



Relationship of Women's Marital Intimacy with Health Literacy and Attitudes Towards Extramarital Relations of Husbands with Diabetes

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Abstract

Introduction: Given the considerable negative effects of diabetes, improving health literacy can play a deciding role in preventing and treating such diseases and in saving resources. The present study aimed to investigate the relationship between women's marital intimacy with health literacy and attitudes towards extramarital relations of husbands with diabetes in Ahvaz.

Methods: The statistical population of this descriptive correlational study included all the diabetes patients and their wives in Ahvaz in 2021. The sample of 141 men with diabetes and their wives was selected using convenience sampling. To collect data, the Marital Intimacy Scale, Health Literacy for Iranian Adults (HELIA), and Attitudes toward Infidelity Scale (AIS) were used. The Pearson correlation coefficient and regression were simultaneously used for data analysis.

Results: The results suggested that health literacy ($r = 0.35$) and attitudes towards extramarital relations ($r = -0.27$) in men with diabetes had significant positive and negative correlations with women's marital intimacy, respectively. The regression results indicated that the variables of health literacy and attitudes towards extramarital relations in men had a significant multiple correlation with women's marital intimacy ($P < 0.001$).

Conclusions: The results illustrated that paying attention to health literacy and attitudes of men with diabetes towards extramarital relations for their wives' marital intimacy was more important than ever before.

INTRODUCTION

Diabetes is a complex chronic disease with serious physical, psychological, and clinical complications that can severely diminish the patient's quality of life by influencing all of its dimensions [1]. There are currently over 180 million diabetes patients worldwide, and the number is projected to double by 2030 [2]. The literature suggests that the diabetes prevalence has been rising in Iran in recent years and, unfortunately, many patients are faced with the late complications of diabetes after having developed the illness several years earlier [3].

Diabetes affects various aspects of men's life, including their occupation, quality of life, individual-social and psychological function and, most importantly, sexual performance, thereby reducing their wives' marital intimacy. Marital intimacy is achieved through mutual affection, care, acceptance, understanding, and

satisfaction of each other's needs [4, 5]. It can be considered a psychological situation that does not arise spontaneously and that requires the efforts of both the husband and wife, especially in the early years when marital intimacy is very unstable and relationships face the greatest risk [6].

Another factor that seems to affect women's marital intimacy is their attitudes towards extramarital relations of their husbands—a sexual-emotional or sexual and/or emotional relationship with a person other than the spouse from whom it is kept hidden [7]. One's attitude towards extramarital relations is defined by their transgression of the boundary of the marital relationship by building physical or emotional intimacy with a person outside marriage [8]. Marital infidelity is considered to result from lack of faith, trust, and honesty of the wife or the husband. The general definition of

attitudes toward extramarital relations is the violation of commitment in a mutual relationship that leads to building degrees of emotional and physical intimacy with someone outside the mutual relationship [9]. Although sexual dysfunction is still an under-appreciated, under-recognized, under-discussed, and commonly under-treated complication of diabetes [10], some research has shown that it is more difficult for diabetes patients to reach orgasm compared to healthy people due to vascular changes and nerve damage. In other words, what used to be effective in achieving orgasm is no longer helpful due to diabetes, and this will disrupt the marital satisfaction of the diabetes patient and the sexual partner [11, 12].

It is important to study the factors affecting marital intimacy of wives that have diabetic husbands, including their husbands' health literacy [13]. The results of research suggest that poor health literacy is associated with a high incidence of chronic diseases including diabetes. Given the considerable negative effects of diabetes, improving health literacy can play a deciding role in preventing and treating such diseases and in saving resources [14, 15]. The World Health Organization (WHO) defines health literacy as the cognitive and social skills incentivizing and enabling people to acquire, learn, and use the information for promoting and maintaining good health and hygiene [16]. Health literacy allows disease control and its improvement in men with diabetes and increases women's marital intimacy. Health literacy is an individual's level of capacity to obtain, interpret, and understand the basic information and health services necessary for making the right decisions [17]. Although its effect on health outcomes is not yet clear, there are many reasons suggesting that low health literacy is the cause of undesirable outcomes [18]. Wang et al.'s [19] study concluded that health literacy made diabetes patients see the importance of continuous blood glucose control, improved their quality of life, and increased marital satisfaction. Stichova et al. [20] showed that women with type 1 diabetes (T1D) suffered from sexual dysfunction, which reduced their marital satisfaction. Providing the necessary disease control and treatment training and improving health literacy improved their sexual function and marital satisfaction. Alemayehu et al. [21] showed that health literacy and attitudes towards extramarital relations were related to marital satisfaction in patients with kidney diseases.

