

The Correlation between Gender Role Attitudes, Maternal Competence and Breastfeeding Performance in Primiparous Women: A Cross-Sectional Study

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ARTICLE INFO	ABSTRACT
Article type: Original article	Background & aim: Breastfeeding is not merely a biological act but it is shaped by social factors, including gender roles and cultural Pressures. This study aimed to investigate the correlation between gender role attitudes, maternal Competence, and breastfeeding performance among primiparous women in Iran.
Article History: Received: 24-Aug-2023 AccePted: 25-Nov-2023	Methods: A cross-sectional study was conducted, involving 320 primiparous women with 4-6-months-old infants in urban comprehensive health centers, Urmia, Iran, in 2022. Data collection tools included a demographic questionnaire, the Attitude towards Women scale (AWS) for assessing gender role attitudes, the Maternal Competence Questionnaire (MCQ), and a checklist for assessing breastfeeding performance. Random sampling was used, and data were analyzed by SPSS version 21 using the Pearson correlation test, chi-square test, and multivariate linear regression.
Key words: Attitude Gender Role Maternal Behavior Breastfeeding	Results: The average age of women was 27.53 ± 6.05 years. Mean scores ($\pm$ SD) for gender role attitude, maternal Competence, and breastfeeding performance were 27.75 ± 5.11 , 4.21 ± 0.42 , and 2.13 ± 1.78 , respectively. A significant association was found between gender role attitude and breastfeeding performance ($P=0.014$). Maternal Competence showed a significant correlation with breastfeeding performance ($P<0.01$), as did gender role attitude with maternal Competence ($P=0.019$, $r=0.13$). Gender role attitude ($P=0.000$, $B=0.49$) and maternal Competence ($P=0.000$, $B=1.245$) were identified as predictors of breastfeeding performance, explaining 68.4% of the variance.
	Conclusion: Psychosocial factors such as gender role attitudes and maternal Competence significantly impact breastfeeding initiation and continuation, enhancing its success. The findings suggest that interventions aimed at promoting egalitarian gender role attitudes and enhancing maternal competenc may lead to improved breastfeeding outcomes.

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Introduction

Breastfeeding provides optimal health, emotional, and economic benefits for mother and child (1). Despite strong advocacy for breastfeeding by health organizations, exclusive breastfeeding (EBF) rates remain suboptimal globally, particularly in the Eastern Mediterranean region, where less than 40% of

infants are exclusively breastfed by six months (2). In high-income countries like Canada, only one-third of mothers breastfeed, with most discontinuing by eight weeks (3). Similarly, in Spain, EBF prevalence was 25.4% at six months and dropped to 7.7% by two years (4). In Iran, breastfeeding duration falls short of WHO recommendations (17.31 vs. 24 months), with

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earlier cessation linked to primiparity, younger maternal age, and higher education levels. Regional disparities exist, with the shortest duration in Zahedan (9.13 months) and the longest in Mazandaran (20.93 months) (5). Although EBF initiation is common, rates decline rapidly; in Iran, EBF is 56.8% at four months but drops to 27.7% by six months (7). EBF—defined as feeding only breast milk without solids or liquids, including water, for the first six months (6)—is a global nutrition priority, with a target of $\geq 50\%$ EBF at six months by 2025 (8). These trends underscore the urgent need for effective interventions to promote and sustain breastfeeding.

The concept of optimal breastfeeding entails initiating breastfeeding within the first hour after delivery, exclusively feeding the infant with breast milk for the initial six months of life, and maintaining breastfeeding with breast milk for a period of up to two years or introducing suitable complementary feeding from the age of six months (2). Several factors can influence a mother's choice and the start and duration of breastfeeding, including the mother's level of understanding regarding the benefits associated with breastfeeding, the availability of support networks, and the mother's socio-economic status (9-11).

Nonetheless, recent studies have emphasized the involvement of certain psychosocial factors during exclusive breastfeeding with breast milk (11). In the past few decades, there has been a remarkable transformation in women's decision-making processes concerning childbirth, family planning, and breastfeeding, and social norms, particularly gender norms, have played a substantial part in these changes and breastfeeding decisions (11). Gender role refers to a wide range of social behaviors and attitudes typically regarded as acceptable, suitable, or desirable for a person based on their biological or perceived gender (12-13). Gender roles are defined by the World Health Organization (WHO) as "socially constructed roles, behaviors, activities, and characteristics that a given society deems appropriate for men and women" (15).

