ORIGINAL RESEARCH ARTICLE

The Relationship Between Attitudes Toward Menstruation and Fertility Preferences Among Women Preparing for Marriage in Salmas, 2024: A Cross-Sectional Study

Soheila Rabieipour[1], Marzieh Ebrahimi[1], Vahid Alinejad[2], Sahar Rostami[3]

Published: 23 September 2025

Abstract

Background Population growth in Iran has fluctuated across decades; over the past two decades, the country's fertility rate has remained below the replacement level (fewer than two children per woman). One of the key factors influencing future demographic trends and fertility levels is the childbearing preferences of individuals of reproductive age. Acceptance of motherhood, gender role attitudes, and attitudes toward menstruation are among the factors that may shape fertility preferences. This study aimed to examine the relationship between attitudes toward menstruation and fertility preferences among women preparing for marriage in 2024.

Methods This descriptive cross-sectional correlational study was conducted on 200 women preparing for marriage who attended the premarital counseling center in Salmas. Participants were selected through convenience sampling until the required sample size was reached. Data were collected using a personal information questionnaire, the Miller Fertility Preferences Questionnaire (1995), and the Morse Menstrual Attitude Questionnaire. Data analysis was performed using SPSS software, version 23.

Results The mean age of participants was 22.46 ± 6.31 years, and the mean score of menstrual attitude was 173.68 ± 8.1. More than 60% (63.5%) of the women reported a moderate desire for childbearing. Findings from the ANOVA test indicated no significant differences in menstrual attitude scores across any of the fertility preference items ($p > 0.05$).

Conclusion In this study, women preparing for marriage showed a relatively positive attitude toward menstruation; however, no significant association was found between menstrual attitudes and fertility preferences. It appears that fertility preferences may be shaped more by social and cultural influences than by biological attitudes. Strengthening reproductive health education during the premarital period may support more informed decision-making among couples regarding childbearing.

Keywords Menstruation, Fertility preferences, Married, Childbearing

✉ Sahar Rostami
saharrostami.04.60@gmail.com

1. Department of Reproductive Health, Faculty of Nursing and Midwifery, Urmia University of Medical Sciences, Urmia, Iran
2. Department of Statistics and Epidemiology, Faculty of Medicine, Urmia University of Medical Sciences, Urmia, Iran
3. School of Nursing and Midwifery, Urmia University of Medical Sciences, Urmia, Iran

Received: 23 April 2025/ Revised: 17 July 2025/ Accepted: 6 August 2025

1 Introduction

Population growth in Iran has undergone significant changes over recent decades. The highest growth rate was reported between 1976 and 1986, reaching 3.91%, after which it declined and fell to 1.24% in the 2016 census. Although this figure is comparable to the global average, it represents a substantial decrease compared to previous decades.[1]

During the past two decades, Iran's fertility rate has remained below the replacement level, defined as fewer than two children per woman. Continuation of this trend may lead to population aging and a reduction in the labor force, resulting in broad socioeconomic consequences.[2]

In this context, examining the factors that shape fertility preferences is particularly important. Fertility preferences include the desire to have children, the ideal number of children, and the preferred spacing between births, and they may be shaped by social, cultural, and attitudinal factors.[3,4]

Preferences are value-based judgments grounded in the feeling of "wanting or not wanting" something. Fertility preferences represent an individual's aspirations and intentions regarding childbearing, which they seek to achieve.[5] Reproductive health refers to having favorable and satisfactory conditions in marital life and safe sexual relations, enabling individuals to make free and informed decisions about the timing and number of pregnancies.[6] Fertility preferences typically encompass three dimensions: the desire for childbearing, the ideal number of children, and the preferred interval between births. These dimensions may vary across different societies and cultures.[7,8]

Among the psychological and social variables that influence fertility preferences are attitudes toward gender roles and, in particular, women's acceptance of the maternal role.[9] One factor affecting these attitudes is the perception of menstruation. As a symbol of sexual maturity and the onset of fertility, menstruation can influence women's self-concept, gender role expectations, and ultimately their fertility preferences.[10,11]

Studies have shown that attitudes toward menstruation are shaped by cultural context, educational level, and social conditions, and may vary widely across different societies.[11,12] For example, in a survey of Iranian high school students, only 12.3% of participants considered menstruation a natural event.[13] In contrast, in a study conducted by Anjum in Pakistan, 87.6% of women held a positive attitude toward menstruation and viewed it as a natural process.[14]

Individuals who experience earlier menarche tend to marry and have children at younger ages. A study conducted in the United Kingdom showed that those who began menstruating earlier were more motivated to marry sooner and to have their first child at a younger age.[15]

Despite the importance of understanding how menstrual attitudes relate to various aspects of fertility, only a limited number of studies have examined the relationship between menstrual attitudes and fertility preferences. Moreover, motivations and fertility preferences, and how they influence or relate to one another, vary across societies.

