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Post-Diabetes Sexual Behavioural Changes Among Male Type-2 Diabetes Patients in South-West Nigeria

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ABSTRACT

INTRODUCTION: Diabetes Mellitus (DM) a metabolic disorder is characterized with reduced post-diabetes quality of sexual life among male patients. However, the subject of post-diabetes sexual behavioural changes including fears and concerns remain a much neglected area among diabetes patients even though it is important for their reproductive function.

AIM/OBJECTIVES: This study was aimed at investigating the post-diabetes sexual behavioural changes among male type-2 diabetes patients in Adeoyo Maternity Teaching Hospital Ibadan.

METHODS: A sampled 277 male diabetic patients were recruited to a cross sectional study. A well-structured questionnaire which comprised of socio-demographic characteristics, behavioural changes that led to post-diabetes sexual dysfunction, and Libido/sexual desire of the respondents was used to collect the data. The data was analysed using SPSS Version 21.

RESULTS: More than one-third of the respondents 101(36.50%) were between the ages 50-59 years while 252(91.0%) were married and 171(61.70%) attained secondary school education. Majority of the sampled respondents 218(78.70%) affirmed to have diminished desire for sexual intercourse and 201(72.60%) affirmed not to have had satisfactory sex in the last 6 months. In addition, most 182(65.70%) consented not to experience orgasm out of which 231(83.40%) consented to be bothered by its absence. The factors highlighted by the respondents that led to post-diabetes sexual dysfunction were changes in libido 200(72.70%), medications 172(62.10%) and fatigue 154(55.60%).

CONCLUSION/RECOMMENDATION: The study showed diminished desire for sexual intercourse and unsatisfactory sex among the respondents. Post-diabetes sexual counseling by clinicians, health educators and endocrinologist is recommended for male DM patients in order to mitigate the impact of post-diabetes complications on the sexual and reproductive health of male DM patients.

Keywords: Type-2 Diabetes Mellitus; Post-Diabetes; Sexual Desire; Sexual Dysfunction; Complications

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INTRODUCTION

The increasing number of male patients with type-2 diabetes mellitus has become worrisome to experts in the field of medicine^[1]. This is because apart from affecting men in their most productive age, diabetes mellitus prevalence is closely correlated with decline in fertility^[2,3]. Onset of Sexual complications such as sexual dysfunction is common among male type-2 diabetes patients, and they can negatively impact their quality of life^[4,5]. Reported forms of male sexual dysfunctions include erectile, ejaculatory and orgasmic dysfunctions and decreased libido^[6]. This sexual dysfunction has a long term effect on the sexual performance on men as most might not be able to achieve and maintain an erection of sufficient rigidity for insertion and

thrusting until completion of the sexual act. This lack of sexual satisfaction might result in strain relationships between couples as both would have to adjust sexually in dealing with the disease^[7,8,9]. For instance studies have shown that couples presenting less marital satisfaction due to diabetes report less communication, problem resolution skills and more difficulty in handling tasks related to diabetes^[10,11,12]. Diabetes mellitus is a disease that requires sexual behavioural changes as patients must understand the post diabetes changes that would likely occur in living with the disease. Also, they must have knowledge of the type of strategies to develop in either adjusting or mitigating these changes in order for them to still enjoy sexual performance with their partners. Not many diabetes patients have knowledge of sexual adjustment such as stimulating desire for sexual intercourse, handling anxiety and bladder function during sexual intercourse, creating a romantic atmosphere for themselves and their spouses and increasing their sexual libido. Thus it is important to study the post diabetes sexual behavioural changes of male diabetes patients in order to understand their sexual challenges and design program to address these challenges as sexual health and post diabetes behavioural changes among diabetes patients remains a much neglected area of study in clinical and social medicine even though it is important for their psychological and social well being as well as reproductive function^[13].

METHODS

Study Design

The study design was a descriptive cross sectional design

Study Area

The study area was Ibadan, the capital and most populous city in Oyo State South-Western Nigeria. It is the country's largest city by geographical area with a total area of 1,190sq m (3, 080km²) metropolis and urban area of 2, 600sq m (6, 800km²).

Study Population

Male type-2 diabetes mellitus patients constituted the study population. All the patients were registered patients at the Adeoyo Teaching Hospital Ibadan.

Inclusion Criteria

All patients included in the study were diagnosed type-2 diabetes patients, registered patients at the Adeoyo Teaching Hospital Ibadan and gave informed consent to participate in the study.

Sample Size Determination

From $n = \frac{z^2 Pq}{d^2}$ (formular for sample size determination)

Where $z = 1.96$ at 95% confidence level

$n =$ minimum sample size

$P = 57.4\%$ prevalence of erectile dysfunction ^[14]

$q = 100 - 57.4 = 42.6$

$d = 5\%$ (degree of accuracy desired)

$$n = \frac{1.96^2 \times 57.4 \times 42.6}{5^2}$$

$$n = \frac{3.8416 \times 57.4 \times 42.6}{25}$$

$$n = 375$$

$$\text{From } n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} \text{ (finite population correction for proportions)}$$

n = sample size

n₀ = calculated sample = 375

N = population size = 1056

$$\therefore n = \frac{375}{1 + \frac{(375 - 1)}{1056}}$$

$$n = \frac{375}{1 + \frac{374}{1056}}$$

$$n = \frac{375}{1 + 0.3542}$$

$$n = \frac{375}{1.3542}$$

$$n = 277$$

So the sample size for this study was 277.