Given women's importance and central role in maintaining psychosocial balance in families and their various problems vis-à-vis the development of diabetes in their husbands, it is necessary to make plans for solving the problems they will face. Since the researcher could not find a study that simultaneously covered women's marital intimacy based on health literacy and the attitudes of their diabetic husbands towards

extramarital relations, it was all the more necessary to conduct this research. Accordingly, the present study aimed to investigate the relationship between women's marital intimacy with health literacy and attitudes towards extramarital relations of husbands with diabetes. Hence, it was guided by the following hypotheses: Health literacy is a positive predictor of marital intimacy. Attitudes towards extramarital relations are a negative predictor of marital intimacy. Health literacy and attitudes towards extramarital relations have a multiple correlation with marital intimacy.

METHODS

The statistical population of this descriptive, analytical, and correlational study included all type 1 diabetes (T1D) and type 2 diabetes (T2D) patients who were residents of Ahvaz registered in the Khuzestan Diabetes Association until the end of the year 2021 and their wives. A total of 141 diabetics and their wives were selected using convenience sampling and provided with the questionnaires. Inclusion criteria: informed consent to participate in the study, men with diabetes, age range 30 to 60 years, have at least a middle school education, and no drug addiction. Exclusion criteria: Incomplete questionnaires. In this study, women answered the Marital Intimacy Scale, and husbands with diabetes answered the Health Literacy for Iranian Adults (HELIA), and Attitudes toward Infidelity Scale (AIS). At the completion of the research, the participants and officials were thanked for their cooperation. Finally, the questionnaires were collected and analyzed.

Instruments

Marital Intimacy Scale: Thompson & Walker's [22] Marital Intimacy Questionnaire was designed with 17 items. It measures the level of intimacy in couples. The scores for each item range from 1 (never) to 7 (always), and higher total scores represent greater intimacy. In a study by Amadian et al. [23], Cronbach's alpha was 0.95 indicating good scale score reliability.

Health Literacy for Iranian Adults (HELIA) (18-65 Years of Age): Designed and norm referenced by Montazeri et al. [24] according to Iran's cultural and social norms, this questionnaire has 33 items assessing the five factors of access, reading, understanding, appraisal, and decision. The items are scored using a 5-point Likert scale. This instrument was used in this research because it was localized, all dimensions of health literacy were covered and were assessed separately, and the questionnaire could be completed easily and rapidly. A total of 15 experts in various fields of health qualitatively evaluated the instrument's content validity and their recommended corrections were applied. Construct validity was examined and verified using exploratory factor analysis, and construct reliability was evaluated by calculating the internal

consistency coefficient (ICC). Montazeri et al. [24] reported the reliability of this scale equal to 0.89 based on Cronbach's alpha coefficient.

Attitudes toward Infidelity Scale: Attitudes toward Infidelity Scale (AIS) that was developed by Whatley [25] has 12 items scored on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). A higher total score represents a more positive attitude towards extramarital relations. Whatley's [25] research findings suggested that this scale had desirable validity. The reliability of AIS was reported 0.71 using Cronbach's alpha [26].

Statistical Analyses

SPSS version 25.0 was used to analyze the collected data. The mean and standard deviation were used for the descriptive statistics and correlation and regression were used simultaneously for inferential statistics.

