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Psycho-sexual Disorders in Clinic Diabetes mellitus Patients of a Teaching Hospital of Eastern Nepal

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Abstract

Background: Diabetes mellitus, a chronic disease, is frequently associated with sexual dysfunctions. Identification and management of these dysfunctions are important for overall wellbeing of the patient, though usually neglected. We lack data on this regard from Nepal. **Objective:** To estimate prevalence of psycho-sexual disorders (with emphasis on erectile dysfunction) in the patients with diabetes mellitus visiting 'Diabetes clinic' of a tertiary care teaching hospital in eastern Nepal. **Method:** It is a hospital-clinic based prevalence study. This study analyzed consecutive diabetes mellitus clinic patients' response to self response questionnaires 'Arizona Sexual Experience Scale' (ASEX) for over all sexual dysfunction and '5- Item Version of the International Index of Erectile Dysfunction' (IIEF-5) for erectile dysfunction. 'Diabetes mellitus' diagnosis was made based on the ADA guidelines 2010. **Results:** Among 100 male clinic diabetes patients, majorities were married, above age 50 years and all diagnosed as type 2 diabetes mellitus. Out of total, 48% had sexual dysfunction by the ASEX and many subjects had erectile dysfunction by the IIEF-5. **Conclusion:** Psychosexual dysfunctions, mainly erectile dysfunction are common among diabetic patients. Hence, assessment should include attention to sexual problems as well during management of diabetes mellitus.

Key words: ASEX, Diabetes-mellitus, erectile dysfunction, psychosexual dysfunction

Introduction

Diabetes Mellitus (DM) is one of the most common chronic diseases, with prevalence of about 2%.¹⁻⁴ Sexual health of these patients, frequently forgotten has surfaced out with the passage of time⁵⁻⁹ though many patients and their family may not express in the first instance. Cultural, societal, educational and many other factors may play a role in the manifestation, expression and help seeking for these psychosexual problems.¹⁰ In Nepalese context, people may hesitate to seek help for the underlying sexual symptoms.¹¹ Psychosexual problem, e.g. erectile dysfunction worsens 'quality of life' of these people. Hence, its timely

recognition and management is important. We lack data on this aspect.

This hospital clinic based prevalence study was conducted in 'Diabetes clinic' of B. P. Koirala Institute of Health sciences (BPKIHS), Nepal in March 2011- May 2012 to detect psychosexual problems with the focus on erectile dysfunction (ED) through the use of standard instruments called the 'Arizona Sexual Experience Scale' (ASEX) and the '5- Item Version of the International Index of Erectile Dysfunction' (IIEF-5). Overarching the project would be to draw attention to this usually concealed and forgotten problem and to facilitate management at all levels through a multi-specialty clinic for these needy people.

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Materials and Methods

Design: It is Institute Hospital based prevalence/

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descriptive study conducted among diabetes mellitus patients.

Subjects: We enrolled 100 consecutive male out-patients and in-patients with diabetes mellitus coming into the contact of the investigating team during study period of March 2011- May 2012. Male outpatients and inpatients aged more than 15 years admitted through Diabetes clinic to the wards that were either previously or newly diagnosed diabetic cases in B.P.K.I.H.S., Dharan were included in the study (irrespective of marital status).

Diagnosis of diabetes mellitus was done as per the American Diabetes Association (ADA) 2010 guidelines:¹²

- Fasting venous plasma glucose ≥ 126 mg/dl (7.0 mmol/L)
- Two hour venous plasma glucose (post 75 gm glucose) ≥ 200 mg/dl (11.1mmol/L)
- HbA1C $\geq 6.5\%$

Subject enrolment: Male participants diagnosed with DM providing informed written consent were enrolled. Information related to their socio-demographic profiles and illnesses were collected in semi-structured proforma. Sexual dysfunctions were screened with the use of the instrument 'Arizona Sexual Experience Scale' (ASEX)¹³ and erectile dysfunction with the '5- Item Version of the International Index of Erectile Dysfunction' (IIEF-5).¹⁴