Numerous studies have indicated that motherhood plays a significant role in reinforcing women's gender identity (16). The attainment of the maternal role primarily

involves cognitive and social aspects, which are influenced by various factors, including cultural and familial surroundings, as well as the individual characteristics of both the mother and the child (17). Furthermore, research has demonstrated that gender role attitudes significantly influence maternal practices, including breastfeeding behaviors. Traditional gender norms that emphasize motherhood as a central aspect of female identity can positively influence breastfeeding initiation, while evolving egalitarian attitudes may contribute to sustained breastfeeding through increased paternal support and shared caregiving responsibilities (11, 24). These findings highlight the complex interplay between gender identity, social norms, and maternal practices, suggesting that both traditional and modern gender attitudes can contribute to positive breastfeeding outcomes depending on contextual support systems.

Initiation into motherhood, particularly for first-time mothers, represents a momentous developmental shift in the realm of adulthood. Within this transition, change emerges as an inescapable and essential component (18). Mercer outlined the process of becoming a mother as a journey where a woman attains proficiency in the societal role of motherhood, establishes a bond with her infant, and develops the necessary skills to care for her baby (19). Acquiring this skill and finding contentment in the role of a mother is a crucial aspect of embracing the responsibilities of motherhood. This acceptance will significantly influence the mother's behavior and the infant's mental development (20). To attain proficiency in motherhood, one must possess knowledge, skills, and motivation. Insufficient knowledge, skills, or motivation can result in deficiencies in maternal capabilities, leading to stress and concern for the mother (21). The actual breastfeeding experience for mothers is significantly connected with their sense of maternal Competence (22). This is because their feelings of success or failure in breastfeeding can affect their overall confidence in caring for their baby. For example, studies have shown that mothers with higher maternal self-efficacy tend to breastfeed longer and report greater satisfaction with the breastfeeding experience (17, 22). This bidirectional relationship—where successful

breastfeeding enhances maternal confidence, and higher Competence helps overcome breastfeeding challenges—highlights the importance of supporting both psychological and practical aspects of motherhood to promote optimal infant feeding practices (20, 32).

In light of global changes and subsequent adjustments in personal and family circumstances, women have faced emerging challenges and new roles. While significant progress has been made toward gender equality (23) and the redistribution of gender roles is recognized as influential in global breastfeeding trends (24), a critical knowledge gap remains in understanding how gender role attitudes affect maternal Competence and breastfeeding performance within Iran's cultural context. Few studies in Iran have examined the relationship between gender role attitudes, maternal Competence (defined as a mother's confidence in her ability to care for and nourish her child), and breastfeeding continuity. Moreover, it is unclear whether progressive gender attitudes translate into practical support for breastfeeding mothers or if deeply ingrained traditional norms continue to undermine maternal confidence. This study aims to address this gap by providing insights for designing culturally tailored interventions that enhance both maternal Competence and restructuring societal support systems.

Materials and Methods

A cross-sectional study was carried out in 2022 on 320 first-time mothers with infants aged 4-6 months, who were selected from the comprehensive health centers in Urmia, Iran, based on their eligibility for the research and voluntary participation in the study.

The calculation of the sample size for this study followed the study by Bagheri et al, employing a correlation coefficient formula with an r value of 0.364. The study aimed for a 95% confidence level and 80% test power, including a total of 320 participants (25).

$$N = \frac{(Z_{1-\alpha/2} + Z_{1-\beta})^2}{\frac{1}{4} \left[\ln \left(\frac{1+r}{1-r} \right) \right]^2} + 3$$

$$N = \frac{(1.96 + 0.84)^2}{(0.1596)^2} + 3 = \frac{7.84}{0.02547} + 3 = 311 \approx 320$$

The inclusion criteria were as follows: Iranian nationality; residence in Urmia city; being a

primiparous mother; having a singleton, full-term infant aged 4–6 months; and having no contraindications for breastfeeding according to national guidelines (e.g., infant cleft palate or maternal use of contraindicated medications). Additionally, infants must not have been hospitalized during infancy, mothers must not have had mental disorders requiring treatment, and all participants were required to provide their willingness to Participate in the study. Incomplete questionnaires were excluded.

