Original Research Article

Prevalence and determinants of psychiatric morbidities in Nigerian men with LUTS due to prostatic diseases.

ABSTRACT

Aims: This study aimed at determining the prevalence and significant factors associated with psychiatric morbidity in men with LUTS secondary to prostatic diseases in a tertiary health centre in a developing country.

Study design: This is a prospective, cross-sectional study.
Place and duration: The urology unit of Ekiti State University Teaching Hospital, Ado-Ekiti. Ekiti State, Nigeria. The study period was from 1st January2018 to 31st December2019.
Methodology: Hospital Anxiety and Depression Scale (HADS) was used to assess for psychiatric morbidity among 224 patients with LUTS. While, International prostate symptom score (IPSS) was used to assess the severity of LUTS. The data was analysed using SPSS version 20.
Results: The prevalence of depression and anxiety were 17% and 9.8% respectively. The mean IPSS and PSA scores of the respondents were 19.95±8.06 and 31.48±37.03 respectively. The only factors found to be significantly associated with depression were use of alcohol by the respondents (T-test = .058, P = .01, CI = -2.885 -- -0.391) and high scores on IPSS (T-test = .765, P value = .003, CI = 1.436 -- 6.995). While the factors found to be associated with anxiety disorders were alcohol use by the respondents (T-test =2.661, P = .033, CI = -2.519 -- -0.103) and high PSA scores (T-test =9.473, P value = .036, CI = -28.942 -- -1.068).
Conclusion: This study shows that there is a high rate of psychiatric morbidity among patients with LUTS. Main factors associated with this morbidity were alcohol use, severity of the LUTS and high PSA scores. Assessment of psychiatric morbidity in patients with LUTS using simple psychological instruments will help in early detection and prompt treatment of psychological morbidity.

Keywords: Anxiety, depression, psychological morbidity, prostate, urinary tract obstruction

Abbreviations
HADS Hospital Anxiety and Depression Scale
IPSS International Prostate Symptoms Score
LUTS Lower urinary tract symptoms
QOL Quality of life

1. INTRODUCTION

Certain studies have demonstrated an independent association between the development of Lower Urinary Tract Symptoms (LUTS), depression and anxiety in men(1–3). The association has been linked to systemic inflammation (C-reactive protein (CRP), interleukin–6 (IL–6), and tumor necrosis factor alpha (TNF-α)in ageing men (4). LUTS have stigmatized many men and affected their masculine identity, resulting in internalization of negative self-worth and low self-esteem(5–7) . The impact on their spouses, such as insomnia and reducing sexual and marital satisfaction, has also been very challenging(8).

LUTS have been found to be significantly associated with increased depression or anxiety by some researchers(9).Varying prevalent rates of anxiety and depression ranging from 4-22% were reported by these researchers among patients with LUTS (10,11). LUTS acting as stressors could reduce ones' coping self-efficacy. Such individuals may be limited in their social activities outside of the home and could develop a restricted and isolated lifestyle(12). Embarrassment and shame related to incontinence can lead to a poor self-concept and a lower sense of self-control(13,14)]. Thus, individuals distressed by these problems may have poorer coping resources and coping capacity and thus, a lower coping self-efficacy.

Therefore, this study was to determine the prevalence and significant factors associated with psychiatric morbidity in men with LUTS secondary to prostatic diseases in a tertiary health centre in a developing country.

2. MATERIAL AND METHODS

This was a cross-sectional, prospective and hospital-based study. Inclusion criteria were men aged ≥ 40 years, presenting with LUTS to the urology clinic of Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria and had the ability to read English or came with a relation who was literate.

Exclusion criteria included failure to consent to be included in the study and those that were too ill to participate in the study.

All subjects were requested to complete a structured self-questionnaire to collect information about depressive and anxiety symptoms, LUTS status, current medical conditions, medications, alcohol consumption and smoking.