- Arizona Sexual Experience Scale (ASEX): This simple scale was developed by the department of Psychiatry and Psychology, University of Arizona and department of Psychiatry and behavioral sciences, Stanford University to measure 5 items identified as core elements of sexual function. These 5 items sexual drive, arousal, penile erection/ vaginal lubrication, ability to reach orgasm and satisfaction from orgasm are rated on a 6-point Likert scale ranging from 1 (hyperfunction) to 6 (hypofunction). The scale has two versions, one for males and one for females, with difference in question 3 that references penile erections versus vaginal lubrication. The scales are easy to complete and the results may be used to assess current levels of sexual dysfunction (SD) or to monitor changes in

sexual dysfunction over time following clinical interventions. A total score of more than 18 on the ASEX or a score of 5 (very difficult) or greater on any one item is associated with clinical sexual dysfunction.¹³ It has an excellent internal consistency, reliability and validity.¹⁵ It is self-rated scale and takes about 5-10 minutes. It may be completed/ rated by the interviewer.

- '5- Item Version of the International Index of Erectile Dysfunction' (IIEF-5): An abridged, 5-item version of the International Index of Erectile Function IIEF-5 is also known as the Sexual Health Inventory for Men (SHIM). The IIEF-5 is an excellent diagnostic test for erectile dysfunction (ED). This abbreviated questionnaire is a two-thirds reduction in the number of original IIEF items, from 15 to 5 providing a quick and reliable assessment tool. The IIEF-5 consists of Items 5, 15, 4, 2, and 7 from the IIEF. The items of IIEF-5 questionnaire have been rephrased to address the past six months of sexual activity. The sensitivity is reported as 0.98 and the specificity as 0.88.¹⁴ It is self-rated scale and takes about 5-10 minutes. It may be completed/ rated by the interviewer.
- Semi-structured proforma: It was designed to cover all information related to their socio-demographic profiles.

Data processing: Regular meetings and interactions were held to sort out difficulties. The coded proforma were collected at the end of the week by research staffs. On receiving proformas, the informations were entered into computer and data were analysed using 'statistical package for social studies' (SPSS 17). The output of the project provided data on the sexual dysfunction (SD) with focus on erectile dysfunction (ED). Prevalence rates were calculated as mean.

Ethical consideration: The study was initiated after the approval of the 'Ethical Review Board' of the institute (IERB Ref.- Aca. 590/067/068). Informed written consent was taken from the subjects. Strict confidentiality of information was maintained and it was utilized for the research purpose and the case management. The result was presented in institute scientific forum.

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Results

Among total enrolled 100 male subjects, all had type 2 diabetes mellitus (DM). Ethnicity distribution of the subjects showed that the top 4 common castes according to the number of subjects in the clinic of the institute were: Upper hill, disadvantaged non-dalit Terai, relatively advantaged Janajati and disadvantaged hill Janajati (Table 1).

Table 1: Caste-ethnicity Distribution of Diabetes-clinic service attenders

Ethnic groups	No./ %	Ethnic groups	No./ %
Upper hill	24	Disadvantaged nondalit Terai	24
Upper Terai	3	Disadvantaged hill Janajati	20
Relatively advantaged Janajati	21	Hill dalit	8
Religious minority	0	Disadvantaged Terai Janajati	0

Average age was 52.64 (32 minimum, 78 maximum) years. Most of the patients were above 50 of age. Most of them (50%) came from urban, some (38%) semi urban and less (12%) from rural background (Figure 1).

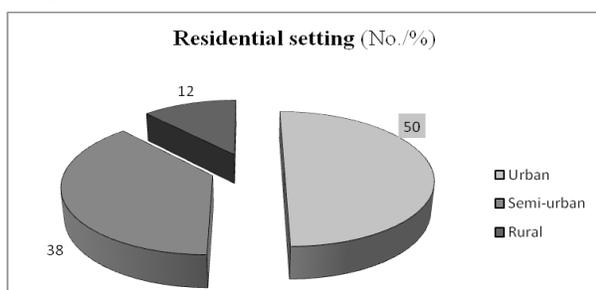


Figure 1: Residential settings

From information given by respondents, only two patients were single, rest married and 5 did not reply. As per the criteria of at least 1 item with score of 5, overall score of 18 and 3 items with 4 scores, 48% had significant sexual dysfunction (SD) (Table 2).