Given the decline in fertility rates in Iran, which has become a major national concern, and amid the economic, social, and cultural changes of recent years, examining the determinants of fertility preferences is increasingly important. Since attitudes toward menstruation begin to form at relatively young ages, identifying any potential relationship between menstrual attitudes and fertility preferences would highlight the need for early education and awareness during adolescence and its possible effects on fertility-related decisions in adulthood. Additionally, because couples preparing for marriage play a key role in shaping the country's future fertility patterns, this study was conducted to determine the relationship between attitudes toward menstruation and fertility preferences among women preparing for marriage in Salmas in 2024.

2 Methods

This descriptive cross-sectional correlational study examined the relationship between attitudes toward menstruation and fertility preferences among women preparing for marriage who attended the premarital counseling center in Salmas in 2024. The study setting was the local health center, chosen due to convenient access to eligible participants.

Because no similar prior study was available for reference, a pilot study was conducted with 30 participants at the same center, and based on the resulting estimates, the required sample size for the whole study was calculated by a biostatistics specialist as 200 participants. The samples were collected over a three-month period from women who met the inclusion criteria, namely, being in the premarital phase and attending the premarital counseling center in Salmas in 2024.

Participants were selected through convenience sampling until the target sample size was achieved. Women who visited the premarital center were informed about the study objectives and procedures, and those who agreed to participate were enrolled. Inclusion criteria included women of reproductive age (18–49 years), residents of Salmas, and those willing and able to provide informed consent to participate. Participants were excluded if they withdrew from the study or submitted incomplete questionnaires. To comply with ethical standards, informed consent was obtained, participants were assured of the confidentiality of their information, and questionnaires were completed in a quiet room.

Data collection tools included a personal information questionnaire assessing age, age at menarche, birth order, spouse's age, parental survival status, number of siblings, native dialect, consanguineous marriage, place of residence, type of housing, educational level of the participant and her spouse, employment status of both partners, economic status, underlying medical conditions, and use of specific medications. Additionally, the Miller Fertility Preferences Questionnaire (1995) and the Morse Menstrual Attitude Questionnaire (MAQ) were used.

Miller Fertility Preferences Questionnaire (1995)

This questionnaire consists of 10 items. The first question assesses the desire for childbearing. Responses to this item are rated on a numerical scale from 1 to 10, where 1 indicates the lowest willingness to childbearing and 10 represents a very strong desire. According to the scoring system, a score of 0–3 indicates low fertility desire, 4–7 indicates moderate desire, and 8–10 indicates strong desire.

The remaining questions focus on the desired number of children, the preferred timing of childbearing, and the preferred gender composition of children, and are asked in an open-ended format.[16,17] In Khadivzadeh's study, the internal consistency of the Miller Fertility Preferences Questionnaire was confirmed using Cronbach's alpha, with reliability coefficients of 0.91 for positive fertility motivation and 0.94 for negative fertility motivation.[18]

MAQ (1993)

To assess attitudes toward the menstrual cycle, the MAQ (1993) was used. This questionnaire includes 58 items divided into six sections: positive emotions (12 items, scored 12–60), negative emotions (17 items, scored 17–85), menstruation-related beliefs (5 items, scored 5–25), open-ended items (6 items, scored 6–30), menstrual acceptance (8 items, scored 8–40), and menstrual impact on daily life (10 items, scored 10–50).

