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Quality of life in patients with erectile dysfunction in the Niger Delta region, Nigeria

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Abstract

Background: Erectile dysfunction (ED) in men is increasingly becoming a major problem worldwide. The damaging effects on the psyche and the anxiety regarding sexual performance and overall life satisfaction could be irreversible.

Aims: The objective of this study was to compare domains of quality of life (QOL) in men with ED in the Niger Delta region of Nigeria in order to determine the contextual social variables.

Method.: In a cross-sectional study, 400 male patients attending the general outpatient clinic between January and March 2009 were randomly assessed for ED and QOL, using abridged version of the International Index of Erectile function and the World Health Organization Quality of life instrument.

Results: A total of 166 (41.7%) subjects suffered from ED, 80 (48.2%) from medical illness, 56 (33.7%) from surgical problems and 30 (18.1%) from undiagnosed problems. Social relationships and psychological health indices of QOL were severely impaired in men with ED than the general, overall, physical and environmental health.

Conclusion: An inference from this study suggests that sexual function promotes psychological well-being as well as interpersonal relationships. Therefore, monitoring these indices of QOL in men with ED is important to boost their confidence and self-esteem needed for a better QOL.

Keywords: *sexual satisfaction, quality of life, erectile dysfunction, Nigeria*

Introduction

Erectile dysfunction (ED) is one of the most common disorders of male sexual functions (Penson & Wessels, 2004). Surveys have shown increased association of ED and poor quality of life (QOL) in many countries (Abolfotouh & Helali, 2001; De Berdis et al., 2002; Litwin et al., 1998). The impact of impairment could have profound effects on the family dynamics, with associated poor self-esteem and interpersonal relationships (McCabe, 1997). ED is defined as a persistent or recurrent inability to achieve and/or maintain an erection sufficient for satisfactory sexual performance (Feldman et al., 2000; Guest &

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Gupta, 2002; NIH Consensus Development Panel on Impotence, 1992; Shabsigh & Anatasiadis, 2003). This is a serious medical problem with significant distress. In developed societies, greater attention is increasingly being paid to men with this problem. This is because sexual function is an important component of QOL in men and their partners (McCabe, 1997). The social stigma associated with ED has been reported to limit the extent to which men with this disorder can confide in others or seek medical help. The socio-economic consequences resulting from functional disability may cause loss of quality time at work and low productivity. This could be overwhelming with adverse impact on the QOL.

Several chronic medical factors including diabetes and hypertension have been known to be responsible for ED (DeBerdis et al., 2002; Garko et al., 2005; Mikhail, 2005; Seyam et al., 2003; Tan et al., 2003). These factors are prevalent in many developing countries including Nigeria. However, the poor infrastructural healthcare facility development and services are indications that access to adequate care is difficult. Therefore, the recognition and evaluation of QOL in people with this condition are important in assessing the overall sense of well-being. This is often measured in terms of functional capacity and psychological and social health of an individual (Sprangers & Aaronson, 1992). The QOL as a concept encompasses a wide range of physical and psychological characteristics, as well as the limitations of an individual's ability to function and to derive satisfaction in his or her day-to-day living (Wilson & Cleary, 1995). The World Health Organization defines it as an individuals' perception of his or her position in life in the context of the culture and value system in which he or she lives and in relation to the goals, expectations, standards and concerns (William, 2000). It is a broad-ranging concept, affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and his or her relationship to salient features of the environment.

Improvement in QOL of patients with ED has become the major focus of management (Althof, 2002). Evidence suggests that ED has deleterious effects on the QOL (Abolfotouch & Al-Helali, 2001). These impairments have been demonstrated with respect to functions and perceived well-being in physical, mental and social indices, known collectively as health-related quality of life. Studies in developed countries have reported decreased QOL in patients whose natural sexual responsibilities are grossly affected (Guest & Gupta, 2002). Latini et al. (2003) reported substantial damage to self-image and also significantly lower physical and emotional satisfaction and general happiness.

Despite the increasing risk factors for ED in the Niger Delta region, several studies in Nigeria have only been focused on the prevalence and factors associated with this condition (Garko et al., 2005; Unadike et al., 2008). The complexity involved in the management, with respect to poor healthcare services and high level of poverty in the region, suggest that men with ED may be experiencing increasing lack of meaning in life. One major concern has been the QOL of men with this condition. This study, therefore, aimed at assessing life satisfaction or lack of it in patients with ED in order to determine the contextual social factors in the region.

Materials and methods

Location of the study

This study was carried out at the University of Uyo Teaching Hospital located in the outskirts of Uyo, capital of Akwa Ibom State. The State is situated in the South–South geographical region of Nigeria and is one of the major oil-producing areas in the Niger Delta region. The hospital is the only tertiary and referral health institution in the State and its environs, serving a population of 3.9 million people.