Sampling Method

A purposive sampling method was adopted for this study.

Data Collection Instruments

A semi-structured questionnaire was used to collect the data. The questionnaire consists of three sections which include socio-demographic characteristics, Behavioural changes that led to post Diabetes sexual dysfunction, and Libido/sexual desire of the respondents.

Data analysis

Data retrieved from the questionnaires were analysed using the Statistical Product for Service Solution (SPSS) Version 21. Descriptive and inferential statistics was used in presenting the results.

Ethical Considerations

Ethical approval was obtained from the ethical committee of Adeoyo Teaching Hospital Ibadan Oyo State.

RESULTS

Socio-demographic Characteristics of the respondents

According to Table 1 below more than one third of the respondents 101(36.50%) were between the ages of 50-59 years while majority 246(88.80%) were Yoruba and majority 252(91.0%) were also married. Furthermore, almost two third of the respondents 171(61.70%) attained at least secondary school and 174(62.80%) were private businessmen.

According to table 2 below majority of the respondents affirmed that they do not have desire for sexual intercourse now as before while majority affirmed to set some time aside to

share and discuss how they feel with their spouse and 253(91.30%) affirmed to create a romantic atmosphere for them and their spouse. In addition, majority of the respondents 271(97.80%) agreed to have had sex since becoming diabetic and majority 256(92.40%) also affirmed to emptying bladder before having sex to avoid any mishap.

As shown in table 3 below, majority of the respondents 271(97.80%) described themselves as sexually active people before coming down with diabetes, of which more than one third 94(34.70%) affirmed to having sex thrice weekly. Furthermore, 268(96.80%) of the respondents affirmed to share other forms of physical affection with their partner while 249(89.90%) said they would prefer to have sexual intercourse weekly, few 3(1.10%) affirmed to prefer daily. Majority 263(94.90%) affirmed not to have masturbated in the last six months and 201(72.60%) affirmed not to have had satisfactory sex within the last six months.

Table 1 Socio-demographic characteristics of the respondents.

Variable	Frequency	Percentage
Age		
30-39	20	7.20
40-49	59	21.30
50-59	101	36.50
60-69	66	23.80
70-79	31	11.20
Ethnic Group		
Yoruba	246	88.80
Igbo	9	3.20
Hausa	8	2.90
Efik	5	1.80
Ikwerre	9	3.20
Marital Status		
Married	252	91.0
Co-habiting	7	2.50
Divorced	12	4.30
Widowed	6	2.20
Educational Status		
Primary	38	13.70
Secondary	171	61.70
Tertiary	58	20.90
Arabic	8	2.90
None	2	0.70
Occupation		
Private Business	174	62.80
Civil Servant	32	11.60
Retired	27	9.70
Farmer	8	2.90
Artisan	36	13.10

Table 2 Behavioural changes that led to post Diabetes sexual dysfunction.

Factors	Frequency	Percentage
Fatigue		
Yes	154	55.60
No	123	44.40
Changes in Libido		
Yes	200	72.20
No	77	27.80
Medications		
Yes	172	62.10
No	105	37.90
Bladder function		
Yes	146	52.70
No	131	47.30
Anxiety		
Yes	105	37.90
No	172	62.10
Do you have desire for sexual intercourse now as before		
Yes	59	21.30
No	218	78.70
Do you set some quiet time aside to share and discuss how you feel with your spouse		
Yes	248	89.50
No	29	10.50
Does your spouse understand you		
Yes	260	93.90
No	17	6.10
Do you create a romantic atmosphere for you and your spouse		
Yes	253	91.30
No	24	8.70
Have you had sex after having diabetes		
Yes	271	97.80
No	6	2.20
If yes do you choose a time when you are well rested		
Yes	262	96.70
No	9	3.30
Do you empty bladder prior to avoid any mishaps		
Yes	256	92.40
No	21	7.60

Table 3 Libido/sexual desire of the respondents.

Variable	Frequency	Percentage
Prior to the appearance of your illness would you have described yourself as a sexually active person		
Yes	271	97.80
No	6	2.20
If yes how frequently were you engaging in intercourse		
Thrice weekly	94	34.70
Four times a week	72	26.60
Five times a week	31	11.40
Almost daily	74	27.30
Do you share other forms of physical affection with your partner such as kissing or hugging (or both) daily basis		
Yes	268	96.80
No	9	3.20
How often would you prefer to have sexual intercourse		
Daily	3	1.10
Weekly	249	89.90
None	25	9.0
In the recent past (in the last six months) have you masturbated		
Yes	14	5.10
No	263	94.90
If yes estimate how often this has occurred		
Quite Often	5	35.70
Rarely	9	64.30
In the recent past (in the last six months) have you had satisfactory sex		
Yes	76	27.40
No	201	72.60
If yes estimate how often this has occurred		
Very Often	22	28.90
Sometimes	47	61.80
Most times	7	9.20

Majority of the respondents 242(87.40%) agreed to initiating sexual activity with their spouse with 147(53.10%) affirming to having intercourse twice per week and almost two third 182(65.70%) affirming to not experiencing a climax or orgasm. In addition, majority of the respondents 197(71.10%) said they prefer information on right diets to manage sexual health as information to improve their sexual life (Table 4).