Responses are rated on a four-point Likert scale: strongly agree, agree, disagree, and strongly disagree. The total possible score ranges from 58 to 290, with lower scores indicating a more negative attitude and higher scores indicating a more positive attitude. The reliability of this questionnaire was previously reported by Morse et al. as 0.9.[19]

In the study by Rabiepoor et al., MAQ was used for the first time in Iran. To assess its validity and reliability, the English version of the questionnaire was translated into Persian by a master s-level English expert. Content validity was evaluated through the opinions of faculty members and four relevant specialists. In a preliminary study conducted with 120 female students, the reliability of the menstrual attitude questionnaire was confirmed using Cronbach's alpha, yielding a coefficient of 0.89.[20]

After completing the questionnaires, the data were entered into SPSS software, version 23. Descriptive statistics, including mean, standard deviation, frequency distribution, and relative frequency, were used to summarize personal characteristics and demographic information. Independent t-tests and analysis of variance (ANOVA) were employed to examine quantitative variables, while chi-square and Fisher's exact tests were used for qualitative variables. A p-value of less than 0.05 was considered statistically significant.

3 Results

A total of 200 women preparing for marriage participated in this study. The mean age of the participants was 22.46 ± 6.31 years, and the mean age of their spouses was 27.56 ± 6.84 years. The frequency distribution of demographic variables is presented in Table 1.

The results showed that most women (78%) experienced menarche between the ages of 12 and 14. More than half (66%) were not the first child in their family, and almost all participants had living parents. Most women (78.5%) had sisters, and 54% spoke Turkish as their mother tongue. The majority (80%) were not in consanguineous marriages.

In terms of residence and education, half of the women (51%) lived in urban areas, and 52.5% had education below the diploma level; similarly, 50% of their spouses had education below the diploma level. Most women (89%) were housewives, and 58% of their spouses were self-employed. Economically, the majority (65%) reported a moderate financial status. Almost all participants had no underlying diseases (99%) and did not take any specific medications (98.5%) (Table 1).

The results also showed that the mean total score of menstrual attitude among the participating women was 173.68 ± 8.1 (Table 2).

Table 1 Frequency distribution of demographic variables in the study population

Variable	Category	Frequency	Percentage (%)
Age at menarche	9–11	18	9
	12–14	156	78
	15–16	26	13
Birth order	First child	68	34
	Second or later	132	66
Father's living status	Alive	191	95.5
	Deceased	9	4.5
Mother's living status	Alive	198	99
	Deceased	2	1
Has sisters	Yes	157	78.5
	No	43	21.5
Mother tongue	Turkish	108	54
	Persian	4	2
	Kurdish	88	44

Consanguineous marriage	Yes	40	20
	No	160	80
Place of residence	Urban	102	51
	Rural	98	49
Participant education	Below diploma	105	52.5
	Diploma	56	28
	University	39	19.5
Spouse education	Below diploma	100	50
	Diploma	55	27.5
	University	45	22.5
Employment status	Housewife	178	89
	Employed	22	11
	Unemployed	8	4
Spouse employment	Employee	31	15.5
	Worker	45	22.5
	Self-employed	116	58
Economic status	Income > expenses	12	6
	Income = expenses	130	65
	Income < expenses	58	29
Underlying disease	Yes	2	1
	No	198	99
Use of specific medicationS	Yes	3	1.5
	No	197	98.5

Table 2 Mean scores of the menstrual attitude questionnaire and its dimensions

Variable	Minimum	Maximum	Mean ± SD
Positive emotions	26	48	38.13 ± 3.13
Negative emotions	43	64	51.26 ± 3.36
Menstrual acceptance	20	32	26.20 ± 2.22
Living with menstruation	20	33	26.20 ± 2.79
Menstrual symptoms	10	19	12.40 ± 2.07
Sense of freedom	15	28	19.48 ± 1.98
Total menstrual attitude score	149	206	173.68 ± 8.1

The results of the study also showed that most women (63.5%) had a moderate desire for childbearing. In terms of preferred child gender, 70.5% favored having a daughter and 66% preferred having a son. If they had only one child, most participants (62%) reported no preference for the child's gender.

Regarding the timing of first childbirth, nearly half of the women (49%) preferred to become pregnant 1–2 years after marriage, with the majority (62.5%) choosing this interval to allow for greater understanding and compatibility with their spouse. Most participants (74%) preferred a gap of more than three years between the first and second child. Additionally, many women expressed no desire for a third or fourth child, and in most cases (61.5%), their ideal family size was two children (Table 3)

