.8), and prior pregnancy complications (aOR = 1.7).

Stratified analysis revealed financial constraints had stronger effects in middle-income (aOR = 3.8) versus low-income groups (aOR = 2.1). The model demonstrated strong calibration (Hosmer-Lemeshow P = 0.32) with 72.3% sensitivity and 71.8% specificity.

Subgroup variations emerged: Marital satisfaction was more protective for nulliparous (aOR = 0.4) than multiparous women (aOR = 0.6), while education showed stronger effects among younger women (< 30 years).

5. Discussion

This study reveals high fertility reluctance (68.2%) in Kashan, aligning with national trends (9) yet exceeding rates in comparable urban centers like Yazd (10), potentially reflecting regional economic disparities or distinct cultural norms (11).

Economic factors predominated, with financial constraints emerging as the strongest predictor (aOR = 3.2), consistent with research on Iran's rising costs (12). The heightened effect among middle-income groups suggests fertility decisions are influenced by relative economic anxiety and aspirational consumption thresholds rather than absolute poverty alone. Younger women increasingly postpone childbearing to achieve lifestyle prerequisites like homeownership. This aligns with findings from qualitative research on young couples' intentions in Iran (13).

Gendered norms exacerbate economic pressures, as unequal domestic labor predicts reluctance among employed women (14, 15). Supporting this, 73% of employed mothers in Isfahan cited inadequate spousal childcare support for delaying second births (13).

The strong reluctance among women ≥ 40 reflects global delayed childbearing trends (16), yet in Iran stems from unique structural barriers. Despite the implementation of pronatalist policies in Iran, such as workplace flexibility measures and financial incentives, fertility rates continue to decline. Our analysis suggests these policies may be insufficient because they often fail to address the fundamental, structural barriers identified in this study. For instance, financial incentives are typically short-term and may not offset the lifelong economic burden of childrearing, particularly

Table 2. Multivariable Logistic Regression Analysis of Factors Associated with Fertility Reluctance (No Desire for More Children) [a]

Predictor Variable and Category	aOR [b]	95% CI	P-Value
Age (y)			
18 - 29 (Ref)	1.00	-	-
30 - 34	1.80	1.20 - 2.70	0.008
35 - 39	3.10	1.90 - 5.05	< 0.001
≥ 40	4.20	2.80 - 6.30	< 0.001
Education level			
≤ High school (Ref)	1.00	-	-
University degree	1.90	1.30 - 2.80	0.012
Employment status			
Homemaker (Ref)	1.00	-	-
Employed	2.40	1.60 - 3.60	0.002
Financial constraints			
No (Ref)	1.00	-	-
Yes	3.20	2.10 - 4.90	< 0.001
Marital satisfaction			
High (Ref)	1.00	-	-
Moderate	1.40	0.90 - 2.10	0.112
Low	2.10	1.50 - 3.00	< 0.001
Housing status			
Homeowner (Ref)	1.00	-	-
Renter	2.10	1.40 - 3.10	0.001
Daily work hours			
≤ 5 h (Ref)	1.00	-	-
> 5 h	1.80	1.20 - 2.70	0.015
Prior pregnancy complications			
No (Ref)	1.00	-	-
Yes	1.70	1.10 - 2.50	0.022

Abbreviation: aOR, adjusted odds ratio.

[a] AUC = 0.78. Interaction: Age, financial constraints (P = 0.021).

[b] The model demonstrated good fit (Hosmer-Lemeshow test, P = 0.32).

education and housing costs. Workplace flexibility policies, while important, are ineffective if not accompanied by strong anti-discrimination laws and a cultural shift towards shared domestic responsibilities. Policy measures like cash incentives (17) remain mismatched with fundamental challenges including workplace discrimination, unaffordable childcare, and high living costs (18), explaining why temporary delays often become permanent.

Employment effects varied significantly by sector, indicating that job precariousness — characterized by lacking security, maternity protections, and flexibility — rather than employment itself drives reluctance. The protective effect of marital satisfaction (40% reduced odds) underscores relational dynamics, a factor also highlighted in studies on the social determinants of reproductive health (18), while social media's dose-response relationship suggests indirect influence through exposure to alternative lifestyles.

