

SEXUAL DYSFUNCTION IN WOMEN WITH TYPE 2 DIABETES

Background. Low-income minority populations have higher rates of depression and minimized control of diabetes. Diabetes mellitus is a major health problem with an incidence of 500,000 newly diagnosed Americans each year and is known as a leading cause of male erectile dysfunction. However, sexual dysfunction in women with diabetes is less known. Patients with diabetes have lower libido; men may have lower testosterone levels; and, individuals with diabetes may experience decreases in genital sensation and lubrication, which leads to sexual dysfunction and thus, affects a person's quality of life. Depression also affects a person's sexual function but few or no studies have examined sexual dysfunction in people with diabetes who are depressed, which may be a confounder to a low or non-existent sexual desire.

Objectives. The main outcomes of the larger study were to achieve glycemic control and quality of life, in terms of treating depression. For this portion of the study, our aim was to determine the prevalence of sexual dysfunction in a low-income minority population with type 2 diabetes and to determine if treating depression would improve sexual dysfunction and the quality of life in African American and Latino women.

Methods. This study was a randomized, placebo-controlled trial treating and following depressed, patients with diabetes for a period of six months while the patients were using a selective serotonin releasing inhibitor to treat depression.

To collect relevant data we used the Diabetes-39 Quality of Life Questionnaire, which is divided into five categories: energy and mobility, diabetes control, anxiety and worry, social burden, and sexual functioning. We examined three items from this questionnaire related to sexual activity: 1) Does diabetes interfere with your sex life? 2) Are there problems with sexual functioning? and 3) Is there a decreased interest in sex?

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INTRODUCTION

Diabetes is a major health problem with an incidence of 500,000 newly diagnosed Americans each year and a leading cause of male erectile dysfunction. However, little is known about female sexual dysfunction among patients with diabetes. In women, diabetes can lead to hardening of the blood vessels of the vaginal wall. Decreased blood flow can affect vaginal lubrication, causing the vagina to be too dry for comfortable intercourse.

Latinos and African Americans have some of the highest rates of diabetes among populations in America. Approximately 9.5% of Latinos have diabetes and Mexican Americans are 1.7 times as likely to have diabetes as non-Hispanic Whites. Residents of Puerto Rico are 1.8 times as likely to have diagnosed diabetes as U.S. non-Hispanic Whites. Approximately 3.2 million African Americans, aged 20 years or older, have diabetes, placing African Americans 1.8 times as

likely to have diabetes as non-Hispanic Whites. One in four African American women over the age of 55 has diabetes. However, because studies among women with diabetes, depression, and sexual dysfunction are rare, we conducted research on this topic.

Sexual dysfunction is a decrease in, or lack of, sexual satisfaction. A woman's sexual health can be greatly affected in many ways: 1) infections and irritation: high blood glucose levels, yeast infections and vaginal irritation; 2) low blood flow, eg, vascular damage; 3) medication: tranquilizers, birth control pills, high blood pressure medication; and 4) menopause: its effects on the body may cause a serious change in the sexual function.

Being diagnosed with diabetes affects arousal and decreases genital sensation and lubrication, which may inhibit women from reaching sexual satisfaction. Women with sexual dysfunction experience decreased arousal, desire, and orgasmic capacity because of inadequate stimulation.

Table 1. Psychosocial factors that can contribute to sexual dysfunction

Groups	Psychosocial Factors
Intrapersonal conflicts	Social restrictions Sexual identity conflicts guilt
Interpersonal conflicts	Extra-marital affairs Sexual libido Desire Practices different from partner
Historical factors	Poor sexual communication Past or current abuse Rape Sexual inexperience
Life stressors	Financial Family Job problems Depression

Studies have shown depression correlates with diabetes and it has been shown to be a psychosocial factor involved in sexual dysfunction. Researchers have categorized psychosocial factors that can contribute to sexual dysfunction into four groups (Table 1).

Psychological effects of diabetes may manifest themselves through problems of self-image, loss of self-esteem, feelings of unattractiveness, loneliness, and isolation. Sexual function can be severely affected when a woman has diabetes.

DESIGN AND METHODS

This study was a six-month, randomized, placebo-controlled trial treating and following patients with diabetes who were using a SSRI to treat depression. The main outcomes for the study were glycemic control and quality of life; however, for this portion of the study, our aim was to determine the prevalence of sexual dysfunction in a low-income minority population with diabetes and to determine if treating depression will improve sexual dysfunction along with quality of life.

We used the following measures to assess depression and quality of life among the study population.

- 1) Ham-D: Hamilton Depression Scale. A 21-question survey validated to determine severity of depression in an individual.
- 2) DIS: Diagnostic Interview Schedule. A highly reliable structured lay-administered interview developed to assess psychiatric conditions.
- 3) Diabetes-39: Quality of Life Questionnaire. This 42-item questionnaire assesses the influence of various life situations on an individual's behavior. The tool consists of six categories; we used the sexual functioning subscale.

In this first year of a four-year study, we took the following steps to de-

termine levels of sexual function in our study population:

1. Recruited potential subjects from King/Drew Medical Center's 5B Diabetes Clinic (20 patients/year for 4 years).
2. Screened for depression by asking patients two questions from Whooley's Two Question Case Screening:
 - a. "During the past month, have you often been bothered by feeling down, depressed or hopeless?"
 - b. "During the past month, have you often been bothered by having little interest or pleasure in doing things?"
3. If subject answered 'yes' to either question, he/she was asked to participate and sign an informed consent form.
4. A formally trained research coordinator conducted the Diagnostic Interview Schedule (DIS).
5. Patients whose DIS was positive for depression were given the HAM-D questionnaire to determine the severity of depression and the Diabetes-39 Quality of Life Questionnaire that includes three specific questions related to sexual dysfunction.
 - a. "Does diabetes interfere with your sex life?"
 - b. "Are there problems with sexual functioning?"
 - c. "Is there a decreased interest in sex?"
6. Subjects who qualified and agreed to participate had their vital signs taken and an EKG completed.
7. Visit 2: subjects had vital signs taken and labs drawn.
8. Visit 3: during this randomization visit, the patients received either a placebo or drug.
9. Visits 4-9: during these monthly visits, blood was drawn, vital signs taken, and a repeat of the three questions.

10. Recorded and created database; the data was coded and evaluated through Statistical Analysis System (SAS). A *P*-value of $<.05$ was considered significant in variable relationships.

RESULTS

Participants for the study were 16 women; 15 were Hispanics/Latino and one was African American.

Of the patients, 87.5% had an uncontrolled HbA1C level. Responses to the three questions related to sexual dysfunction were:

- a. 46% did not feel diabetes affected their sex life and 20% did.
- b. 44% had no problems with sexual functioning.
- c. 46% did not feel decreased interest in sex.

DISCUSSION: SUMMARY, CONCLUSION, IMPLICATIONS

We found that most of our patients had uncontrolled HbA1C levels. While the majority indicated diabetes did not affect their sexual satisfaction, this could be explained by our small sample size ($n=16$) or by the fact that the type of personal questions asked could have been uncomfortable for some subjects.

The best way to avoid diabetes-related sexual dysfunction is to manage one's disease by following physicians' orders and having adequate self-health management. Therefore, maintaining good blood glucose levels will lessen the risk for neuropathy, circulatory problems, and chronic infections.

Our research will continue to recruit 20 female patients per year for four years, which will continue to increase our sample population. We will also begin visit 3 after DIS results are

calculated, which provides subject with placebo/medication.

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RESOURCES

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