

# Marital Intimacy and Predictive Factors Among Infertile Women in Northern Iran

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## ABSTRACT

**Introduction:** Infertility is a stressful state that may decrease attachment between spouses. Marital intimacy is a real need in infertile women.

**Aim:** The aim of this study was to evaluate marital intimacy and predictive factors among infertile women in Northern Iran.

**Materials and Methods:** This cross-sectional study was conducted at Fatemeh Zahra Infertility and Reproductive Health Center of Babol Medical Sciences University in 2014. A total of 221 infertile women participated in this study. The instrument used in this research was Marital Intimacy Need Questionnaire (MINQ). Statistical analyses was performed using linear and logistic regression with  $p < 0.05$  indicating statistical significance.

**Results:** An 88.5% of infertile women had good marital intimacy. The mean and standard deviation of the marital intimacy was  $349.11 \pm 49.26$  and in marital intimacy domains including:

emotional ( $42.28 \pm 7.23$ ), psychological ( $41.84 \pm 7.59$ ), intellectual ( $42.56 \pm 7.46$ ), sexual ( $42.90 \pm 7.41$ ), physical ( $43.59 \pm 6.96$ ), spiritual ( $51.61 \pm 8.06$ ), aesthetic ( $42.66 \pm 6.75$ ), and social intimacy ( $42.59 \pm 6.89$ ). The highest mean of marital intimacy domains is related to spirituality in infertile women. Physical and sexual domains had the high mean in infertile women. The lowest mean in marital intimacy domains was psychological intimacy. There was a significant correlation between the domains of marital intimacy. The strongest correlation was between the physical and sexual intimacy ( $r = 0.85$ ). There was a significant inverse association in marital intimacy with the age difference of spouses ( $p < 0.01$ ), and tobacco use ( $p < 0.02$ ). There was a statistically significant association in the marital intimacy with husband's occupation, and cause of infertility ( $p < 0.02$ ).

**Conclusion:** Early screening and psychosocial intervention strategies suggest in the setting of female infertility to identify and prevent the predictive factors that may cause marital conflict.

**Keywords:** Couple intimacy, Marital intimacy need questionnaire, Marital relationship, Sexual intimacy

## INTRODUCTION

Marital intimacy occurs when spouses express their ideas, emotions, and demands together, and is a real need for humans. It is an interactional procedure in interrelated dimensions of emotional, intellectual, psychological, sexual, physical, spiritual, aesthetic, and social intimacy [1,2]. Sharing positive and negative feelings, fears, concerns, secrets, ideas, lovely thoughts, sex dreams, religion, spirituality, and daily experiences with one's spouse is an important aspect of a successful marriage. The relationship between a woman and her husband should be based on a healthy and dynamic relationship to develop intimacy [1-3]. The review of literature indicated that marital intimacy and its domains had important roles in married adjustments, and were important predictors of general life satisfaction [4]. Lack of intimacy and affection between partners is a critical factor in most marital conflicts and distress [2]. Poor marital intimacy is one of the most important reasons for divorce, and is a main concern in psychology and counseling fields [5,6]. Studies have shown that several factors could affect the intimacy between couples [6]; infertility may be one of the factors affecting marital satisfaction [7]. In fact, infertility is a public health issue across the world, and impacts the stability of individuals and interpersonal relationships [8]. Also, marital intimacy is one of the key issues of couple adjustment and can have an effect on infertility. Therefore, perception of the aspects of marital intimacy in infertile women is necessary. Results of studies about couple relationships in infertility are unclear and conflicting. Some studies reported that infertile couples have poor satisfaction within themselves and experience psychological consequences such as stress, depression, poor marital adjustment, and marital conflicts, which have inverse effects

on fertility [9,10], while other studies revealed that infertility is as bilateral situation, and both the female and male shared infertility crisis. Therefore, infertility had a positive effect on marital intimacy [11]. A review of literatures showed that demographic characteristics such as the women's age, the husband's age, the age difference between the couple, educational levels, occupations, duration of infertility, type of infertility, and duration of marriage were other factors contributing to marital intimacy [12-14]. Screening and identifying risk factors that threaten marital intimacy and devoting attention to women with infertility can be effective steps towards increasing marital intimacy and stability, strengthening family bonds, and successfully treating infertility. Therefore, seeking both clinical identification and scientific studies in marital intimacy is critical when researching infertility. This study focused on evaluating of marital intimacy and predictive factors among infertile women in Northern Iran.