Data collection

This study was cross-sectional in nature conducted on subjects aged between 20 and 70 years. A total of 400 male patients attending the general outpatient clinic for medical problems between January and March 2009 were randomly assessed for ED and QOL, using abridged version of the International Index of Erectile function (IIEF-5) and the short version of the World Health Organization Quality of Life instrument (WHOQOL-Bref). A systematic random sampling method with a sampling interval of eight was used to recruit the subjects into the study. The IIEF-5 (Rosen et al., 1999; Rhoden et al., 2002) was developed for use in clinical practice settings as an efficient and accurate screening tool to identify the presence and severity of ED. Based on the scores on IIEF-5, the classifications of erectile function were as follows: 0–7, severe ED; 8–11, moderate ED; 12–16, mild to moderate ED; 17–21, mild ED; and 22–25, no ED. The WHOQOL-Bref (World health Organization programme on mental health, 1996; World Health Organization Quality of Life (WHOQOL) Group, 1998) is a 26-item self-administered generic instrument, a short version of the WHOQOL-100. The instrument emphasizes subjective rather than the objective responses of the participants. It was developed in a wide range of languages for use in different cultural settings, including sub-Saharan Africa, and for yielding comparable scores across cultures. The WHOQOL-Bref contains two items from the overall QOL and general health and one item from each of the remaining 24 facets included in the WHOQOL-100. A facet is a specific aspect of life, from which a coherent definition could be calculated. The WHOQOL-Bref unlike the WHOQOL-100 assesses the domain-level profile rather than the individual facet. Domains are broad groupings, for example, physical, psychological, social or related facets. Each item of the WHOQOL-Bref has five options to which a patient is expected to respond on a five-point Likert scale. This instrument has been used in previous studies in Nigeria (Fatoye et al., 2006; Issa & Baiyewu, 2006; Olusina and Ohaeri, 2003; Ohaeri et al., 2006). The WHOQOL-Bref produces a QOL profile with four-domain scores of physical health, psychological health, social relationships and environment. However, there are two items that are examined separately: question 1 asks about an individual's overall perception of QOL, while question 2 asks about an individual's overall perception of his health. The four-domain scores are scaled in a positive direction; higher scores denote higher QOL. The scores of items within each domain are used to calculate the domain scores. After organizing the responses into the QOL domain, mean scores were generated from the possible scores in each domain. The raw scores were then converted to transformed scores by multiplying the raw scores by 4 in order to make the domain scores comparable with the scores used in the WHOQOL-100. The respondents' individual scores for each domain were then compared with the possible mean score. A score of −1 mean standard deviation (SD) is graded poor, while a score of +1 mean (SD) is graded good. A pretest of the instrument was performed on 10 outpatients to determine its applicability, experience and logistic problems. The result revealed that self-administration of the instrument was difficult considering the varying levels of education of the subjects. Therefore, the WHOQOL-Bref was administered by the researchers, with the help of two trained assistants. An informed consent was obtained from each patient. This study passed through the Ethical and Research Committee of the hospital.

Data analysis

Statistical analysis was done using SPSS 17. Summary scores were generated for the WHOQOL-Bref by organizing the items into facets representing the domain covered by

the instrument. Since the scores for each QOL domain were normally distributed, the categorization of the levels of QOL for each domain was done using the mean value +1 or −1 SD. The categories of good and poor were cross-tabulated against the presence or absence of ED. Frequency distribution and cross-tabulations were generated and chi-square was used to compare the proportions. The corresponding p values were found to determine the level of statistical significance. A p value that was less than 0.05 was used to determine the level of statistical significance.

Results

A total of 400 participants were recruited into the study. Of this, 71 (17.8%) were less than 29 years of age, 137 (34.3%) were aged between 30 and 49 years and 165 (41.3%) were 50 and 69 years, while 27 (6.8%) were above 70 years of age. A total of 259 (64.8%) respondents were married, 121 (30.2%) were single and 8 (2.0%) were living together without marriage, while 12 (3.0%) were separated or divorced. Table I presents the sociodemographic characteristics and number of men with ED. Of the 400 respondents analyzed, 194 (48.5%) had post-secondary education, 106 (26.5%) had secondary education and 96 (24.0%) had primary education, while 4 (1.0%) had no formal education; 87 (21.7%) of the respondents were unemployed, 61 (15.3%) were unskilled workers and 123 (32.3%) were professionals in various fields of human endeavor. Of the 400 respondents, 166 (41.5%) had ED.