2.1 OUTCOME MEASURES:

2.1.1 LUTS

International prostate symptom score (IPSS) was used to assess the severity of LUTS. The IPSS is composed of 7 questions ranging from 0 to 5 points each so that the total scores can be in 0-35range(15). Severity of LUTS was classified as none to mild (0-7),moderate (8-19), or severe (20-35) using standard cut-off of IPSS.

2.1.2 Depression and anxiety

Hospital Anxiety and Depression Scale (HADS) was used to asses for anxiety and depression among the patients. A total score for both anxiety and depression classified as normal, 0-7, borderline abnormal, 8-10, or abnormal, 11-21.

2.2 ETHICAL ISSUES

The study was performed in compliance with the principles of the Declaration of Helsinki, Good Clinical Practice and the World Association for Social, Opinion and Market Research (ESOMAR) guidelines. Informed consent was obtained from all participants.

3. RESULTS AND DISCUSSION

A total of 224 patients with LUTS were recruited for the study. The mean age of the patients was 68.43±10.54 years. Most (92.0%) of the patients were married. Only one patient (0.4%) had a previous psychiatric history while 5.8% of the respondents had family history of psychiatric illness. About a third of the respondents (31.2%) never consumed alcohol in the past while others were lifetime users (current, ex drinker and others). More than two thirds (68.8%) of the respondents never smoked cigarettes. BPH accounted for more than two thirds (68.8%) of the patients with LUTS due to prostate problems.

Almost half of the respondents (48.2%) presented within 1 year of onset of LUTS. More than half of the respondents (52.2%) had one co- morbidity or the other with hypertension accounting for most (73.2%) of these co morbidities. (Table 1)

The prevalence of depression and anxiety were 17% and 9.8% respectively. The mean IPSS and PSA scores of the respondents were 19.95±8.06 and 31.48±37.03 respectively (Table 2). The only factors found to be significantly associated with depression were use of alcohol by the respondents (T-test = .058, P = .01, CI = -2.885 -- -0.391) and high scores on IPSS (T-test = .765, P value = .003, CI = 1.436 -- 6.995). While the factors found to be associated with anxiety disorders were alcohol use by the respondents (T-test =2.661, P = .03, CI = -2.519 -- -0.103) and high PSA scores (T-test =9.473, P value = .04, CI = -28.942 -- -1.068).

This study analyzed the association between LUTS and anxiety and depression among outpatients in a tertiary health centre. This study observed a prevalence of 17% for depression and 9.8% for anxiety disorder. Much lower prevalent rates of 4.98% for depression were reported by Jeong et al (10). Others have reported prevalent rates as high as 22-29% for depression (11,16). Much higher prevalence rates were reported in a study among patients with prostate cancer, the authors found a

prevalence rate of depression ed to be about 43.5% (17) The association between depression and LUTS was also established in a research among Taiwanese population with BPH. Depression was being diagnosed about 1.87 times more frequently than in a comparable cohort of men without BPH (17).

Prevalence between 1% and 20% were reported for anxiety disorders by other authors among patients with LUTS. (18). Possible explanation for this high rate of anxiety disorder could be fear being experienced by these patients about the outcome of the illness causing the LUTS and also possible outcome of surgical interventions among those scheduled for such.

Various theories suggesting bidirectional causation have being proposed for the high prevalence of psychological morbidity among patients with LUTS. One of such was proposed by Steers et al. They postulated that a defect in serotonin synthesis is associated with the development of depression and abnormal voiding dysfunction. Others hypothesized that Increased adrenergic tone and the hypothalamic-pituitary axis mediated depression in LUTS (19,20)). Furthermore, Klausner & Steers suggested that stress-induced depression activates the corticotropin- releasing factor pathway, which functions as a mediator of emotional influences on bladder function (21). Inflammation has also being suggested to represents a common mechanism in the pathogenesis of major depression and LUTS as patients with depression frequently exhibit increased levels of C-reactive protein, tumor necrosis factor-alpha, and interleukin-6 (4,22). Also, psychosocial factors have also being proposed to contribute to developing of depression among these patients. For instance, embarrassment and shame related to incontinence can lead to a poor self-concept and a lower sense of self confidence and poor quality of life (5,13,14,23).