## MATERIALS AND METHODS

This cross-sectional study was conducted at Fatemeh Zahra Infertility and Reproductive Health Research Center of Babol Medical Sciences University in 2014. Of the 230 eligible infertile women, 221 agreed to participate in the study and answered the questionnaires. Study duration was five months. Inclusion criteria were history of  $> 12$  months of infertility, capable of reading and writing, living with husband, without any previous sterility, not having remarriage in men or women, not having foster child. Exclusion criteria were physical and psychiatric problems, experiencing a major change in living for the past three months (difficult sickness or death in the family), currently using psychotropic and antidepressant medications, not having a stable sexual life for four preceding weeks.

This study was approved by the ethics committee of the Babol University of Medical Sciences. Informed consent was obtained from each subject before enrolling in the research.

The study protocol was explained to the participants. Then, the infertile women received self completion questionnaires. Investigators were available if additional information about the questions was requested.

Demographic and personal characteristics such as the woman's age, the husband's age, the age difference between the couple, educational levels, economic status, occupations, current settlement type, duration of marriage, duration of infertility, type of infertility, and cause of infertility was obtained using a self-constructed questionnaire.

Marital intimacy was assessed via Iranian version of Marital Intimacy Needs Questionnaire Bagarozzi (IV-MINQ) [1,15] in the participants of this study. It contains 41 items scored on a ten-point Likert scale. There are eight dimensions of intimacy including emotional, psychological, intellectual, sexual, physical, spiritual, aesthetic, and social intimacy. The  $\alpha$ -Cronbach of reliability for the tool was 0.94. In a similar study in Iran indicated that Cronbach's alpha measurement was 0.92 [13].

## STATISTICAL ANALYSIS

Statistical analysis were performed using Regression models. Simple and multiple linear regressions in continuous and logistic regression in categorical variables were applied to detect predictor factors in marital intimacy among infertile women. Data analyses was done using SPSS software (version 21.0) with  $p < 0.05$  indicating statistical significance.

## RESULTS

Approximately 96.4% of eligible subjects ( $n=221$ ) accepted to participate in this study. The main reason for sampling loss was the lack of willingness of infertile women to answer questions about marital intimacy.

Most of infertile women were housekeepers, while their husbands were self-employed. The economic status in the most infertile women was moderate level. The majority of the infertile women lived in urban areas and had primary infertility. The highest educational level in most of the infertile women and their husband's was diploma. There was a statistically significant difference between the educational levels in couples. A university education was more in wives than their husband's ( $p < 0.05$ ). The duration of marriage in most infertile women was less than five years. The cause of infertility in the most of infertile women was described as male factor. Nearly half of infertile women had been reported using Assisted Reproductive Techniques (ART). The most of infertile women had treatment effort for the first time in the center. A small percentage of infertile women were tobacco users. The demographic characteristics of the study sample are shown in [Table/Fig-1].

The result of present study showed that 88.5% of infertile women had good marital intimacy, 11% moderate, and 0.5% weak. The mean and standard deviation of the marital intimacy was  $349.11 \pm 49.26$ . The highest mean of marital intimacy domains was related to spirituality in infertile women. Physical and sexual domains had the high mean in infertile women [Table/Fig-1]. The lowest mean in marital intimacy domains related to psychological and then emotional intimacy.

There was a significant correlation between the domains of marital intimacy. The strongest correlation value was found between the physical and sexual domains ( $r=0.85$ ). There were the high correlation value between the domains of intellectual with emotional intimacy ( $r=0.82$ ), and also intellectual with psychological ( $r=0.80$ ) [Table/Fig-2].

