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EVALUATION OF ERECTILE DYSFUNCTION AMONG TYPE 2 DIABETES MELLITUS PATIENTS IN KING ABDULAZIZ HOSPITAL (NGH) IN ALAHSA REGION, SAUDI ARABIA

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Abstract:

Erectile dysfunction (ED) is the consistent or recurrent inability to achieve and/or maintain a penile erection that is sufficient for a satisfying sexual intercourse. Erectile dysfunction (ED) is a common problem that manly affects men >40 years, one of the major risk factors for developing Erectile dysfunction is type 2 diabetes mellitus. We aim in this study to assess the prevalence and risk factors of erectile dysfunction among Type 2 diabetes mellitus patients in King Abdulaziz Hospital (NGH) in Alahsa region, Saudi Arabia. A total of 107 patients participated in the study, the data were collected using a two parts questionnaire. 76.6% of the patients were officially diagnosed with type 2 diabetes mellitus, the average results of the HA1C test of the respondents were 8.1 ± 1.569%, indicating elevated levels of blood sugar. At the same time, all the respondents suffered from erectile dysfunction, and many of them also had comorbid adverse health conditions, such as hypertension, dyslipidemia, benign prostatic hyperplasia, chronic kidney disease, or ischemic heart disease. Since male patients are usually reluctant to start discussing their erectile dysfunction with their doctors, it is important for physicians (such as urologists) to ask their patients (especially those with Type 2 diabetes mellitus) if they have this problem, so that proper management techniques could be prescribed to increase these patients' quality of life.

Key Words: Erectile dysfunction, erectile disorder, impotence, type 2 diabetes mellitus, low libido

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INTRODUCTION:

Diabetes mellitus (DM) is a chronic metabolic disorder affecting the level of glucose in blood. Type 2 diabetes mellitus (T2DM), which is the most common type of DM, is characterized by insulin resistance or by decrease of its production leading to hyperglycemia. [1,2] The number of cases of DM has been rising fast in the past three decades, reaching over 400 million cases worldwide. Moreover, it is estimated that over 1.5 million people die to DM and its complications each year. [1-3]

In Saudi Arabia, the rate of DM cases is one of the highest in the world, reaching a 10-fold increase in the past three decades and affecting over a quarter of the population, which is expected to double in the next decade. [4,5] Complications of T2DM include cardiovascular complications, diabetic foot, infections, nephropathy, neuropathies, physical and functional limitations, and sexual dysfunctions such as erectile dysfunction. [1,6]

Erectile dysfunction (ED) is the consistent or recurrent inability to achieve and/or maintain a penile erection that is sufficient for a satisfying sexual intercourse. [7,9] ED is a common problem that manly affects men >40 years. Risk factors associated with developing ED include cardiovascular diseases, metabolic syndrome, hypertension, and diabetes. [7-10] Men with ED can suffer from low life quality, depression, and an increased risk of a cardiovascular disease. [6-10,12] Despite that, many patients tend to not report self-report this issue, and therefore, it must be inquired by the physician. [7]

Studies have shown that ED is more prevalent in DM patients than in the control groups, being almost three times more prevalent in DM patients. However, the prevalence of ED in diabetic patients varies much between studies; estimates range from 35% to 90%. [9,10,12] In Saudi Arabia, the data about the prevalence of ED among diabetic patients is limited and varies between studies.

Objectives of the Study:
This study aims to assess the prevalence and risk factors of erectile dysfunction among Type 2 diabetes mellitus patients in King Abdulaziz Hospital (NGH) in Alahsa region, Saudi Arabia.

MATERIALS AND METHODS:

This is a cross sectional study that was conducted in King Abdulaziz Hospital (NGH) in Alahsa region, Saudi Arabia.

A total of 107 patients took part in the study. The inclusion criteria were male patients, aged 18 years or more, and having the diagnosis of Type 2 diabetes mellitus. The data were collected using a questionnaire. The questionnaire was divided into two parts. The first part contained the biographical data of the patient and his medical history. The second part contained an ED assessment using the IIFE questionnaire, which is a simple and reliable method for the assessment of ED that has been validated in Arabic.

The questionnaire was distributed to patients visiting the outpatient clinic at King Abdulaziz Hospital (NGH) in Alahsa region, Saudi Arabia. The sampling technique used was convenience sampling. The collected data was statistically analyzed using IBM SPSS program, version 26.

RESULTS:

SPSS version 26 was used to analyze the data. The confidence interval used was 95%. The p-values of less than 0.05 were considered to be statistically significant. Independent samples t-test was used to establish the difference between two means. Chi-square test of independence was used for establishing the relationship between two variables.