RESULTS

The findings related to the demographic variables showed that 69.56% of the male participants between 8-19 years of age and 31.44% of them between 1-7 years of age suffered from diabetes. In addition, 49.50% of the male participants had T1D and 51.50% T2D. Table 1 presents the mean, standard deviation (SD), minimum, maximum, skewness and kurtosis of the research variables.

Before analysis, the hypotheses data were examined to ensure that the data in this research estimated the underlying assumptions of the regression analysis model. To this end, the regression analysis assumption

was evaluated. Table 1 shows the results of the skewness and kurtosis tests used to check normality of the data. Furthermore, the study of the data revealed that there were no missing data. To detect multicollinearity, tolerance statistics and variance inflation factor (VIF) were used. The obtained values for the variables of tolerance statistics and VIF were 0.731 and 1.368, respectively. Therefore, the VIF value was below 10 and that of the tolerance statistics was higher than 0.1, which suggested that the assumption of no multicollinearity was observed. Table 2 shows the correlation coefficients of the research variables. Table 2 suggests that health literacy had a significant positive correlation with marital intimacy, whereas attitudes towards extramarital relations had a significant negative correlation with marital intimacy.

Simultaneous regression analysis was used to identify the variables that had more effective roles in predicting marital intimacy. Consequently, the variables of health literacy and attitude towards extramarital relations (as the predictive variables) and the variable of marital intimacy (as the criterion variable) were entered into the equation. The results are presented in Table 3. According to Table 3, the regression results suggested that the variables of health literacy variables and attitudes towards extramarital relations had a significant multiple correlation with marital intimacy ($R=0.363$, $p<0.01$). The beta levels and p values for the variables of health literacy and attitudes towards extramarital relations were ($B= 0.29$, $P= 0.001$) and ($B= 0.12$, $P= 0.131$), respectively.

Table 1. Mean $\pm$ SD, minimum, maximum, skewness, and kurtosis of the studied variables

Variable	Mean $\pm$ SD	Min.	Max.	Skewness	Kurtosis
Women's marital intimacy	64.14 $\pm$ 9.43	35	83	-0.62	-1.36
Men's health literacy	88.47 $\pm$ 11.50	50	86	-0.18	-1.31
Men's attitudes toward extramarital relations	47.31 $\pm$ 7.64	21	69	0.26	-1.04

Table 2. Simple correlations between the studied variables

Variable	Women's marital intimacy
Men's health literacy	0.35**
Men's attitudes toward extramarital relations	-0.27**

** $P<0.01$

Table 3. Results of simultaneous regression analysis

Predictor variable	R	R ²	F	P	β	B	P
Men's health literacy	0.36	0.13	15.73	0.001	0.17	0.29	0.001
Men's attitudes toward extramarital relations	0.36	0.13	15.73	0.001	-0.11	0.12	0.131
Constant value	0.36	0.13	15.73	0.001	57.40	-	0.001

DISCUSSION

This study aimed to investigate the relationship between women's marital intimacy with health literacy and attitudes towards extramarital relations of husbands with diabetes in Ahvaz. The results showed that health literacy and attitudes towards extramarital relations had significant correlations with marital intimacy in diabetes patients. Health literacy and attitudes towards

extramarital relations were able to predict 13% of the variance in women's marital intimacy. The first finding indicated that health literacy had a significant positive correlation with women's marital intimacy with their diabetic husbands. This finding is consistent with the results of previous studies [19, 20]. Generally, family strength and stability depend on stable and fundamental marriage and marital relationships; that is, unstable and

poor marital satisfaction compromises the couple's mental peace and threatens the durability and survival of the family. In men with diabetes, improving health literacy and awareness of the effects diabetes has on interpersonal relationships and male sexual function, which decreases women's marital satisfaction, can control diabetes and enhance women's marital intimacy. Health literacy is defined as having access to health services, understanding and using health information systems, interpreting health problems, and making the right decisions. Poor health literacy in diabetes patients causes marital dissatisfaction, which affects the couple's relationship and leads to problems in the foundations of the family [27]. Health literacy increases the ability of men with diabetes to self-regulate their blood glucose and manage diabetes with diet, and raises their awareness of the effects that this disease has on marital life and sex. Health literacy is generally defined as the cognitive and social skills that determine the individual's capacity and ability to acquire, process, understand, and use health information in order to make the right decisions regarding health and eventually promote it [28]. Health literacy affects the psychological states and attitudes of men with diabetes towards sex and marriage and hence influences their wives' sexual satisfaction. It also seems that higher levels of health literacy provide information about sexual physiology and sexual function and thus influence marital satisfaction of their wives [29].