There was not a significant association between the marital intimacy and age, husband's age, duration of marriage, duration of infertility, level of education, husband's level of education, economic status, job condition, current settlement type, previous using ART, coitus count, type of infertility, and treatment effort. After adjusting others variables, there was a conversely significant association between marital intimacy with the age difference of spouses ( $p < 0.01$ ), and also using tobacco ( $p < 0.02$ ). Another finding in the research was a significant association between causes of infertility with the marital intimacy. When the cause of infertility is related to both "female and male" factors, the risk of poor marital intimacy was 3.74-fold higher than the unknown cause of infertility ( $p < 0.02$ ). In addition, there was a statistically significant association between the marital intimacy and husband's occupation. The marital intimacy scores were lower when husbands were unemployed or worker than when the husbands had other job ( $p < 0.05$ ) [Table/Fig-3].

## DISCUSSION

According to the findings, most infertile women had favourable marital intimacy. Studies by Fooladi E et al., showed that there was an overall decline in marital adjustment in infertile couples. In fact, cooperating and sharing responsibilities between spouses in the process of infertility treatment may increase the couples interest in each other and have a positive effect on their relationships [16]. However, other studies showed that infertile women had a number of stressors and were at high risk for marital conflict, less marital satisfaction, and poor marital adjustment [9,17,18].

The results of the present study showed that the highest mean of marital intimacy domains is related to spirituality in infertile women. Physical and sexual domains had a high mean in infertile women. Basically, spiritual intimacy is important for marital intimacy, and has a direct effect on marital satisfaction. Poor marital satisfaction and divorce were more common in marriages with no religious intimacy than in marriage with religious devotion [19]. Sexual behaviour constitutes the foundation of intimacy structure. The satisfaction from sexual communication had a unique contribution to intimacy of romantic relationships [1,6]. Sexual satisfaction had an important function in marital satisfaction [20]. One possible explanation for this finding is that Iranian couples need more spiritual and physical intimacy dimensions due to the cultural-social customs.

The data obtained revealed that the lowest mean in marital intimacy domains is related to psychological and then emotional measures in infertile women. Basically, infertility is a unique medical challenge, and the experience of infertility influences the infertile couple with deep psychological and emotional tensions [21]. The problem of infertility causes a crisis in a couple's life, and the emotional and psychological aspects of infertility can be very difficult [10], leading to poor marital intimacy. Therefore, emotional adjustment is vital for good interpersonal communication [22], and more attention to psychological and emotional factors is necessary for marital intimacy in infertile women.

According to the present study, there was significant correlation between the domains of marital intimacy. Basically, dimensions of marital intimacy are related, and have important roles in the establishment and persistence of marital intimacy [1]. Carney R reported that all eight domain of intimacy are related with one another. If one domain is missed, couples will lack the intimacy. Each type of marital intimacy improves the other and the inclusion of all types of intimacy in a marriage is the ideal. Therefore, all eight aspects must be continually elevated in status [23].

Our findings showed that the strongest correlation value was between the domains of physical and sexual intimacy. Similar findings were reported by Bagarozzi D, who showed optimum sexual intimacy is achieved by body contact and physical closeness with the spouse [1].

