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Original Research Article

Quality of life in patients of erectile dysfunction: a cross sectional study in tertiary care settings

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ABSTRACT

Background: Normal sexual desire coupled with physical inability to act is a major source of mental stress in interpersonal relationships which subsequently affects the quality of life of patients.
Methods: The present cross sectional study was conducted among patients of erectile dysfunction visiting the Urology OPD of tertiary care hospital. Study instruments used were international index of erectile function (IIEF) to assess sexual functions and version of the WHO QOL scale (WHOQOL-BREF) to assess quality of life.
Results: 168 patients were interviewed and 62.5% of them were less than 45 years of age. Age, income and presence of co-morbidity were found to be statistically significantly associated with ED ($p<0.05$). Overall QOL scores were lower in severe grades of ED as compared to milder grades and this difference was found to be statistically significant ($p<0.05$).
Conclusions: Erectile dysfunction has a significant impact on the quality of life of the patients which reemphasizes the need to diagnose and manage ED at the earliest.

Keywords: Erectile dysfunction, Quality of life, Severity, Risk factors

INTRODUCTION

Sexuality is an integral part of well being for human and proper sexual functioning comprises an important component of the quality of life (QOL).[1] Erectile dysfunction (ED) has been reported in high prevalence and incidence among various studies conducted across the world. ED has been defined as the lack of ability to achieve or maintain an erection sufficient for satisfactory sexual performance.[2]

According to WHO, the QOL is an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.[3] A number of socio-demographic factors like age, level of education, marital status, structure of the family, social and interpersonal factors etc can impact the QOL in a broader perspective. Nevertheless, disorders in interpersonal relationships, problems in sexual life, issues with partners and psychological ill health are associated with physical inability for sexual desire, thus affecting patients life especially in terms of quality.[4] The impact of ED on health related quality of life (HRQOL) is of particular concern to the treating physicians as they work to balance a variety of conditions and treatments- all of which may affect HRQOL.

Advancements in Pharmacological science and research have created new data on prevalence, treatment and costs

of ED but research on HRQOL has been given less priority especially in developing countries.[5-8]

It was in this context that the authors planned to conduct a study to assess quality of life in patients with different severity of erectile dysfunction visiting a tertiary care hospital in North India.

METHODS

The present cross sectional study was conducted among patients attending urology clinic of Super speciality hospital in Jammu. The study was conducted from 1st July to 31st December 2018 and was duly approved by IEC of GMC, Jammu.

The patients of ED attending the OPD of urology Clinic formed the study group. The patients were explained the purpose of the study and those willing to participate were included. Informed verbal consent was followed by the conduct of the interview. The patients were administered IIEF questionnaire followed by assessment of Quality of Life using WHOQOL-BREF questionnaire. It was ensured that the interview is conducted in privacy. A predesigned, pretested semi structured questionnaire was used to elicit socio-demographic information like age, residence occupation education, income, marital status etc.

Study tools

International index of erectile function (IIEF) was used to assess sexual functions. It consists of 15 questions which further signify five domains like sexual desire, erectile function, satisfaction with reference to intercourse, orgasmic function, and overall satisfaction. The tool - IIEF tool was translated into Hindi language, this was followed by a pilot study on a small sample of patients to arrive at the final translated version.[9]

Scores in all the domains of sexual function were calculated and severity of dysfunction was classified as no dysfunction, mild, moderate and severe dysfunction.

Brief version of the WHO QOL scale (WHOQOL-BREF) which is derived from the WHOQOL-100. The WHOQOL-BREF questionnaire contains 24 items of satisfaction that are classified into four domains: Domain 1 (physical health with 7 items), Domain 2 (psychological health with 6 items), Domain 3 (Social relationships with 3 items) and Domain 4 (environmental health with 8 items). In addition, there are two items that are examined separately i.e. about an individual's overall perception of quality of life and about an individual's overall perception of their health. The four domain scores denote perception of the individual regarding quality of life in each domain. All the items were rated on Likert scale with 5-points. Domain scores are scaled in a positive direction thus higher scores denote higher quality of life. By adding scores of individual items with in the domain, the total scores of each domain are calculated and then they are transformed in scale of 0-20 and 0-100 using WHO Reference table given in manual of QOL.[10]

The study was conducted twice a week and about 2-3 patients were interviewed depending on the availability of the patients and their willingness to participate. In this manner, a total of 168 patients were enrolled during the six month period.

Statistical analysis

Data thus collected was tabulated and analysed. Test of significance used was Chi-square and values <0.05 were considered statistically significant.