To carry out the sampling, Urmia city was divided into three socioeconomic levels based on household income and asset ownership criteria defined by the Iran Statistical Center: well-off, semi-affordable, and under-affordable. Two comprehensive health centers with the highest client volume from each level were selected to ensure diverse socioeconomic representation. The SIB system (Iran's Integrated Health System) was utilized to extract a list of primiparous mothers with children aged 4–6 months registered at these centers. The list was sorted numerically, and participants were randomly selected using Randomizer software (version 22.0). Mothers who met the eligibility criteria (Iranian nationality, residency in Urmia, singleton full-term infant, no breastfeeding contraindications, no infant hospitalization history, no treated mental disorders, and willingness to participate) were included. After providing informed consent, participants completed the study questionnaires either in person at the health center or via phone interview, based on their preference. Data analysis was performed using SPSS software (version 21). Descriptive statistics (mean, standard deviation, frequency, and percentage) were used to summarize the data. Inferential analyses included Pearson correlation, chi-square tests, and multivariate linear regression, with a statistical significance threshold of $P < 0.01$.

To gather the data, four distinct instruments encompassing a demographic and fertility questionnaire devised by the researcher, a condensed version of the attitude towards women scale (AWS) for assessing gender role attitudes, the maternal Competence questionnaire (MCQ), and the breastfeeding performance checklist were used.

The comprehensive researcher-made questionnaire on demographic and fertility characteristics was based on an extensive review and included data regarding age, level of education, economic status, ethnicity, level of satisfaction with emotional support, type of delivery, sex of the infant, type of breastfeeding, breastfeeding education, skin to skin care, and breast problems.

The concise edition of the Attitudes towards Women Scale (AWS), formulated by Spence and Helmrich in 1978, encompasses 15 statements to measure gender role beliefs. Participants provided feedback on each statement using a Likert scale (3=completely disagree, 2=disagree, 1=agree, 0=completely agree). When evaluating this tool, statements 1 to 15 were assigned scores ranging from zero to 3 points. It is worth mentioning that the scoring for statements 2, 3, 4, 5, 8, and 15 was reversed. The current investigation classified a score of 0.29-99 as indicative of a conventional mindset, while a score of 30-45 was acknowledged as an egalitarian attitude. Multiple research studies have confirmed the scale's validity and reliability, with Cronbach's alpha coefficient ranging from 0.80 to 0.95 (27-30). In a study by Sadeghi et al, the persian version of this scale's reliability was assessed with a Cronbach's alpha of 0.60 (31). In our current investigation, we determined the reliability of this scale by calculating Cronbach's alpha coefficient, which yielded a value of 0.81.

The Maternal Competency Questionnaire (MCQ) (known as ICQ in certain studies) was a scale comprising 22 items with the primary objective of assessing the mother's perception of her skills and capabilities in providing care for newborns. The scoring of this tool was based on statements 1 to 22, with each statement being assigned a score from 1 to 5. However, there were exceptions for statements 12, 15, 17, 18, and 22, where the scoring was reversed. This questionnaire was divided into three subscales: mother-baby communication (14 items), emotional feelings, and responsiveness (each with four items). For each participant, the subscale value was calculated by summing and dividing by the total number of items in that subscale. Achieving a score between 0 and 3-99 was regarded as "earning merit," whereas a score between 4 and 5 was considered

"deserving" (32). In the study by Sekou et al, Cronbach's alpha coefficients for the three components of mother and infant, affect, and responsiveness were 0.86, 0.79, and 0.58, respectively (32). The original (English) version of the questionnaire was distributed to five faculty members at Urmia University of Medical Sciences for content validity assessment. Based on their feedback, necessary adjustments were made, and the final persian version was utilized. The overall reliability of the questionnaire was confirmed with a Cronbach's alpha of 0.86. Cronbach's alpha coefficients of 0.71, 0.62, and 0.55 were used to confirm the reliability of the three components of mother and infant, emotion, and responsiveness.

In this study, breastfeeding performance was assessed using the Agunbiade checklist (2012). This checklist comprises six questions about breastfeeding initiation time, frequency, duration, and exclusive breastfeeding. Each question answered correctly would earn one point, and a score of 4 or higher signifies an appropriate level of breastfeeding performance (33). In the research conducted by Kahfroshan et al (34), the validity and reliability of the scale were established with an alpha coefficient of 0.92. However, in the current study, the scale's reliability was determined to be 0.75 using Cronbach's alpha coefficient.