Our findings on the multifactorial drivers of fertility reluctance are consistent with systematic reviews on factors affecting the TFR (19). Furthermore, the interaction between age and economics underscores the importance of tempo (timing) effects, as discussed in survival analyses of first birth intervals (20).

Despite robust methodology — stratified sampling, validated instruments, and advanced modeling — the cross-sectional design precludes causal inference, and urban sampling limits rural generalizability. Future longitudinal studies should establish causality, compare generational attitudes, evaluate policy impacts via

quasi-experimental designs, and explore regional variations.

5.1. Conclusions

The multifaceted drivers of fertility reluctance demand integrated policy approaches combining economic support with social interventions, including subsidized childcare, family tax incentives, and paid parental leave for fathers (21). Therefore, we recommend a multi-pronged approach: (1) Long-term, substantial economic supports like direct childcare subsidies and housing assistance for young families; (2) enforced legislative protections against workplace discrimination for parents, especially mothers; and (3) nationwide educational campaigns to promote gender equity in domestic roles, encouraging active fatherhood. Effective responses must address both material constraints and the structural barriers shaping reproductive decisions in contemporary Iran.

Acknowledgements

The author extends sincere gratitude to all participants for their invaluable time and contributions, which were essential to this research.

Footnotes

AI Use Disclosure: The authors declare that no generative AI tools were used in the creation of this article.

Authors' Contribution: A. M. was solely responsible for all aspects of this work.

Conflict of Interests Statement: The author declares that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability: The dataset presented in the study is available on request from the corresponding author during submission or after publication.

Ethical Approval: The study protocol received ethical approval from Kashan University of Medical Sciences (IR.KAUMS.NUHEPM.REC.1402.024).

Funding/Support: The author declares that no funds, grants, or other support were received during the preparation of this manuscript.

Informed Consent: Written informed consent was obtained from all participants after explaining study objectives and procedures. Participants were assured of confidentiality and their right to withdraw at any stage.

References

1. 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**(5):1309-24. [PubMed ID: 20376280]. [PubMed Central ID: PMC2849153]. https://doi.org/10.1111/j.1741-3737.2009.00670.x.
2. Shojaei J. [Demographic challenges of Iran: Strategies and solutions]. *Iran Populat Stud*. 2023;**8**(1):287-316. FA.
3. Hosseini-Chavoshi M, McDonald P, Abbasi-Shavazi MJ. La baisse de la fécondité en Iran, 1981-1999 : application de la méthode des probabilités d'agrandissement transversales. *Population*. 2006;**61**(5). https://doi.org/10.3917/popu.605.0821.
4. Erfani A. Levels, trends, and determinants of unintended pregnancy in iran: the role of contraceptive failures. *Stud Fam Plann*. 2013;**44**(3):299-317. [PubMed ID: 24006075]. https://doi.org/10.1111/j.1728-4465.2013.00359.x.
5. Arasteh A, Akbariyan A, Asadi F. Comparing Factors Influencing Fertility Desire Among Urban and Rural Families Referring to Healthcare Centers in Ferdows, Iran, in 2020. *Epidemiol Health Syst J*. 2022;**9**(3):107-12. https://doi.org/10.34172/ijer.2022.19.
6. Statistical Center of Iran. *[Results of the 2020 population and housing census]*. Tehran, Iran; 2020, [cited 2026]. FA. Available from: https://amar.org.ir/Portals/0/PropertyAgent/6200/Files/30930/400-10-03.pdf.
7. Salehi-Isfahani D, Abbasi-Shavazi MJ, Hosseini-Chavoshi M. Family planning and fertility decline in rural Iran: the impact of rural health clinics. *Health Econ*. 2010;**19 Suppl**:159-80. [PubMed ID: 20552711]. https://doi.org/10.1002/hec.1613.
8. Haerimehrizi AA, Tavousi M, Sadighi J, Motlagh ME, Eslami M, Naghizadeh F, et al. [Reasons for fertility desire and disinterest among Iranian married adults: A population-based study]. *Payesh (Health Monitor) J*. 2017;**16**(5):637-45. FA.
9. Sabzehei MT, Bagi M, Mobaraki M, Afsharkohan J. [Sociological Analysis of Transformations in the Family Structure in Iran over the Past Five Decades (1966-2016) and Prediction of Its Future Trends]. *Strateg Res Soc Probl*. 2024;**13**(4):117-42. FA. https://doi.org/10.22108/srspi.2025.142322.2019.
10. Abbasi-Shavazi MJ, Askari-Nodoushan A. Family Life and Developmental Idealism in Yazd, Iran. *Demogr Res*. 2012;**26**:207-38. [PubMed ID: 22942772]. [PubMed Central ID: PMC3430141]. https://doi.org/10.4054/DemRes.2012.26.10.
11. Ganjali A, Rezvaniamin M, Peyvand M, Ghasemzadeh K, Nezam Doost R. Factors Influencing Childbearing Intentions in Young Couples Attending Premarital Counseling in Southeast Iran: A Conventional