A total of 72 (43.4%) of 166 patients with ED had mild dysfunction, 41 (24.7%) had mild-to-moderate dysfunction and 30 (18.1%) had moderate dysfunction, while 23 (13.9%) had

Table I. Sociodemographic characteristics of the respondents and ED.

Variables	Subjects		
	With dysf. n (%)	Without dysf. n (%)	Total n (%)
Age in years			
<29	–	71 (17.8)	71 (17.8)
30–49	13 (3.2)	102 (25.5)	115 (28.7)
50–69	101 (25.3)	59 (14.8)	160 (41.1)
>70	52 (13.0)	2 (0.5)	54 (13.5)
Marital status			
Single	19 (4.7)	102 (23.5)	121 (30.2)
Married	137 (34.3)	122 (30.5)	259 (64.8)
Cohabiting	–	8 (2.0)	8 (2.0)
Separated/divorced	10 (2.5)	2 (1.5)	12 (3.0)
Educational level			
No formal education	1 (0.3)	3 (.8)	4 (1.1)
Primary school	59 (14.8)	37 (9.2)	96 (24.0)
Secondary school	43 (10.7)	63 (15.8)	106 (26.5)
Post-secondary school	63 (15.8)	131 (32.7)	194 (48.5)
Occupation			
Unemployed	51 (12.8)	36 (9.0)	87 (21.8)
Unskilled	32 (8.0)	97 (24.3)	129 (32.3)
Skilled	39 (9.8)	22 (5.5)	61 (15.3)
Professional	44 (11.0)	79 (19.8)	123 (30.8)
ED			166 (41.5)
No dysfunction			234 (58.5)

Table II. Distribution conditions and degree of sexual dysfunction among respondents.

Condition	Degree of ED			
	Mild n (%)	Mild–moderate n (%)	Moderate n (%)	Severe (%)
Medical	43 (25.9)	17 (10.2)	12 (7.2)	8 (4.8)
Surgical	22 (13.3)	14 (8.4)	9 (5.4)	11 (6.6)
Undiagnosed	7 (4.2)	10 (6.0)	9 (5.4)	4 (1.8)
Total	**72 (43.4)**	**41 (24.7)**	**30 (18.1)**	**23 (13.9)**

severe ED. Table II presents the distribution and degree of ED among the respondents. Eighty (48.2%) of the patients with ED had medical problems and 56 (33.7%) had surgery-related conditions, while 30 (18.1%) suffered from undiagnosed medical conditions. Medical conditions contributed to 43 (25.9%) mild, 17 (10.2%) mild–moderate and 12 (7.2%) moderate and 8 (4.8%) severe degree cases of ED, while surgery-related conditions accounted for 22 (13.3%) mild, 14 (8.4%) mild–moderate, 9 (5.4%) moderate and 11 (6.6%) severe dysfunction cases. Undiagnosed conditions were responsible for 7 (3.2%) mild, 10 (6.0%) mild–moderate, 9 (5.4%) moderate and 4 (1.8%) severe dysfunction cases.

Table III highlights the degree of QOL in respondents with ED. A total of 69 (17.3%) respondents with ED and 19 (4.3%) without dysfunction reported poor overall QOL, as against good overall QOL in 77 (19.3%) respondents with ED and 215 (53.8%) without dysfunction ($X^2 = 1.005$, $p = 0.001$). This was statistically significant. With regard to the general health satisfaction, 156 (39.0%) respondents with ED and 94 (23.5%) without dysfunction were graded poor, while 10 (2.5%) with and 140 (35.0%) without dysfunction were graded good ($X^2 = 5.025$, $p = 0.001$). This was also statistically significant. There were 145

Table III. QOL among respondents with ED.

Variable	Subjects		X^2	p value
	With ED n (%)	Without ED n (%)		
Overall QOL				
Good	77 (19.3)	215 (54.2)	1.005	0.001*
Poor	69 (17.2)	19 (4.3)		
General health satisfaction				
Good	10 (2.5)	140 (35.0)	5.025	0.001*
Poor	156 (39.0)	94 (23.5)		
Domains				
Physical health (1)				
Good	21 (5.2)	31 (7.8)	0.103	0.950
Poor	145 (36.3)	203 (50.7)		
Psychological health (2)				
Good	31 (7.8)	165 (41.2)	10.034	0.001*
Poor	135 (33.8)	69 (17.2)		
Social relationships (3)				
Good	21 (5.3)	151 (37.7)	6.828	0.001*
Poor	145 (36.2)	83 (20.8)		
Environmental health (4)				
Good	27 (6.8)	59 (14.7)	5.322	0.070
Poor	139 (34.7)	175 (43.8)		