RESULTS

A total of 168 cases of erectile dysfunction were registered in the present study, out of which 31(18.5%) had mild ED, 74 (44%) had mild-moderate ED, 39 (23.2%) had moderate ED and 24(14.3%) had severe grade of ED (Figure 1).

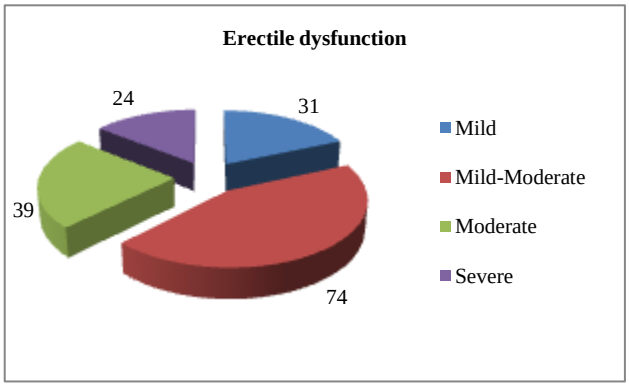

Figure 1: Different grades of severity of erectile dysfunction.

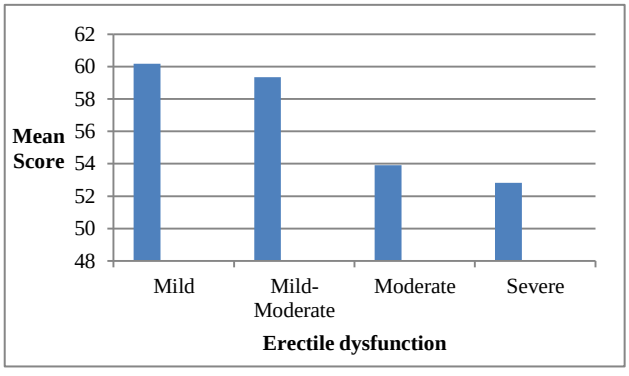

Figure 2: Mean total domain score of QOL among different grades of severity of erectile dysfunction.

Almost 2/3rd of cases (62.5%) were <45 years of age group, with a mean age of 35.2±10.14 years. Majority (54.3%) of younger age group subjects (<45 years) were

suffering from mild to moderate grade of ED while at the same time, moderate grade of ED was seen maximally (30.2%) in older subjects. Age when analysed according to severity of ED, a statistically significant association was seen ($p<0.05$). Employment status was found to be significantly associated with the severity of ED, with greater proportion of subjects employed in one or other sector showing higher grades of ED as compared to unemployed ones. Subjects with annual family income <5 lakh were showing higher prevalence of severe grades of ED as compared to ones with higher family income and the difference was found to be statistically significant. Other socio-demographic factor which has shown a significantly positive association with the severity of ED, using chi square test was presence of any chronic co-morbidity (Table 1).

Table 1: Socio-demographic characteristics among cases of erectile dysfunction (n=168).

Socio-demographic factors	N (%)	Erectile dysfunction				P value
		Mild (n=31)	Mild-Moderate (n=74)	Moderate (n=39)	Severe (n=24)	
		N (%)	N (%)	N (%)	N (%)	
Age (in years)						
<45	105 (62.5)	17 (16.2)	57 (54.3)	20 (19)	11 (10.5)	0.006*
≥45	63 (37.5)	14 (22.2)	17 (26.9)	19 (30.2)	13 (20.6)	
Residence						
Urban	99 (58.9)	22 (22.2))	42 (42.4))	22 (22.2)	13 (13.1)	0.46
Rural	69 (41.1)	9 (13)	32 (46.4)	17 (24.6)	11 (15.9)	
Literacy level						
Illiterate	22 (13.1)	5 (22.72)	8 (36.36)	6 (27.27)	3 (13.63)	0.91
10^{th} pass	87 (51.8)	16 (18.39)	38 (43.67)	22 (25.28)	11 (12.64)	
Hr. sec & above	59 (32.2)	10 (16.94)	28 (47.45)	11 (18.64)	10 (16.94)	
Employment status						
Employed	149 (88.7)	24 (16.1)	63 (42.3)	38 (25.5)	24 (16.1)	0.012*
Unemployed	19 (11.3)	7 (36.8)	11 (57.9)	1 (5.3)	0 (0.00)	
Type of employment						
Labour	39 (26.2)	10 (25.64)	17 (43.58)	8 (20.51)	4 (10.25)	0.11
Business	74 (49.7)	8 (10.81)	37 (50.00)	20 (27.02)	9 (12.16)	
Service	32 (21.5)	5 (15.62)	8 (25.00)	9 (28.12)	10 (31.25)	
Others	4 (2.7)	1 (25.00)	1 (25.00)	1 (25.00)	1 (25.00)	
Annual family income						
<5 lakh	79 (47)	10 (12.65)	30 (37.97)	24 (30.37)	15 (18.98)	0.016*
≥5 lakh	89 (53)	21 (23.59)	44 (49.43)	15 (16.85)	9 (10.11)	
Any chronic morbidity						
Present	127 (75.6)	19 (14.96)	54 (42.51)	32 (25.19)	22 (17.32)	0.04*
Absent	41 (24.4)	12 (29.26)	20 (48.78)	7 (17.07)	2 (4.87)	