Data analysis was conducted using SPSS software (version 21). Descriptive statistics (mean $\pm$ standard deviation, frequency, and percentage) were used to summarize the data. The relationship between variables was assessed using the pearson correlation test, chi-square test, and multivariate linear regression, with a statistical significance threshold of $P < 0.01$.

Results

The average age of 320 mothers who participated in the study was 27.53 ± 6.05 years, and they were in the age range of 16 to 42. Similarly, the average age of their spouses was 31.03 ± 5.22 years, and their age range was from 20 to 55. The study's findings revealed that 77.5% of the housewives surveyed had pursued higher education at a university level. Additionally, it was noted that in 50.2% of cases, their spouses also possessed a university degree. The majority of mothers, approximately 84%, stated that their family's income was adequate

for their living exPenses. Additionally, a significant proportion of 38.4% exclusively breastfed their infants. Cesarean section was performed in 63.6% of deliveries, with 51.6% of newborns being girls, and skin-to-skin contact was established in 76.2% of cases. Furthermore, 47.5% of the mothers commenced breastfeeding

within the initial hour following childbirth. A significant majority of 77.2% expressed their intention to continue breastfeeding for more than six months. A summary of the demographic and fertility traits of the participating mothers can be found in Table 1.

Table 1. Demographic, postpartum, and breastfeeding characteristics of the mothers participating in the study (N=320)

Demographic characteristics					
Spouse occupation		Ethnicity		Housing status	
N(%)		N(%)		N(%)	
Unemployed	4(1.2)	Turkish	225(70.3)	Rental	133(41.6)
Worker	23(7.2)	Kurdish	90 (28.1)	Personal	96 (30)
Employee	87(27.2)	Persian	5(1.6)	Others	91(28.4)
Shopkeeper	43(13.4)				
Freelance and others	163(51)				
Characteristics of the postpartum period					
Satisfaction with birth experience		Type of nutrition in the hospital		The level of satisfaction with emotional support in the postpartum period	
N(%)		N(%)		N(%)	
Poor	40(12.5)	Breastfeeding	165(51.6)	Very high and high	246(76.9)
Fair	136(42.5)	Milk powder	35(10.0)	Medium	62(19.4)
Good	144(45)	Both	120(37.5)	Little and very little	12(3.9)
Breastfeeding characteristics					
History of using Drugs increasing breast milk supply		Level of satisfaction with emotional support during breastfeeding		Breastfeeding educator	
N(%)		N(%)		N(%)	
Yes	104(32.5)	Very high	96(30)	Nobody	34(10.6)
No	216(67.5)	High	146(45.6)	Doctor	5(1.6)
History of breast problems		Medium	59(18.4)	Midwife	244(76.2)
Yes	63(19.7)	Low	10(3.1)	Media	8(2.5)
No	257(80.3)	Very low	9(2.8)	Family	29(9.1)
History of using herbal-traditional medicine to increase milk supply					
Yes	69(21.6)				
No	251(78.4)				

The main objectives of the study are reflected in Table 2, which presents the average (standard deviation) score of gender role attitude, maternal Competence, and breastfeeding performance for the 320 participating mothers. Furthermore, the table also demonstrates the

correlation test results, explaining the relationship between these variables.

The results of assessing the association between variables using a bivariate correlation coefficient (pearson) in the current study revealed no statistically significant correlation between breastfeeding success and gender role attitude (P=0.12).

Table 2. Mean scores of gender role attitude, breastfeeding performance, maternal competence, and their correlations in the mothers participating in the study (N=320)

Variable	Average (standard deviation)	The range of the observed scores	The range of scores that can be obtained	Correlation with breastfeeding performance		Relationship with gender role	
				P-Value	r	P-Value	r
The overall score of ender role attitude	27.75±5.11	16-42	0-45	0.12	- 0.86	...	...
The overall score of Breastfeeding performance	2.13±1.78	0-6	0-6	...	...	...	...
The overall score of maternal Competence	4.21±0.42	3.17-5	0-5	0.000	0.56	0.019	0.13
Subscales of Maternal Competence	Mother-baby relationship	4.27± 0.48	2.5-5	0.000	0.49	0.11	0.08
	Emotional feeling	3.86±0.65	1.75-5	0.000	0.47	0.000	0.20
	The baby's responsiveness	4.48± 0.39	3.25-5	0.000	0.43	0.20	0.07

r Pearson correlation coefficient

Table 3. The relationship between gender role attitude, maternal Competence, and breastfeeding performance (N=320)