(36.3%) respondents with dysfunction and 203 (50.8%) without reported poor physical health compared with good physical health in 21 (5.3%) with ED and 31 (7.8%) without dysfunction. With regard to psychological health, 135 (33.8%) respondents with and 69 (17.3%) without dysfunction were graded poor, while 31 (7.8%) with and 165 (41.3%) without dysfunction reported good psychological health ($X^2 = 10.034$, $p = 0.001$). This was statistically significant. In total, 145 (36.3%) respondents with ED and 83 (20.8%) without the dysfunction had poor social relationships compared with 21 (5.3%) with and 151 (38.8%) without the reported good social relationships ($X^2 = 6.828$, $p = 001$). This was also statistically significant. A total of 139 (34.8%) respondents with ED and 175 (43.5%) without dysfunction experienced poor environmental health, while 27 (6.8%) with and 59 (14.8%) without dysfunction had poor environmental health.

Discussion

The results of this study show that men with ED face serious challenges in their life in society. The overall health and general health of men with ED were found to be poor. Although there were also appreciable impairments in the same facets of QOL in those without the dysfunction, one major concern was the state of healthcare facilities and services in society. The present findings, together with the poor environmental health in both men with and without ED, seem to suggest that there is a need to address the deplorable healthcare indicators. This will enhance functional and increasing medical needs of men with the problem. It is important to explain reasons for the corresponding impairments in QOL among men without ED. First, our environment is prevalent with various chronic medical conditions. This could impact negatively on all indices of QOL, including the overall and general health of the people. Therefore, it may be reasonable to argue that factors other than ED may have been responsible for the lower indices of QOL. Second, it is possible that the differences in the impairment in these facets of QOL between men with and without ED may be due to the differential ways of using various coping strategies. Men with the dysfunction might have acquired adequate coping strategies, thereby adapting and adjusting to the possible effects of the risk factors.

Although our study shows significant impairments in all indices of QOL in men with ED, the impact on both social relationships and psychological health could be overwhelming. This is important in view of the social class of men affected. The findings suggest that more than 30% of men with ED were married. This is similar to reports in earlier studies (McCabe, 1997). The implication of this finding is very significant. Men with ED must be paid serious attention. The presence of ED could cause significant strain in interpersonal relationships. Evidence from previous studies has shown that ED has a substantial negative impact on intimate relationships (Rosas et al., 2003). This could be a possible and potential source of distress that may lead to family disruption and instability. ED may be the reason for the 2.5% of men being either separated or divorced in this study. It has also been observed that inability to function sexually can erode an individual's sense of self-esteem leading to emotional and marital tension (Althof, 2002; McCabe & Matie, 2008). Therefore, satisfaction with sexual life has been shown to be an important predictor of satisfaction with life as a whole (Fugl-Meryer et al., 1997). It is also worrisome that 4.7% of men with ED in this study were single. This could have a devastating effect on the self-image of men with this problem, resulting in low self-esteem and confidence. The implication would be the multiplier effects on the QOL. The social stigma attached to ED could further limit the extent to which men can confide in others or seek medical help, thereby worsening the condition.

Our findings also show that ED is common among elderly men. In this study, more than 90% of ED cases were found in men aged 50 years and above. This is in line with the findings of other studies (Heidler et al., 2007; Kupelian et al., 2006; McKinley, 2000; Mikhail, 2005). A possible explanation for this may be that elderly people are more prone to having chronic medical conditions, which are risk factors for ED. This is further supported in this study by the finding that about 48% of men with ED suffered from one or the other form of the medical condition. Age is one of the major risk factors for ED (Shah, 2002). Although this is unclear, studies have shown that all cardiovascular risk factors including age are associated with endothelial dysfunction (Billups et al., 2008). This is known to impair vascular dilatation and, subsequently, penile erection as a result of decreased nitric oxide production (Mikhail, 2005). Then, there is little wonder that some researchers are of the opinion that all men with ED should be considered at increased risk for cardiovascular diseases (Billups et al., 2008).

The weakness of this study lies in the fact that apart from the subjective nature of the QOL, it is an isolated hospital-based study. Therefore, the results cannot be generalized to the entire population.

In conclusion, the findings of this study have shown that ED is a chronic condition, with adverse impacts on the overall well-being of men with the problem. Like that of many other chronic medical conditions, the management of ED is difficult; therefore, monitoring of various indices of QOL may be useful in decision-making, for purposes of intervention and prevention of serious health hazards. In an environment such as ours, where every disease entity is attributed supernatural deities and magical powers, increased awareness through adequate health education is important. This would help to dispel cultural beliefs and perceptions on etiological causation, which may act as a barrier against early and urgent medical intervention. More importantly, improvement in medical healthcare services would help in tackling numerous risk factors prevalent in our environment and reduce the high incidence of ED.

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