The Correlation Between Sexual Dysfunction and Marital Dissatisfaction in Women With Type 2 Diabetes Mellitus: A Cross-sectional Study

Soraya Gholami¹, Mahin Kamalifard¹, Niloufar Sattarzadeh Jahdi²*, Jalil Babapour², Foad Yousefi³

Abstract

Objectives: The prevalence of sexual dysfunction and marital dissatisfaction is higher in women with type 2 diabetes mellitus than in the general population. However, the correlation between sexual dysfunction and marital dissatisfaction in diabetic women is debated. The present study investigated the correlation between sexual dysfunction and sexual dissatisfaction in diabetic women. Materials and Methods: In this cross-sectional study, 126 women with type 2 diabetes mellitus, referring to Sanandaj Diabetes Center, Sanandaj, Iran, were compared to 126 randomly selected non-diabetic women referring to Health Centers of Sanandaj, Iran. Women's sexual function was appraised through the female sexual function index (FSFI), and their marital satisfaction was compared using ENRICH (Evaluation and Nurturing Relationship Issues, Communication and Happiness) Marital Satisfaction Scale. Results: There was a positive significant relationship between sexual function and marital satisfaction (P < 0.01, r = 0.675) in diabetic women. In other words, marital satisfaction improved sexual function increases. Conclusions: Marital satisfaction in diabetic women with sexual dysfunction is more unfavorable than in healthy women. Therefore, maximum attention should be paid to the role of sexual dysfunction in the marital relationship of people with diabetes mellitus. Keywords: Sexual dysfunction, Sexual satisfaction, Diabetes mellitus, Type 2

Introduction

Diabetes prevalence is rapidly increasing worldwide; it is estimated that 550 million people will have suffered from diabetes by 2030 (1). Type 2 diabetes mellitus constitutes 90-95% of all detected cases of diabetes mellitus (2). More than 4.6 million Iranians have diabetes mellitus, which triples every 15 years (3). According to the statistics provided by the Iranian Diabetes Association, the prevalence of type 2 diabetes mellitus is two times higher in women than men, and it increases with higher obesity (4). Diabetes mellitus is the cause of physical and mental disorders (3).

Scientists believe that diabetes and insulin resistance are the leading cause of anovulation, infertility, and early abortion in infertile women with type 2 diabetes mellitus. Studies showed that diabetes mellitus is one of the causes of oligomenorrhea (5). In a study in Iran, 60.4% of non-diabetic women had moderate to low sexual satisfaction (6). This disorder is higher, with up to 80% prevalence in diabetic women (7). Sexual dysfunction in diabetic women is more prevalent than in the general population, correlated with diminished quality of life (8). There is a large body of research on sexual dysfunction in diabetic men, but women's sexual dysfunction has received less attention (8, 9). Diabetic people have arousal disorders three times higher than the general population (9). Reduced sexual desire is highly prevalent in diabetic women (10) and is reported to be up to 70% in diabetic women (11).

Diabetic women who experience less conflict in the family tend to better cope with their condition and receive better treatments (12). Marital dissatisfaction and sexual dysfunction, a chronic complexity of diabetes mellitus, are often overlooked in diabetic women (13).

Following searches in google scholar and PubMed databases, a few papers were found about sexual function and marital satisfaction in diabetic women. However, the correlation between sexual dysfunction and marital dissatisfaction in diabetic women is open to debate (13). This study aimed to investigate the correlation between sexual dysfunction and sexual dissatisfaction in diabetic women.

Materials and Methods

This cross-sectional study evaluated the sexual function of 30-50-year-old women with type 2 diabetes mellitus referring to Sanandaj Diabetes Center, Sanandaj, Iran, compared to non-diabetic women referring to health centers in Sanandaj, Iran. Inclusion criteria were no history of surgical operation over the last three months, no genital sores or lumps, living with current husband in the previous six months, monogamous husband, and no
Sexual function and marital satisfaction in women with type 2 diabetes mellitus are lower than in healthy women, and there is a significant relationship between sexual satisfaction and marital process.