Parameter	Values	Parameter	Values
Age (years)	27.93±5.64	<b>Husband Educational status</b>	
Partner age (years)	31.87±5.43	Low literate	29(131%)
Age difference of spouses (year)	3.95±4.42	High school	69(31.2%)
Duration of marriage (years)	6.27±4.04	Diploma	75(33.9%)
<5	97(43.9%)	University	48(21.7%)
5-10	88(39.8%)	<b>Treatment effort**</b>	
>10	36(16.3%)	First time	138(63.1%)
Duration of infertility (years)	4.19±3.54	Several times	81(36.9%)
<2	47(21.3%)	<b>Infertility type</b>	
2-5	106(48%)	Primary	162(73.3%)
>5	68(30.8%)	Secondary	59(26.7%)
<b>Occupation</b>		<b>Infertility cause*</b>	
Housekeeper	184(83.3%)	Associated with female factors	38(17.3%)
Employed	37(16.7%)	Associated with male factors	82(37.3%)
<b>Husband Occupation</b>		Associated with Female and male factors	34(15.4%)
Unemployed	7(3.2%)	Unexplained factors	66(30%)
Worker	67(30.3%)	<b>Coitus count*</b>	
Employee	38(17.2%)	1-2 times in month	14(6.4%)
Self-employed	107(48.4%)	1-2 times in week	112(50.9%)
Other	2(.9%)	3-4 times in week	79(35.9%)
<b>Current settlement type*</b>		>4 time in week	15(6.8%)
Urban	124(56.4%)	<b>Previous ART use*</b>	
Rural	96(43.6%)	Yes	91(41.4%)
<b>Economic status</b>		no	129(58.6%)
Low	52(23.5%)	<b>Marital Intimacy</b>	349.11±49.26
Moderate	147(66.5%)	Emotional intimacy	42.28±7.23
High	22(10%)	Psychological intimacy	41.84±7.59
<b>Tobacco user</b>		Intellectual intimacy	42.56±7.46
Yes	11(5%)	Sexual intimacy	42.90±7.41
No	210(95%)	Physical intimacy	43.59±6.96
<b>Educational status*</b>		Spiritual intimacy	51.61±8.06
Low literate	27(12.3%)	Aesthetic intimacy	42.66±6.75
High school	45(20.5%)	Social intimacy	42.59±6.89
Diploma	88(40%)		
University	60(27.3%)		

**[Table/Fig-1]:** Demographic characteristics and marital intimacy in infertile women.

Values are mean±SD or number (percentage).

\*The values do not add up to 221 because of the one subject didn't respond to this question (missing values).

\*\* The values do not add up to 221 because of the two subjects didn't respond to this question (missing values).

	Emotional	Psychological	Intellectual	Sexual	Physical	Spiritual	Aesthetic	Social
<b>Emotional</b>	1							
<b>Psychological</b>	0.77	1						
<b>Intellectual</b>	0.82	0.80	1					
<b>Sexual</b>	0.63	0.64	0.72	1				
<b>Physical</b>	0.58	0.61	0.71	0.85	1			
<b>Spiritual</b>	0.58	0.55	0.63	0.66	0.67	1		
<b>Aesthetic</b>	0.52	0.53	0.60	0.55	0.57	0.65	1	
<b>Social</b>	0.62	0.65	0.66	0.64	0.67	0.62	0.65	1

**[Table/Fig-2]:** Marital intimacy domains inter correlations (Pearson r: range = -1.00 - +1.00).

Correlation is significant at the 0.001 level (2-tailed).

Another study showed that intimacy is determined depending on the level of commitment and physical closeness that person experienced in the relationship with the spouse [6]. There was a significant correlation between physical intimacy and marital satisfaction [13].

This study revealed a high correlation value between the intellectual domain and the emotional and psychological domains. Oulia N

et al., showed that marital intimacy was determined according to the level of cognitive and emotional closeness that a person has in a relationship with his spouse and satisfaction of emotional communication was effective in marital intimacy [6]. Persistence of marital intimacy can be reinforced by special emotional relation [1].

The present study found a significant inverse association in marital intimacy with the age difference of spouses. When the age difference