The sample size was 107, all males with erectile dysfunction. The mean age and the standard deviation were 60.07 ± 10.022 years, with a minimum of 29 and a maximum of 80 years, as shown in Figure 1 below. Kolmogorov–Smirnov test had a value of 0.079, p-value of 0.981, indicating the normality of the data. HA1C was obtained from 72 of the patients, whereas HA1C results of 25 patients were missing. The mean of those 72 results was $8.1 \pm 1.569\%$, minimum 5% and maximum 13%. In addition, 76.6% of the patients were diagnosed with type 2 diabetes mellitus. The comorbidities recorded were ischemic heart disease (8 patients), benign prostatic hyperplasia (13 patients), chronic kidney disease (10 patients), dyslipidemia (54 patients), hypertension (64 patients). Of the 107 patients, 75 reported that they were satisfied with the end results of their ED management, 27 reported that they were not satisfied, and 5 of them had missing data. It should be noted that out of 107 respondents, 74 used medications (ex: PDE5 inhibitors, PE1 and SSRIs) as their method of managing ED, 28 used procedural methods (such as prosthesis), and 5 of them did not use any methods to manage ED. Of those who used medications, 52 (70.27%) were satisfied, and 23 (82.14%) of those using procedural methods were satisfied, and no one

reported being satisfied with using no method of management (Figure 2).

Using Chi Square test of independence, it was discovered that there was a significant relationship between the method of management of ED and the level of satisfaction (χ (2,107) =68.802, p= 0.0001). Regarding the independent samples t-test, there was no significant difference in the mean age between those who were satisfied with the end results and those who were not satisfied (t (100) =0.114, p= 0.196). Moreover, there was not a significant difference between satisfied and unsatisfied patients in the mean of HA1C (t (68) = 0.316, p= 0.877).
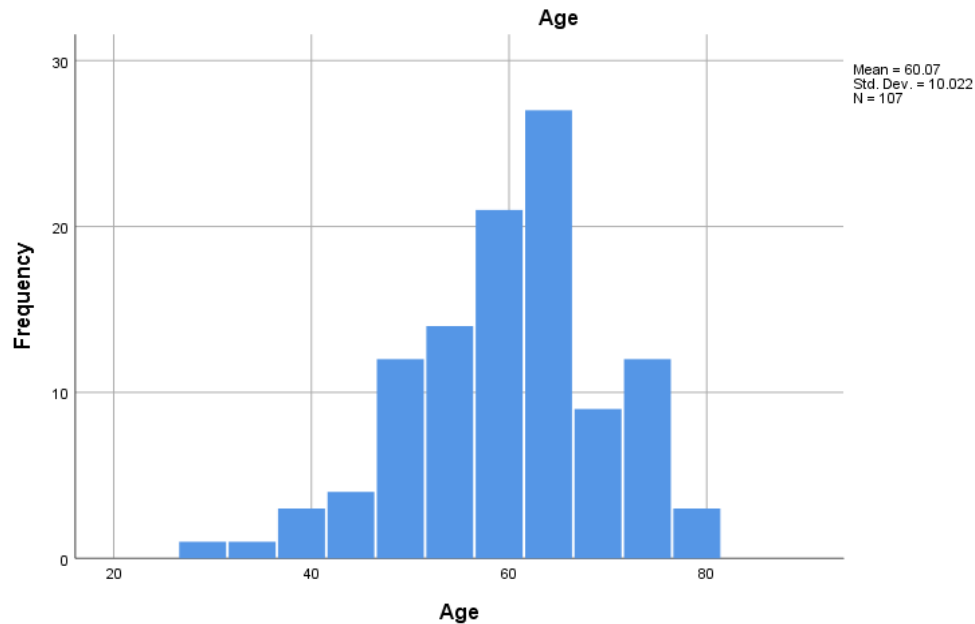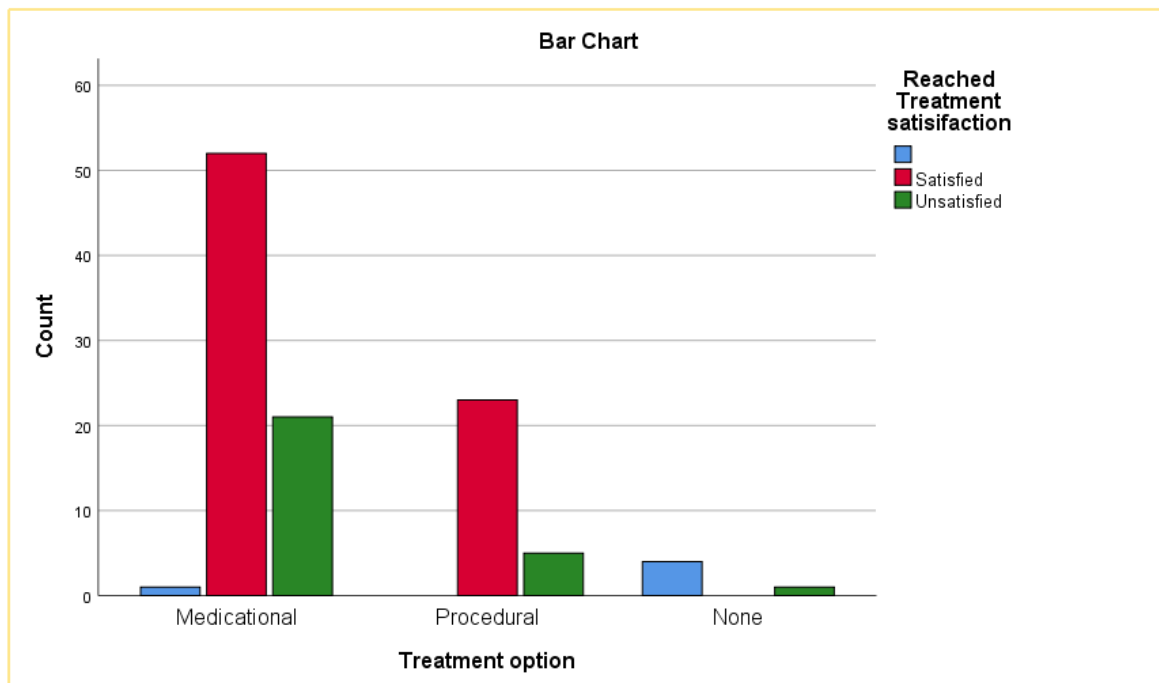