It was also found that attitudes towards extramarital relations had a significant negative correlation with marital intimacy of wives who had diabetic husbands. This finding is consistent with the results of previous studies [30, 31]. In general, it can be acknowledged that marital intimacy depends on how couples interact in stressful situations in life and on how they cope with them because dysfunctional communication models cause significant problems in marriages to remain unresolved and become a source of repetitive conflicts between husband and wife. Since intimacy and good marital relations ensure psychological and physical health in marriage, couples spend most of their emotional and psychological capital to strengthen their marital life. This agreement between them leaves a lower tendency for infidelity [31]. Meanwhile, diabetes in men affects various aspects of their marital relationships, the most important being sexual satisfaction, which can weaken the commitment and love between husband and wife. Men's unawareness of the consequences of failure to alleviate their sexual dysfunction arising from diabetes can reduce their wives' marital satisfaction.

The regression results showed that health literacy and attitudes towards extramarital relations had a significant multiple correlation with marital intimacy. In general, the results can be explained by stating that, in addition to affecting many organs with complications, diabetes

causes major behavioral and social complications. Coping with all these problems and the long treatment process lead to many crises for diabetic patients. This study also showed the growing importance of health literacy in general literacy and healthcare literacy. Health literacy is necessary in relation to individuals' capacities to meet a modern society's complex health needs. Studies by the American Center for Health Care Strategies showed that people with low health literacy, who were less likely to understand written and spoken information from health professionals and follow instructions, had poorer health status. Diabetes is characterized by its many complexities and problems that require extensive self-care training and management. Diabetes patients are often given printed and oral self-care training that requires advanced health literacy skills [32]. Generally, marital satisfaction is closely correlated with sexual satisfaction since sex is an important aspect of life that should be considered extensively in social health and pharmaceutical and medical care. Thus, ignoring this issue can cause sexual dissatisfaction and even affect marital relations. Lack of intimacy and adequate sexual function reduce the attitudes of men with diabetes towards extramarital relations. Therefore, they do not try to take care of themselves, to follow their diet and to seek treatment, thus making their wives dissatisfied. If diabetic men acquire this awareness, they can be expected to seek treatment or control their disease so that they can experience better sexual performance and marital intimacy with their wives and improve their wives' marital intimacy.

The statistical population in this research included men with T1D and T2D visiting endocrinologists in Ahvaz along with their wives. Caution should be exercised in generalizing the results to other populations and patients. Therefore, it is recommended that further research be conducted on other samples to allow generalizability. For better generalizability, it is recommended that future studies apply the variables of the present study on women with diabetes also in order to compare the results of both studies.

CONCLUSION

Health literacy and attitudes towards extramarital relations in men with diabetes had positive and negative correlations with women's marital intimacy, respectively. According to the results of the present study paying attention to health literacy and attitudes of men with diabetes towards extramarital relations for their wives' marital intimacy was more important than ever before. It is also recommended that training workshops be held to improve health literacy and reduce inefficient attitudes in men with T1D and T2D towards extramarital relations to improve their wives' sexual satisfaction and marital intimacy and reinforce marital

and family relationships. Since health literacy can be learned and acquired, medical planners and consultants should pay more attention to it and use mass media to teach these skills to diabetes patients.

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ETHICS CONSIDERATION

The study protocol was approved by the Ethics Committee of Islamic Azad University, Ahvaz branch (code: IR.IAU.AHV.AZ.REC.1401.040).

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Authors had equal contribution to designing study, collecting data, revising the initial draft, and approving the final draft.

CONFLICTS OF INTERESTS

The authors declared no conflict of interest.

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