Factors	Simple Linear Regression					Multiple Linear Regression			
	B Standardized	R <sup>2</sup>	p-value	95%CI		B Standardized	p-value	95%CI	
				Low	Up			Low	Up
Age	0.056	0.003	0.415	-0.682	1.648	Constant	0.000	315.086	405.715
Husband age	-0.087	0.008	0.203	-1.983	0.423	.009	0.922	-1.645	1.816
Age difference of spouses	-0.178	0.032	0.008	-3.457	-516	-.171	.019	-3.507	-0.312
Duration of marriage	-0.072	0.005	0.293	-2.487	0.753	-.170	0.186	-5.112	1.001
Duration of infertility	-0.011	0.0001	0.871	-2.004	1.698	0.139	0.211	-1.095	4.925
Tobacco user	-0.148	0.022	0.028	-63.109	-3.557	-.151	.025	-63.504	-4.312
Binary Logistic Regression									
Factor		OR	p-value	95%CI					
				Low	Up				
Housing	Owner								
	Tenant	0.57	0.29	0.205	1.608				
Job condition	Unemployed								
	Employed	0.67	0.54	0.190	2.382				
Treatment effort	First time								
	Several times	1.82	0.09	0.777	3.279				
Educational level	<diploma								
	≥diploma	1.48	0.43	0.559	3.901				
Husband education	<diploma								
	≥diploma	1.12	0.80	0.472	2.633				
Infertility type	Primary								
	Secondary	2.23	0.07	0.931	5.362				
Current settlement type	Urban								
	Rural	1.61	0.27	0.689	3.784				
Economic status	High(R*)		0.79						
	Low	1.56	0.60	0.297	8.16				
	Moderate	1.16	0.85	0.247	5.472				
ART	Yes								
	No	0.96	0.93	0.407	2.274				
Coitus	Weekly								
	Monthly	2.38	0.21	0.614	9.205				
Infertility cause	Associated with unexplained factors(R*)		0.02						
	Associated with female factors	1.76	0.811	0.310	4.463				
	Associated with male factors	0.69	0.563	0.202	2.388				
	Associated with female/male factors	3.74	0.021	1.221	11.231				

**[Table/Fig-3]:** Linear and logistic regression analysis of marital intimacy with the other variables in infertile women.

OR = Odds ratio; CI = Confidence interval; R =Reference

of couples was greater, poor marital intimacy was observed more often in infertile women, which is consistent with the findings of the study by Rahmani A et al., who reported a significant relationship between the age difference of spouses and marital satisfaction. Couples who had a smaller age difference were more satisfied with their marital life [20]. It seems that lack of consistency in couples needs more attention than age proportion in marriage.

The gathered data showed that the use of tobacco has a negative effect on marital intimacy. Studies in the literature showed tobacco use may lead to marital disruptions and divorce. Addiction caused failure of intimate relationships and could also reduce intimacy and sexual satisfaction [20,24].

Our study showed that when husbands were unemployed or worker, the marital intimacy scores were lower than when the husbands had other jobs. Studies in the literature have also shown that one of

the factors affecting intimacy and marital satisfaction is occupation. Better jobs for the husband, higher social status, and a more favourable financial situation are associated with improved sexual satisfaction and marital intimacy. Unemployment and having jobs with low income can have a significant impact on marital intimacy. There was a significant association between daily job stressors (particularly after a heavy work load) with marital problem. There was greater marital anger when husbands had more negative social interactions at work [13,25].

According to the present project, when both "female and male" factors related to the aetiology of infertility, the risk of low marital intimacy was greater. Similar to our study, when the cause of infertility was attributed to both men and women, the marital and sexual satisfaction scores were lower in women [26].

In this study, there was no significant association between marital intimacy and age, husband's age, duration of marriage, duration of infertility, educational level, husband's educational level, economic status, job condition, settlement type, previous using ART, or coitus count in infertile women. Similar studies indicated no association between individual and reproductive characteristics such as occupation, age, duration of infertility, or infertility type with marital satisfaction [13,14].

## LIMITATION

As infertile women in this study from a population that entirely consisted of Muslim women, therefore, the religious and cultural differences may have an impact on the result of study. The sample size was small; therefore, the findings of study could not be generalized to the general Iranian infertile women.

## CONCLUSION

There were the risk factors responsible for poor marital intimacy among infertile women. Therefore, early screening and service support suggested in infertility treatment process.

## AUTHOR CONTRIBUTION

All authors collaborated in this study. Authors PH, BZ and FM performed the design of the study. Analysis was completed by authors PH and BZ. All authors read and confirmed the final manuscript.

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