Table 3 Frequency distribution of fertility preferences in the study population

Variable	Category	Frequency	Percentage (%)
Desire for childbearing	Low (0–2)	27	13.5
	Moderate (3–7)	127	63.5
	High (8–10)	46	23
Desired number of daughters	0	9	4.5
	1	141	70.5
	2	46	23
	3 or more	4	2
Desired number of sons	0	26	13
	1	132	66
	2	39	19.5
	3 or more	3	1.5
Preferred gender if only one child	Girl	36	18
	Boy	40	20
	No preference	124	62
Preferred timing for the first child	Within 1 year	40	20
	1–2 years	98	49
	More than 2 years	62	31
Reason for chosen timing	Preparedness for parenthood	34	17
	Economic/work readiness	22	11
	Continuing education	8	4
	Greater understanding/compatibility	125	62.5
	Leisure/travel	1	0.5
	Other	10	5
Preferred interval between the first and second child	No desire	4	2
	1 year	4	2
	2 years	44	22
	3 years or more	148	74
Preferred interval between the second and third child	No desire	21	10.5
	1 year	0	0
	2 years	38	19
	3 years or more	141	70.5
Preferred interval between the third and fourth child	No desire	127	63.5
	1 year	1	0.5
	2 years	18	9
	3 years or more	54	27
Desired total number of children	0	3	1.5
	1	18	9
	2	123	61.5
	3 or more	35	17.5

The findings also indicated that fertility preferences were not significantly related to mean menstrual attitude scores (Table 4). Based on the results of ANOVA, there were no significant differences in mean menstrual attitude scores across any of the fertility preference items ($p > 0.05$).

Table 4 Relationship between menstrual attitude scores and fertility preferences

Variable	Category	Mean ± SD	F	P-value
Desire for childbearing	Low (0–2)	171.85 ± 11.65	2.778	0.065
	Moderate (3–7)	173.24 ± 7.32		
	High (8–10)	175.98 ± 7.34		
Desired number of daughters	0	167.56 ± 7.84	2.177	0.065
	1	173.67 ± 7.9		
	2	175 ± 8.63		
	3 or more	172.75 ± 4.57		
Desired number of sons	0	173.08 ± 9.65	0.473	0.701
	1	173.55 ± 7.92		
	2	174.79 ± 7.94		
	3 or more	170.33 ± 3.21		
Preferred gender if only one child	Girl	172.92 ± 10.43	1.327	0.268
	Boy	172.18 ± 7.21		
	No preference	174.39 ± 7.57		
Preferred timing for the first child	Within 1 year	173.43 ± 6.57	0.252	0.777
	1–2 years	174.35 ± 8.44		
	More than 2 years	173.44 ± 9.64		
Reason for chosen timing	Preparedness for parenthood	172.82 ± 8.78	0.944	0.454
	Economic/work readiness	173.59 ± 7.03		
	Continuing education	174.38 ± 8.83		
	Greater understanding/compatibility	174.16 ± 8.22		
	Leisure/travel	182		
	Other	169.4 ± 5.27		
Preferred interval between the first and second child	No desire	167 ± 8.16	1.337	0.236
	1 year	172.25 ± 5.5		
	2 years	174.95 ± 7.7		
	3 years or more	173.52 ± 8.23		
Preferred interval between the second and third child	No desire	171.24 ± 8.16	1.454	0.236
	2 years	172.95 ± 8.29		
	3 years or more	174.24 ± 8.02		
Preferred interval between the third and fourth child	No desire	173.78 ± 8.24	0.796	0.498
	1 year	163		
	2 years	172.33 ± 6.98		
	3 years or more	174.09 ± 8.15		
Desired total number of children	0	169 ± 8.72	1.404	0.243
	1	170.56 ± 9.49		
	2	173.95 ± 7.81		
	3	174.34 ± 8.15		

4 Discussion

This study aimed to examine the relationship between attitudes toward menstruation and fertility preferences among women preparing for marriage who attended the premarital counseling center in Salmas in 2024.

The findings showed that the mean total score of menstrual attitude among these women was 173.68, indicating a positive attitude toward menstruation that was above the average level. This suggests a more natural understanding and greater acceptance of menstruation among the participants. In a study by Wong and Khoo, the mean score for menstrual attitudes among Asian girls, assessed using the MAQ, was moderate.[21]

Studies conducted in Western and Asian countries have shown that Icelandic students, American women, and Indian women generally perceive menstruation as a natural and predictable phenomenon, whereas Chinese women often view menstruation as unclean or impure.[22]