Content Analysis. *Health Scope*. 2025;**15**(1). https://doi.org/10.5812/healthscope-167107.

12. Moeeni M, Pourreza A, Torabi F, Heydari H, Mahmoudi M. Analysis of economic determinants of fertility in Iran: a multilevel approach. *Int J Health Policy Manag*. 2014;**3**(3):135-44. [PubMed ID: 25197678]. [PubMed Central ID: PMC4154551]. https://doi.org/10.15171/ijhpm.2014.78.
13. Mirghafourvand M, Meedya S, Mohammadi E, Mohammad-Alizadeh-Charandabi S, Jafarabadi MA, Ghanbari-Homaie S. Iranian women's perception on the determinants of birth experience: a qualitative study. *BMC Pregnancy Childbirth*. 2022;**22**(1):751. [PubMed ID: 36199065]. [PubMed Central ID: PMC9535943]. https://doi.org/10.1186/s12884-022-05078-z.
14. Moukhah S, Mirmolaeie T. [A Review of the Challenges of Employed Women: Fertility, Work-Family Balance]. *J Med Council Iran*. 2022;**40**(1):7-14. FA.
15. Razeghi Nasrabad HB, Hosseini Chavoshi M, Abbasi Shavazi MJ. [The Effects of Gender Role Attitudes and Role Division on the Second Birth Interval in Tehran]. *J Appl Sociol*. 2021;**32**(2):1-28. FA. https://doi.org/10.22108/jas.2020.121730.1875.
16. Lutz W, Goujon A, Kc S, Stonawski M, Stilianakis N. *Demographic and human capital scenarios for the 21st century: 2018 assessment for 201 countries*. Luxembourg, Luxembourg: Publications Office of the European Union; 2018.
17. Forati R, Bartz D. The Rise and Fall and Rise of Pronatalism: A Disingenuous Policy that Harms the Health of People and Society. *J Law Med Ethics*. 2025;**53**(3):435-43. [PubMed ID: 40660745]. https://doi.org/10.1017/jme.2025.10129.
18. Borzoiepour S, Alizadeh G, Jafary H, Khodayari Zarnaq R. Identify Affecting Factors on Total Fertility Rate: A Systematic Review. *Health Scope*. 2024;**13**(3). https://doi.org/10.5812/healthscope-139351.
19. Ghorbani R, Gharibi M, Ansari-Nia F, Ghorbani N, Safari H, Kahouei M, et al. Fertilities Acceleration (Tempo) and Factors Affecting the First Birth Interval in Iranian Women: A Survival Analysis. *Health Scope*. 2023;**12**(3). https://doi.org/10.5812/jhealthscope-135562.
20. Kizilirmak B. The Impact of Childcare Subsidies and Earnings Gaps on Gender Differences in Temporal Autonomy in Türkiye. *Ekonomik Yaklasim*. 2024;**35**(131). https://doi.org/10.5455/ey.40003.
21. Durgun B, Kızılkaya S. Determinants of fertility rates in Türkiye: the role of women's income, human capital, participation in civil society and life expectancy. *Discover Soc Sci Health*. 2025;**5**(1). https://doi.org/10.1007/s44155-025-00244-y.