Table 2: Sexual dysfunction by ASEX questionnaire

Sexual dysfunction by	No./%
Total score 18	38
Item with score 5	24
3 item with score 4	40
Any of the criteria	48

Only 22% denied any and 28% had only mild erectile symptom/dysfunction. About half of the

subjects had moderate or severe degree of erectile dysfunction (ED).

Table 3: Erectile dysfunction among Diabetes-clinic service users

Grading of erectile dysfunction	Number (%)
No (22- 25)	22
Mild (17- 21)	29
Mild to Moderate (12- 16)	31
Moderate (8- 11)	14
Severe (5- 7)	4

Discussion

Diabetes mellitus (DM) is the most common endocrinal disorder with the prevalence of 6- 7.6 % in the west.¹⁻³ The prediction of 35% increase in the worldwide prevalence of diabetes in between 1995 and 2025 and the greater rising number of people with diabetes mainly in developing countries, leading to more than 300 million globally by 2025 are alarming.¹ Nepal lies in 'diabetic zone' and has been reported with the highest prevalence of pre-diabetes among the SAARC countries.^{2,3} A community survey in eastern Nepal showed the prevalence of 3- 8%.⁴

The disease may lead to various complications due to affect in the small (e.g. retinopathy, nephropathy, and neuropathy) and large vessels (e.g. ischemic heart disease and stroke). A greater prevalence of psychiatric problems has been found in our institute as in other places.¹⁶ The disease has a tremendous impact on the 'quality of life'.

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Various studies done suggest that sexual dysfunctions (SD) are more common in DM (both type I and type II) than in the general population. Loss of/ reduced libido, erectile dysfunction, premature ejaculation are commonly reported among male diabetics and reduced sexual response among females.⁵ They may arise from a variety of vascular, neurologic, and hormonal derangements. Other factors such as psycho-social stressors and comorbidities might also play a significant role. The prevalence of these SDs may differ with a number of demographic and clinical factors such as: age, duration of DM, physical complication, control of blood sugar, BMI etc.^{6,17} In this study, all the cases were type II diabetes mellitus and the overall psychosexual dysfunction (SD) was found in 48% DM clinic patients by using the ASEX. We studied only among male subjects whereas females are also reported to be affected in similar fashion.¹⁸ This rate of our study coincides with an Indian study conducted in a similar DM clinic of a hospital setting using the SCID-IV and the ASEX to diagnose SD.¹⁷

Erectile dysfunction (ED), one of the sexual disorders/ dysfunctions (SD) has been reported at least 3 times more common among DM people than among general population.⁷ ED is emerging as an important complication of diabetes in South Asians as revealed in a review by Gupta et al.¹⁹ After taking into account the confounding role of age, the prevalence of ED was found to be 37% in type II and 51% in type I DM.⁸ ED may also be the presenting symptom for DM and may predict later neurologic sequelae.⁹ Mean age in our study was above 50, i.e. 52.64 (32 minimum, 78 maximum) years. This is relatively elder than in an Ethiopian study with relatively younger age (43.39 years) showing a lower ED rate (69.9%).²⁰ ED was present in many (78%) cases in our study as found through the '5- Item Version of the International Index of Erectile Dysfunction' (IIEF-5), nearly half of the subjects had moderate or severe degree of ED and 28% had mild erectile symptom/dysfunction. This finding is consistent with an Indian study conducted with same tool the IIEF-5 in similar set up and subjects of relatively similar ages.²¹ This ED prevalence rate is, however higher than that reported by Kumar et al. (58%)²² and the pooled prevalence in patients with DM in Africa reported by Shiferaw et al. (71.45%).²³

Since this study was conducted in a diabetes clinic of a teaching institute in a sensitive issue like sexual problem where people may not open up readily and our subjects were mainly elderly above 50, the finding may not be generalized. Looking intensively into the underlying factors, like: age, duration of DM, physical complication, glycemic control, BMI, psychological, psychiatric, socio-cultural and other factors could be undertaken in future studies for comprehensive understanding. Large sample size and intensive study is warranted for the same.

Conclusion

Nearly half of the male diabetic patients had some sexual dysfunction (SD). Many of the clinic visitors with DM had erectile symptom/ dysfunction (ED). About half of them had either moderate or severe symptoms.

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