The study by Mohamadirizi et al. reported that 24% of students considered menstruation a debilitating event, 28% saw it as bothersome, 12.3% viewed it as natural, 27% considered it predictable, and 14.5% regarded it as inconsequential.[13] A study conducted in Ghana in March 2015, involving 239 female students with a mean age of 20 years, reported lower scores on the menstrual attitude scale.[23] Similarly, Abbasi et al. found that girls in Ilam held unfavorable attitudes toward menstrual hygiene.[24]

Historically, perceptions of menstruation have varied, and as societies transitioned from traditional to modern, many rules and restrictions, often framed as taboos, emerged around menstruation. The dominant societal ideology has often been one of silence, concealment, and denial regarding menstruation. Education on menstruation is a societal necessity; menstruation should be accepted within the community, and girls should receive proper education and preparation before menarche. Such education becomes particularly important for women preparing for marriage.[25]

The results of the present study also indicated that more than 60% of women preparing for marriage had a moderate desire for pregnancy. Similarly, a study by Motlagh et al. found that approximately 60% of women, despite being fertile, had no desire for additional children, and the level of reluctance varied across different ethnic groups. Specifically, the likelihood of wanting to have children was 1.8 times higher among Arab women compared to Turkmen women, while among Turkish women, it was about 55% lower than that of Turkmen women.[26]

In a study conducted by Tavousi et al. in Tehran to assess fertility desire and its correlations, more than 60% of the women surveyed reported no desire for additional children.[27]

The study by Hosseini and Bagi reported that 61% of women intended to stop childbearing.[28] Similarly, a study by Enayat and Parnian found that only 29% of women showed a positive inclination toward having children.[29] One explanation for the low desire for pregnancy is the globalization of the norm of having fewer children. Theoretically, it is expected that individuals who are extensive users of social networks tend to have lower fertility intentions, as they are more exposed to media. Given that having fewer children has become the norm in many parts of the world, social networks and media easily promote this norm across different cultures.[30]

The results of the present study also indicated no significant relationship between the mean menstrual attitude scores and fertility preferences. This aligns with evidence suggesting that women who experience early menarche not only have children at a younger age but also specifically intend to do so earlier.[15]

A study conducted in Florida found that women who perceived menstruation as shameful also held more shame-related attitudes toward breastfeeding. Women reporting higher levels of body-related shame and self-surveillance exhibited more negative attitudes toward reproductive functions.[31]

It is important to note that the participants in this study were at a specific life stage. Women preparing for marriage may be at a different phase of life, exhibiting behaviors and feelings that differ from the broader female population. Additionally, premarital counseling sessions function as a form of couple therapy, helping men and women prepare for married life. Studies have shown that premarital education and counseling programs can relatively influence couples' awareness and attitudes toward fertility.[32]

A strength of this study lies in its focus on novel aspects of factors influencing fertility preferences and childbearing, which have received limited attention in previous research. However, a limitation of the study is the lack of similar research for comparison and a broader discussion of the findings. Therefore, it is recommended that further studies be conducted in this area to allow for more precise scientific conclusions.

Additionally, qualitative research using in-depth interviews or focus groups could provide a deeper understanding of attitudes toward menstruation and their impact on fertility preferences. Finally, examining differences across various communities regarding menstrual attitudes and fertility preferences is also suggested for future studies.

Among the limitations of this study is its cross-sectional design, which restricts the ability to infer causal relationships between menstrual attitudes and fertility preferences. Additionally, the data were collected through self-reported measures, which may introduce response bias or social desirability bias.

Furthermore, the study was conducted exclusively among women attending the premarital counseling center in

Salmas; therefore, generalizing the results to other regions or demographic groups should be done with caution. It is recommended that future research employ longitudinal designs to examine changes in menstrual attitudes and fertility preferences over time and after marriage.

Using more diverse samples in terms of social, economic, and cultural backgrounds could enhance the generalizability of findings. Examining the role of mediating variables, such as attitudes toward gender roles, cultural beliefs, reproductive literacy, and sexual health education experiences, may also provide a deeper understanding of the relationship between menstrual attitudes and fertility preferences.

5 Conclusion

The results of this study showed that women preparing for marriage had a relatively positive and above-average attitude toward menstruation. This attitude may reflect increased awareness, health education, and cultural shifts in perceptions of menstruation in recent years.

Although more than half of the women expressed a moderate desire for childbearing, no statistically significant relationship was observed between menstrual attitudes and fertility preferences. This suggests that, in this group, fertility preferences may be influenced more by social, economic, and cultural factors, such as employment status, education, economic conditions, and family values, rather than by biological or physical attitudes toward menstruation.