Figure 1: Age

Figure 2: Level of satisfaction and treatment methods

DISCUSSION:

From the analysis that was provided above, it can be seen that most of the patients were of advanced age (mean of 60.07 ± 10.022 years old). Even though only 76.6% of the patients were officially diagnosed with type 2 diabetes mellitus, the average results of the HA1C test of the respondents were $8.1 \pm 1.569\%$, indicating elevated levels of blood sugar. At the same time, all the respondents suffered from erectile dysfunction, and many of them also had comorbid adverse health conditions, such as hypertension, dyslipidemia, benign prostatic hyperplasia, chronic kidney disease, or ischemic heart disease.

During this study, it was discovered that most of the patients took steps to manage their erectile dysfunction problems: out of 107 respondents, only five (4.67%) did not use any erectile dysfunction management techniques. The rest of the sample (95.33%) used different methods, and there was a statistically significant difference in patient satisfaction with these various methods. It is apparent that in the given sample, the procedural methods of erectile dysfunction management (such as prosthesis) were the most effective in terms of patient satisfaction (82.14% of those who used them were satisfied with the results). Medications for managing erectile dysfunction were comparably effective (70.27% of respondents using them were satisfied with the outcomes). At the same time, patients who did not use any methods for managing erectile dysfunction remained unhappy with this health condition. It is noteworthy that neither the age of the patients nor their levels of HA1C were significantly associated with their levels of satisfaction with the erectile dysfunction management methods.

It is important to stress that the majority of the men who used various erectile dysfunction management techniques were satisfied with the results, whereas those who used no management techniques were unsatisfied. Given that Saudi men are generally reluctant to report erectile dysfunction to physicians [12], it is important for doctors such as urologists to ask their patients (in particular, those with type 2 diabetes mellitus) about whether they experience this condition, so that proper management techniques could be recommended to these men to increase their satisfaction and quality of life.

The current study had a few significant limitations which need to be discussed. First, it is noteworthy that a convenience sample of individuals was used in this research. This may limit the external validity (generalizability) of the results, because there might be selection bias in the study, and the sample might not adequately represent the wider population. Furthermore, since data was only obtained in the King Abdulaziz Hospital, it might be even more problematic to generalize these results to e.g., the whole Saudi Arabia. In addition, it should be noted that not all the respondents were officially diagnosed with Type 2 diabetes mellitus, so it is apparent that in some of them (those who had no diabetes), the erectile dysfunction was a consequence of some other problem(s).

CONCLUSION:

All in all, it should be stressed that Type 2 diabetes mellitus is a considerable risk factor for erectile dysfunction among men. The latter disorder usually affects men of more advanced age, but younger males may also be affected. At the same time, various erectile dysfunction management techniques appear to be successful overall, as the majority of respondents using them report that they are satisfied with the results. Since male patients are usually reluctant to start discussing their erectile dysfunction with their doctors, it is important for physicians (such as urologists) to ask their patients (especially those with Type 2 diabetes mellitus) if they have this problem, so that proper management techniques could be prescribed to increase these patients' quality of life.

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