Table 4 Libido/sexual desire of the respondents.

Variable	Frequency	Percentage
Considering your current regular sexual relationship who usually initiates sexual activity		
Yourself	242	87.40
Your Spouse	3	1.10
Not sure	32	11.60
Your current frequency for intercourse is how many times per week		
Twice a week	147	53.10
Thrice a week	69	24.90
Four times a week	18	6.50
Not Active	43	15.50
During sexual activity either alone or with a partner can you experience a climax or orgasm		
Yes	95	34.30
No	182	65.70
If orgasm does not occur are you bothered at all by its absence		
Yes	231	83.40
No	46	16.60
What health information do you need to improve your sexual life		
Health tips to improve sexual function	58	20.90
Drugs/medications to increase the turgidity of the organ/penis	22	7.90
Information on right diets to manage sexual health	197	71.10

DISCUSSION

According to the findings of the study the factors that led to post diabetes sexual dysfunction were changes in libido, medications and fatigue. Fatigue is one of the symptoms of diabetes as patients are easily tired after little work, so it is not surprising the respondents were attributing fatigue as one of the factors leading to post diabetes sexual dysfunction. Studies have shown the association between levels of testosterone in diabetic men and their desire for sex [15,16,17,18]. Men with diabetes often experience blood vessel damages which affect blood flow to the penis and also nerve damages making it more difficult for them to maintain erection [19]. Therefore, it is not surprising that the respondents highlighted changes in libido as one of the factors that has led to post diabetes sexual dysfunction. This finding was similar to a previous study where the respondents complained of decrease sexual desire, orgasmic dysfunction and sexual satisfaction [20]. Oral medications are associated with effects that are involved in hypoglycaemia, weight gain and loss of bone [21]. Although, there is paucity of study on the real mechanism and pathogenesis of how side effects from medication influence sexual health of type-2 DM patients, it is possible side effects of medications could affect sexual health of type-2 DM patients. Previous studies have shown over 50% of men with DM have bladder dysfunction. This is as a result of urologic

complications which have profound effect on the quality of sexual life of men with type-2 DM [22,23]. Consequently, the respondents highlighted bladder function as one of the changes that led to post diabetes sexual dysfunction.

Furthermore, majority of the respondents affirmed not to have desire for sexual intercourse now as before they were diagnosed with type-2 DM. This probably affirms the effect of type-2 DM on the quality of sexual life of male type-2 DM patients. The respondents affirming that they do set some quiet to share and discuss how they feel with their spouse is a good sign of coping mechanism of DM management and care. This is because social support especially from spouse has been shown to be beneficial to DM patients as it improves treatment outcomes [24,25,26,27]. This could serve as a platform for future intervention in improving the quality of sexual life among this group of patients. Furthermore, despite the low desire for sexual intercourse among the respondents, majority affirmed that they still create a romantic atmosphere for themselves and their spouse and 97.80% affirmed they have had sex since been diagnosed with DM. This should not be surprising though because in the African setting it is normal for the man or husband to have sexual intercourse with the wife whether he is diagnosed with disease or not. From the finding of the study majority of the respondents considered themselves to be sexually active prior to be diagnosed with DM. This is because according to them they engage in sexual intercourse daily, thrice and four times weekly respectively. However, buttressing how DM might have affected their sexual performance majority consented to prefer having sexual intercourse weekly and not daily and that they have not had satisfactory sex in the last 6 months. This shows the possible impact of DM on the sexual lives of the respondents. Lack of sexual desire is a commonly described sexual problem among men with DM [28].

The frequency of sexual intercourse among the respondents shows that 15.50% affirmed that they are no longer active, 53.10% affirmed to have sex twice a week and 24.90% thrice a week. However, majority of the respondents affirmed not to experience orgasm and they were bothered by its absence. This finding is not surprising as sexual dysfunction in men have been shown to include orgasmic and ejaculatory problems, decreased libido and erectile dysfunction [29]. The finding of the study was similar to a study in Egypt where orgasm was difficult or absent in 84% of their patients and the mean current frequency of sexual intercourse was about 3.3 times/month among the patients [30].

CONCLUSION

The study highlighted post-diabetes quality of sexual life of male type-2 DM patients and the factors that led to the post-diabetes sexual dysfunction. Thus, according to the findings of the study DM reduces the quality of sexual life of male DM patients including their sexual satisfaction as a result of non-occurrence of orgasm during sexual intercourse. Therefore, all stakeholders in the health sector more importantly public health professionals and clinicians who attend and counsel these patients on daily basis need to understand how DM affect reproductive health which is a very essential part of men's lives, pay more attention to the sexual history and health needs of affected individuals so as to help them and their partners achieve a healthy sex life post diabetes.

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