Given the declining fertility rate in the country, targeted education and counseling during the premarital period can provide an opportunity to promote positive attitudes toward reproductive functions and increase awareness of the consequences of fertility-related decisions. Therefore, it is recommended that educational and counseling programs related to reproductive health and menstrual attitudes be integrated into premarital counseling centers to support more informed decision-making by couples regarding childbearing.

Declarations

Acknowledgments
The authors would like to express their sincere gratitude to all individuals who assisted in this research, including the staff of the Premarital Counseling Center in Salmas and all the women who participated in the study.

Artificial Intelligence Disclosure
In this article, ChatGPT4 artificial intelligence was used only in minor cases, such as finding similar articles and removing errors in written references.

Authors' Contributions
All authors contributed to the initial conceptualization, study design, data collection, and manuscript drafting. All authors have read and approved the final version of the manuscript and have no disagreements regarding any part of its content.

Availability of Data and Materials
The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Conflict of Interest
The authors declare that this work was conducted independently and that there are no conflicts of interest with any organizations or individuals.

Consent for Publication
Not applicable.

Ethical Considerations
This study was approved by the Ethics Committee of the University under the Code of Ethics IR.UMSU.REC.1403. 058 All research procedures were conducted in accordance with the relevant ethical guidelines and regulations.

Funding
The financial support for this study was provided by the Research Deputy of Urmia University of Medical Sciences.

References

1. Mohammad Peikanpour, Sajjad Esmaeli, Nazila Yousefi, Ahmad Aryaeinezhad, Hamidreza Rasekh. A review of achievements and challenges of Iran's health transformation plan. Payesh 2018; 17 (5) :481-494. doi: 10.1016/j.jval.2018.09.1094.
2. Erfani A JR, Kalantari A. Individualism and Fertility Intentions. Journal of Population Association of Iran. 2020;15:239-64.
3. Kaboudi M, Karim H, Ramezankhani A, Kaboudi B, Manouchehri H, Hajizadeh E. A survey on fertility trend of the women born in Kermanshah in" 1956-95". Journal of Clinical Research in Paramedical Sciences 2015;3(4):286-93.(Persian).
4. Motlagh ME, Taheri M, Eslami M. Factors affecting the fertility preferences in Iranian ethnic groups. Nursing And Midwifery Journal. 2016;14(6):485-95.(Persian).
5. Pezeshki MZ, Zeighami B, Miller WB. Measuring the childbearing motivation of couples referred to the Shiraz Health Center for premarital examinations. J Biosoc Sci. 2005;37(1):37-53. doi: 10.1017/S0021932003006485.
6. Rabiepoor S, Valizadeh R, S. B. Study of Menstrual Attitudes and Knowledge among Postmenarcheal Students, in Urmia, North

West of Iran. . Int J Pediatr. 2017;5(5):4991-5001. doi: 10.22038/ijp.2017.21905.1831.