Breastfeeding performance			Significance level
Gender role attitude	Inappropriate N (%)	Appropriate N (%)	X ₂ =6.021 P=0.014
	Traditional 149 (65.1)	72 (79.1)	
	Egalitarian 80 (34.9)	19 (20.9)	
Breastfeeding performance			Significance level
Maternal Competence	Inappropriate N(%)	Appropriate N (%)	X ₂ =52.706 p<0.01
	Gaining Competence 115 (50.2)	6 (6.6)	
	Competent 114 (49.8)	85 (93.4)	
Gender role attitudes			Significance level
Maternal Competence	N (%)	N (%)	X ₂ =0.0128 P=0.72
	Gaining Competence 85 (38.5)	36 (36.4)	
	Competent 136 (61.5)	63 (63.3)	

⊠X₂: chi- square test* $p < 0.05$ * $p < 0.01$

Based on the findings of this study, there is a strong and statistically significant relationship between maternal Competence and its various components with breastfeeding performance ($P < 0.01$). Therefore, as the maternal Competence score increases, there is an improvement in breastfeeding performance. The study found a significant correlation between maternal Competence and gender role attitude ($P < 0.01$), with an increase in gender role attitude correspondingly enhancing maternal Competence. Nevertheless, it is worth

mentioning that the relationship between the different subscales of maternal Competence and gender role attitude (except for the emotional feeling subscale ($P < 0.01$)) did not exhibit statistical significance.

Table 3 indicates the findings of assessing the relationship between the variables using the chi-square test concerning the study's key objectives.

Table 4 shows the findings of evaluating the relationship between the variables using the multivariate regression model concerning the study's key objectives.

Table 4. Results of multivariate regression analysis to predict breastfeeding performance of mothers participating in the study (N=320)

Predictor variable	B (regression coefficient)	SE (standard error)	Beta	T (Statistics)	P (significance level)
Maternal Competence (ICQ)	1.245	0.107	1.899	11.588	0.000
Gender Role (AWS)	-0.49	0.007	-1.119	-6.833	0.000
	R=0.828	R ² =0.686	ADJ.R ² = 0.684		

The current study revealed that the multivariate regression analysis findings indicate a noteworthy and positive association between maternal Competence and breastfeeding performance ($P<0.01$). Maternal Competence serves as an indicator of the breastfeeding performance of mothers, so by enhancing their level of maternal Competence, there is a direct improvement in their ability to breastfeed.

Moreover, the outcomes of this analysis revealed a substantial adverse correlation between gender role attitude and breastfeeding performance ($P<0.01$). Thus, as the gender role attitude score decreases, there is an improvement in breastfeeding performance. Consequently, mothers who hold egalitarian attitudes are more prone to encounter suboptimal breastfeeding performance.

A total of 30 questionnaires were excluded from the analysis due to incomplete responses (less than 50% completion rate).

Discussion

The primary objective of the current study was to examine the association between gender role attitudes and maternal competence, along with breastfeeding performance, in primiparous mothers with infants aged 4-6 months. The findings indicated that modern and egalitarian gender role attitudes were Positively correlated with higher maternal Competence, which in turn predicted improved breastfeeding performance. This suggests that mothers who embrace progressive gender norms may experience greater confidence in their caregiving abilities, thereby facilitating sustained breastfeeding.

These results reflect broader societal shifts in Iran, where gender identities are transitioning from traditional to modern norms (35, 36). For

instance, Farahmand and Tawangar (35) documented evolving social identities among

women in Yazd, while Kanani et al (36) highlighted generational differences in gender identity in Rasht, attributed in part to social media exposure. Our study aligns with these trends, as the average gender role attitude score among participants (27.75 ± 5.11 on a 0-45 scale) indicated a moderate shift toward egalitarian views.

However, comparisons with international studies reveal cultural nuances. While Colodro et al (2014) and Hernandez and Callahan (11) emphasized that adherence to traditional feminine norms promoted breastfeeding acceptance, our findings demonstrate that egalitarian attitudes—when mediated by maternal Competence—can equally support breastfeeding success. This divergence may stem from Iran's unique socio-cultural context, where modernizing influences coexist with traditional values.