Results
The mean age of women was 46.74 and 40.85 years in the diabetic and healthy groups, respectively. Diabetic women had more than five pregnancy experiences (66.9%). There was a significant difference between the two groups regarding the number of pregnancies. In the healthy group, most women used natural methods for contraception (40.5%), while most women in the diabetic group used tubal ligation (47%) ($P=0.042$). The results showed that sexual function was statistically different between the two groups (28.83 ± 12.1 versus 29.89 ± 9.8, respectively; $P=0.044$). Sexual function and its subdomains were compared between two groups. There were significant differences among the two groups regarding desire, lubrication, orgasm, satisfaction, and pain. The difference between the two groups was not significant in terms of arousals (Table 1). The results show that marital satisfaction score was statistically different between the two groups (114.5 ± 36.40 versus 108.51 ± 34.87, respectively; $P=0.000$). The results showed no important relationship between sexual function and marital satisfaction of healthy women ($P<0.01$, $r = 0.28$). There was a positive (direct) significant relationship between sexual function and marital satisfaction ($P<0.01$, $r = 0.675$) in diabetic women. In other words, marital satisfaction improved with increased sexual function (Table 2).

Investigating the relationship between sexual function and demographic characteristics in healthy women showed a significant positive relationship between women's age, husband's age, number of pregnancies, and number of children. There was also a significant negative relationship between the ages of marriage. In women with diabetes mellitus, there was a significant negative relationship between their age and their husband's age, and there was a meaningful positive relationship between the periods of marriage. Investigating the relationship between...
marital satisfaction and demographic characteristics in two groups showed a significant negative relationship between women's age, husband's age, and the number of children. Also, in women with diabetes mellitus, there was a significant positive relationship between the ages of marriage and marital satisfaction (Table 3).

Discussion
The present study results showed that the prevalence of sexual dysfunction and marital dissatisfaction in women with type 2 diabetes mellitus was higher than in healthy women. There was a significant positive relationship between sexual function and marital satisfaction in diabetic women.

Fatemi and co-workers conducted a study and evaluated the sexual function in women with type 2 diabetes mellitus. Their results showed that the sexual function score in sexual desire, stimulation, vaginal wetting, orgasm, and overall sexual satisfaction in the diabetic group was lower than in the control group (17).

Parinan and colleagues showed a significant difference between diabetic and non-diabetic women in terms of the total score of sexual function of 180 women referred to health facilities in Mashhad, Iran (18). Also, the results of some studies showed that the mean sexual score performance in people with diabetes mellitus was lower than in the control group (19-21).

In the study in Feisal Abad and others, Pakistan, which was done on 100 women, their score for marital satisfaction was 49.7 ± 10.5 (22). Trudel and Goldfarb concluded that sexual function and marital satisfaction were highly correlated (23). The studies mentioned above are in line with the present study's findings. Unlike our results, Alikamali et al showed a non-significant difference in sexual desire between healthy and diabetic women. The causes of this difference probably relate to the sample size and methodology of both studies (24).

A systematic study showed that diabetes mellitus, by damaging different organs, causes disorders in sexual response and reduces the quality of life in affected women (25). Khazaei and co-workers found a significant relationship between sexual dysfunction and low marital satisfaction in Iranian married students (26), which differed from the present study's findings in the control group. The causes of this difference probably relate to the age and education of participants.

Another study on diabetic women showed that successful treatment of low sexual desire was related to significant improvement in marital satisfaction (13). It has been reported that improving 'couples' sexual relationships leads to an improved marital relationship (27).

This study investigates the positive relationship between sexual function and healthy women's age, their husband's age, the number of pregnancies, and the number of children. There is also a significant negative relationship between marriage ages and sexual function. In women with diabetes mellitus, there was a significant negative relationship between their age and their husband's age. Also, there was a meaningful positive relationship between the periods of marriage and sexual function.

The present paper’s results of investigating the

Table 1. Sexual Function and its Subdomains in Women With and Without Type 2 Diabetes Mellitus

<table>
<thead>
<tr>
<th>Subdomains</th>
<th>Healthy Women (n = 127)</th>
<th>Diabetic Women (n = 127)</th>
<th>P Valuea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire</td>
<td>3.40 ± 1.5</td>
<td>4.52 ± 1.1</td>
<td>0.000</td>
</tr>
<tr>
<td>Arousal</td>
<td>5.17 ± 3.1</td>
<td>5.35 ± 3.8</td>
<td>0.672</td>
</tr>
<tr>
<td>Lubrication</td>
<td>6.82 ± 2.7</td>
<td>5.6 ± 3.6</td>
<td>0.003</td>
</tr>
<tr>
<td>Orgasm</td>
<td>4.95 ± 2.1</td>
<td>4.29 ± 2.7</td>
<td>0.036</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>2.50 ± 2.1</td>
<td>4.20 ± 1.8</td>
<td>0.000</td>
</tr>
<tr>
<td>Pain</td>
<td>7.03 ± 2.9</td>
<td>4.81 ± 4.3</td>
<td>0.000</td>
</tr>
<tr>
<td>Sexual function (total)</td>
<td>29.98 ± 9.8</td>
<td>28.83 ± 12.1</td>
<td>0.044</td>
</tr>
</tbody>
</table>

* Data are expressed as mean ± SD.
* Independent t test.