7. Beyeza-Kashesya J, Neema S, Ekstrom AM, Kaharuza F. "Not a Boy, Not a Child": A qualitative study on young people's views on childbearing in Uganda. Afr J Reprod Health. 2010;14(1).
8. Miller WB, Bard DE, Pasta DJ, Rodgers JL. Biodemographic modeling of the links between fertility motivation and fertility outcomes in the NLSY79. Demography. 2010;47(2):393-414. doi: 10.1353/dem.0.0107.
9. McDonald P. Gender Equity in Theories of Fertility Transition. Popul Dev Rev. 2000;26:427-39. doi: 10.1111/j.1728-4457.2000.00427.x.
10. Hashimoto M, Nishiyama M, Nakae K, NODA T. The relationship between lifestyle and anxiety levels in adolescent girls. Japanese Journal of Health and Human Ecology. 2001;67(3):127-37. doi: 10.3861/jshhe.67.127.
11. Mokhtari N, Salavati A, Azmoude E. The relationship between gender role and attitude toward menstruation with female sexual function: A cross-sectional study. Int J Reprod Biomed. 2020;18(10):847-54. doi: 10.18502/ijrm.v13i10.7769.
12. Çevirme AS, Cevirme H, Karaoğlu L, Uğurlu N, Korkmaz Y. The perception of menarche and menstruation among Turkish married women: Attitudes, experiences, and behaviors. Soc Behav Pers. 2010;38(3):381-93. doi: 10.2224/sbp.2010.38.3.381.
13. Mohamadirizi S, Kordi M, Shakeri MT. The relationship between perimenstrual symptoms and menstrual attitude in high-school girls in Mashhad city in years 2011-2012. Iranian journal of obstetrics, gynecology, and infertility. 2012;15(8):25-31.
14. Anjum F, Zehra N, Haider G, Rani S, Siddique AA, Munir AA. Attitudes towards menstruation among young women. Pak J Med Sci. 2010;26(3):619-22.
15. Batres C, Perrett DI. Early menarche is associated with preference for masculine male faces and younger preferred age to have a first child. Evol Psychol. 2016;14(2):1474704916637876. doi: 10.1177/1474704916637876.
16. Miller WB. Childbearing motivation and its measurement. J Biosoc Sci. 1995;27(4):473-87. doi: 10.1017/S0021932000023087.
17. Niazi A, Moradi M, Nouravaran Feizabadi M, Ghasemi Assal S, Bashiri M, Salehi F. Investigating the motivation of students of Lorestan University of Medical Sciences to have children. Navid No. 2023;25(84):44-56.
18. Khadivzadeh T, Arghavani E, Shakeri MT. Relationship between fertility motivations and preferences in couples. Iranian journal of obstetrics, gynecology, and infertility. 2014;17(114):8-18.
19. Morse JM, D. Kieren, and J. Bottorff. The adolescent menstrual attitude questionnaire, part I: Scale construction. Health Care Women Int. 1993;14(1):39-62.
20. Rabiepoor S. Sexual health textbook. Tehran: Heydari; 2020.
21. Wong LP, Khoo EM. Menstrual-related attitudes and symptoms among multi-racial Asian adolescent females. Int J Behav Med. 2011;18:246-53. doi: 10.1007/s12529-010-9091-z.
22. Kissling EA, & Chang, Y. A cross-cultural analysis of menstrual attitudes in the 21st century. Soc Sci Med. 2023;320:115688.
23. Ameade EPK, Garti HA. Relationship between female university students' knowledge on menstruation and their menstrual hygiene practices: a study in Tamale, Ghana. Adv Prev Med. 2016;2016(1):1056235. doi: 10.1155/2016/1056235.
24. Abbasi E, Sadr A, Rest M, Mohamed Khan Kermanshahi S. Knowledge, attitude and practice of female high school students in Ilam province in relation to personal hygiene (Hygiene during Menstruation). Psychological Achievements. 2013;20(2):93-116.
25. shobeiri F, ebrahimi r, ezzati araste poor f, nazari m. The Effect of Group Education on Symptoms Associated with Premenstrual Syndrome in University Female Students of Medical Sciences. Nursing and Midwifery Journal. 2016;14(3):263-70.
26. Motlagh ME, Taheri M, Eslami M, nasrollapour shirvani sD. Factors Affecting the Fertility Preferences in Iranian Ethnic Groups. Nursing and Midwifery Journal. 2016;14(6):485-95.
27. Tavousi M, Motlagh ME, Eslami M, Haerimehrizi A, Hashemi A, Montazeri A. Fertility desire and its correlates: a pilot study among married citizens living in Tehran, Iran. Payesh. 2015;14(5):697-702.
28. Hosseini H, Bagi B. Study of fertility desires of Kurdish women in city of Mahabad. Women's Strategic Studies. 2013;15(58):121-61.
29. Enayat H, Parnian L. The study of cultural globalization and tendency to fertility. Sociology of Women. 2013;4(2):109-36.
30. Kiyanpour N, Rahman Zadeh SA, Hashem Zehi N. Factors affecting childbearing with an emphasis on virtual social networks. The Women and Families Cultural-Educational. 2023;18(64).
31. Johnston-Robledo I, Sheffield K, Voigt J, Wilcox-Constantine J. Reproductive shame: Self-objectification and young women's attitudes toward their reproductive functioning. Women Health. 2007;46(1):25-39. doi: 10.1300/J013v46n01_03.
32. Ramazani A, Faraji A, Fatemi M, Solooki M. The Effects of Pre-marriage Education and Consultation on Knowledge and Attitude of Couples Regarding to Reproductive Health. Tolooebehdasht. 2013;11(3):56-65.