Notably, our results contrast with paine et al (2000) (37), who found no direct correlation between traditionalism and breastfeeding duration but observed a U-shaped relationship with both highly traditional and highly egalitarian mothers intending to breastfeed longer. This discrepancy may arise from methodological differences, including our focus on actual practices versus intentions. Also, cultural differences between the Iranian and Brazilian contexts may have influenced the results. Importantly, our findings reinforce paine et al's identification of women in transition as vulnerable to early discontinuation but further highlight that maternal Competence mitigates this vulnerability, enabling mothers to navigate evolving social expectations effectively.

The critical role of maternal Competence is supported cross-culturally. Tarkka (2003) (17) identified breastfeeding as a predictor of maternal Competence, while Yoo Soo-bin (2016) (22) noted that family encouragement enhanced perceived Competence and breastfeeding experiences. In Iran, Dehghani et al (2023) (38)

linked compliance with feminine norms to breastfeeding empowerment, whereas Alidadi et al. (2020) (39) associated masculine-inclined norms with higher exclusivity rates. These contradictions underscore the influence of demographic, methodological, and cultural factors, urging caution in generalizing findings.

Ultimately, our study integrates psychosocial (e.g., gender attitudes) and individual (e.g., maternal Competence) dimensions, extending theories such as the mother's role attainment theory (1994) (40), which emphasizes the acquisition of skills and confidence postpartum. Interventions promoting shared caregiving—as shown by Sharma et al (2021) (42), where fathers' equitable attitudes reduced child malnutrition—and programs bolstering maternal self-efficacy could enhance breastfeeding sustainability in regions undergoing social change. Future research should replicate this methodology in diverse settings to clarify the interplay between gender norms, Competence, and feeding practices.

The participants in this study were primiparous mothers, and it is essential to consider that the influence of breastfeeding experience on breastfeeding performance may hinder the generalizability of the results to multiparous mothers. The present study was exclusively carried out within a single city, thereby implying that the outcomes might be restricted in their ability to be generalized to diverse societies and cultures. Furthermore, due to the cross-sectional nature of this study, the associations observed between breastfeeding performance, gender role attitudes, and mother Competence do not necessarily indicate a causal relationship. Nonetheless, based on a large sample size and the representation of individuals from diverse socioeconomic backgrounds across the city, encompassing the wealthy, moderately wealthy, and less wealthy, the findings can be more widely applicable to the broader society.

Conclusion

The transformation of power dynamics between men and women in contemporary societies, driven by global movements advocating for gender equality, has fostered more equitable family environments. While these shifts have empowered women to cultivate individuality and pursue roles beyond traditional spheres such as

social, economic, and political domains, they have also inadvertently contributed to reduced breastfeeding durations, as mothers increasingly allocate time to non-maternal endeavors. However, contrary to viewing breastfeeding solely as a constraint on women's autonomy, our findings emphasize that psychosocial factors—particularly egalitarian gender role attitudes and maternal competence—play a pivotal role in sustaining breastfeeding practices.

To enhance breastfeeding success, we recommend aligning public health strategies with evolving gender norms by promoting shared caregiving to reduce maternal workload and enable breastfeeding continuity, integrating maternal competence-building into breastfeeding education programs to bolster confidence, and advocating for structural support such as extended maternity leave and workplace nursing facilities to reconcile breastfeeding with women's multifaceted roles. Future policies should recognize that empowerment and breastfeeding need not be mutually exclusive; rather, fostering supportive environments can help mothers navigate both maternal and non-maternal roles effectively.

Declarations

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Conflicts of interest

The authors declared no conflicts of interest.

Ethical considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Written informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed about the study objectives, procedures, and their right to withdraw at any time without consequences. All data were anonymized to

ensure confidentiality, and no identifiable information was disclosed. The authors declare no conflict of interest related to this research.

Code of Ethics

This study was approved by the Ethics Committee of Urmia University of Medical Sciences, Urmia, Iran under the code of IR.UMSU.REC.1401.134

Use of Artificial Intelligence (AI)

N/A.

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Authors' contribution

SP and SR contributed substantially in the conception and design of the study and collected the data. VA Performed the data analysis. SP and SR wrote the text of the original version of the manuscript. All authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

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