Table 2: Mean scores of different domains of QOL among cases of different grades of severity of erectile dysfunction.

QOL Domains (Mean±SD)	Erectile dysfunction				P value
	Mild (n=31)	Mild-moderate (n=74)	Moderate (n=39)	Severe (n=24)	
Physical	58.15±15.4	53.98±14.7	51.95±13.3	50.89±14.3	0.22
Psychological	58.10±14.9	57.30±12.6	48.61±17.5	46.10±16.5	0.0006*
Social relationship	62.65±12.9	61.53±13.9	56.40±14.7	54.56±14.3	0.048*
Environmental	61.77±13.4	64.56±16.2	58.64±15.9	59.78±15.1	0.23
Overall QOL	3.66±0.7	3.51±0.8	3.38±0.8	3.07±0.9	0.04*
Overall satisfaction with health	3.26±0.8	3.10±0.8	2.95±0.8	2.68 ±0.7	0.04*

*Statistically significant.

Table 2 depicts that when mean scores of different domains of QOL were compared among cases with different grades of severity of ED using ANOVA test, a statistically significant difference in scores was observed for psychological domain and social relationship. Scores for overall QOL and overall satisfaction with health were

lower in severe grades of ED as compared to milder grades and the difference was again found to be statistically significant ($p<0.05$).

DISCUSSION

In the current study, 18.5% of the respondents had mild ED and 14.3% were suffering from severe ED. In contrast to the results of the present study, Farahat et al reported 39% mild ED and only 8.28% respondents with severe ED.[11]

The results of the present study have further revealed that age was significant in relation to the severity of ED. These results are in agreement of those reported by Farahat et al and Moreira et al.[11,12] Among the sociodemographic variables, employment status, annual family income and presence of any chronic morbidity were significantly associated with ED. No association was reported with regards to income, occupation and education by Farahat et al, Grover et al and Nicolosi et al in their respective studies.[11,13,14] There was concurrence with co-morbidity significantly associated with ED as was reported by Farahat et al, Moreira et al and Mutagaywa et al.[1,11,12]

As far as HRQOL was concerned, the results have shown that overall QOL as well as overall satisfaction with health were lower in severe grades of ED and these were in concurrence with those reported by Farahat TM et al and Seyam et al.[11,15] Berardis et al in his study reported that erectile problems were associated with lower scores in mental components of HRQOL.[16] In a study conducted by Litwin MS et al in university clinic and veteran affairs clinic patients, the results showed that ED was associated with worse psychosocial functions than in normal population.[17] The authors further reported that veterans scored worse in the physical domains which suggest that ED is more likely associated with impairments in mental than in physical HRQOL domains. Litwin et al also reported that among socio-demographic variables, only income was associated with group differences in sexual function. It was suggested by authors that affluent men may present for evaluation earlier in course of their impairment. Contrary to the results of the present study, Litwin et al found no correlation between erectile function and number of co-morbidities or age.[17]

In fact, any health impairment which is a source of emotional distress can manifest a change in HRQOL. Further, patients with ED clearly need physicians/ urologists who are compassionate and knowledgeable about the physical and psychosocial effects of this embarrassing clinical entity.

Limitations

The cross-sectional nature of the present study doesn't allow the authors to draw definitive conclusions about causal link between ED and HRQOL. Further small sample size may lead to non generalizability of the results.

CONCLUSION

Age was significantly associated with severity of ED. Among the socio-demographic variables, employment status, annual family income and presence of other chronic co-morbidity were statistically significantly. ED impacts the QOL of the affected individual and patient needs to be motivated for treatment. Further the primary care physician should preferably be well versed with sexual health issues so that patients identified with ED can be effectively treated.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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