Table 2. Correlation between Sexual Function and Marital Satisfaction in Diabetic and Healthy Women

<table>
<thead>
<tr>
<th>Marital Satisfaction</th>
<th>Healthy Women</th>
<th>Diabetic Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson’s coefficient</td>
<td>-0.007</td>
<td>0.568*</td>
</tr>
<tr>
<td>Level of significance</td>
<td>0.938</td>
<td>0.000</td>
</tr>
<tr>
<td>Number</td>
<td>127</td>
<td>127</td>
</tr>
</tbody>
</table>

* Significant correlation at 0.01.

Table 3. Investigating the Relationship between Demographic Features with Sexual Function and Marital Satisfaction

<table>
<thead>
<tr>
<th>Sexual Function</th>
<th>Marital Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Healthy Women</td>
</tr>
<tr>
<td></td>
<td>Coefficient</td>
</tr>
<tr>
<td>Her age</td>
<td>0.25</td>
</tr>
<tr>
<td>Husband’s age</td>
<td>0.29</td>
</tr>
<tr>
<td>Age of marriage</td>
<td>-0.24</td>
</tr>
<tr>
<td>Age of first pregnancy</td>
<td>-0.11</td>
</tr>
<tr>
<td>Number of children</td>
<td>0.40</td>
</tr>
<tr>
<td>Number of pregnancies</td>
<td>0.37</td>
</tr>
</tbody>
</table>

*Pearson correlation coefficient.
relationship between marital satisfaction and demographic characteristics showed that in healthy women and women with diabetes mellitus, there was a significant negative relationship between their age, their husband's age, and the number of children. In women with diabetes mellitus, there was a meaningful positive relationship between marital satisfaction and age of marriage.

The results of the study entitled “correlation between marital satisfaction and sexual dysfunction in women with type 2 diabetes” showed that sexual function had a significant relationship with the age of the control group (28), which was consistent with the findings of the present study. Still, the age of women with type 2 diabetes significantly did not affect the sexual dysfunction, which differed from the current paper's findings.

Another study stated a negative relationship between the age of diabetes mellitus and all stages of sexual function (29). The studies showed that different factors affect marital satisfaction, including effective communication methods for solving marital conflicts, mutual respect, premarital relationship, consistency, live time together, the number of children in the family, and the combination of the above factors. For example, the age of marriage is one of the critical factors that, based on being high or low experiences, can significantly affect marital satisfaction (30). In our study, duration of marriage and aging were other factors that probably affected this satisfaction.

Limitations of the Study

- Since the statistical population included 30-50-year-old females with and without type 2 diabetes mellitus referred to Sanandaj health centers, the results were therefore generalizable to the population mentioned above.
- Data collection instruments were questionnaires that were administered on a self-report basis.
- Complete sample matching was not possible because of the large sample size.

Conclusions

A correlational (not causal) link was found in the present study between sexual dysfunction and marital dissatisfaction, but it cannot be determined which variable is the cause and effect. Since the present article points out the correlation between marital satisfaction and sexual dysfunction in women with diabetes mellitus, there is hope that treatment of sexual dysfunction in this group of the population could improve their marital satisfaction. According to the present findings and given the family's unique role in providing a favorable environment and the increased possibility of controlling diabetes mellitus due to improved interpersonal relationships among couples, it is necessary to focus on the correlation between marital satisfaction and sexual function.

It is suggested that healthcare staff, from endocrinologists, family practitioners, nurses, and midwives, who work with diabetic women, should pay more attention to promoting marital satisfaction among these women.

Authors’ Contribution

SG, MK, and NSJ conceived and designed the study. JB prepared the data analysis. FU conducted the study. MK and NSJ critically revised the manuscript. All authors have read and approved the final manuscript and take responsibility for the integrity of the data.

Conflict of Interests

The authors declare that they have no competing interests.

Ethical Issues

The study proposal was approved by the Ethics Committee of Tabriz University of Medical Sciences, Tabriz, Iran (Code: TBZMED.REC.1394.1133). All participants were informed about the study’s aims and procedures and signed the written consent before participating in the study.

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References