The significant factors found to be associated with depression among patients with LUTS in this study were use of alcohol and high IPSS score which signified severity of LUTS. Similar positive correlation between depressive symptoms and LUTS severity were reported by other authors (10,11). Also, Similar findings on alcohol as a factor in depression among LUTS patients were obtained previously by other researchers. It was shown that alcohol consumption increases the risk of developing depression(11,24,25).

The significant factors found to be associated with anxiety disorder among patients with LUTS in this study were use of alcohol and high PSA score. Other researchers had also reported higher prevalence of anxiety disorders among patients with LUTs who consumed alcohol compared to non drinkers. (26) It is not surprising that those with high PSA scores had higher levels of anxiety. This may be because the patients became very fearful that perhaps they have developed a cancer which definitely to them may mean that death is near.

Table 1: sociodemographic and clinical variables of respondents.

VARIABLE	FREQUENCY	PERCENTAGE(%)
Marital status		
Married	206	92.0
Separated/divorced	3	1.2
widowed	15	6.8
Previous Pschiatric history		
No	223	99.6
YES	1	0.4
Family hx of psych illness		
None	211	94.2
Yes	13	5.8
Diagnosis		
BPH	154	68.8
PC	70	31.2
Alcohol use		
Never	71	31.7
Regular use	26	11.6
Occasional use	25	11.2
Ex user	87	38.8
Smoking		
Nonsmoker	154	68.8
Regular	6	2.7
Ex-smoker	51	22.8
Duration of LUTS		
<1 yr	108	48.2
1-3yrs	62	27.7
3-5yrs	22	9.8
>5yrs	19	8.5
Co morbidity		
Yes	112	52.8
No	100	47.2

Co morbidity type		
Hypertension	82	36.6
Diabetes	17	7.6
Others	13	5.8
Severity of depression		
None	146	66.5
Borderline	37	16.5
Case	38	17.0
Severity of anxiety disorder		
None	177	79.0
Borderline	25	11.2
Case	22	9.8

Table II: Mean values of variables.

VARIABLE	MEAN	STANDARD DEVIATION
AGE	68.43	10.54
IPSS	19.95	8.06
ANXIETY DISORDER	4.29	4.30
DEPRESSION	6.15	4.46
PSA	31.48	37.03

Table III: Association between depression and various factors.

VARIABLE	TEST STATISTICS	P VALUE	CI
Age	T-test = 0.025	.331	-1.872 - 5.529
Marital status	T-test = 2.354	.971	-2.1263 - 2.205
Occupation	$\chi^2 = 0.757$	.446	-4.276 - 1.746
Alcohol use	T-test = 0.058	0.010*	-2.885 - -0.391
Smoking	T-test = 0.029	0.124	-2.2543 - 0.272
	T-test = 0.014	.06	-1.033 - 0.427

Diagnosis	T-test = 0.765	.003*	1.436 - 6.995
IPSS	T-test = 0.953	.717	-18.769 - 12.942
PSA	χ^2 = 0.468	.294	-8.056 - 3.724
Co morbidity			

*significant

Table IV: Association between anxiety disorder and various factors.

VARIABLE	TEST STATISTICS	P VALUE	CI
Age	T-test = 1.403	.232	-7.852 - 1.865
Marital status	T-test = 0.035	.881	-1.851 - 2.523
Occupation	χ^2 =0.878	.427	-2.375 - 1.296
Alcohol use	T-test =2.661	.033*	-2.519 - -0.103
Smoking	T-test = 0.291	.289	-1.880 - 0.563
Diagnosis	T-test = 1.258	.965	-0.562 - 1.518
IPSS	T-test = 0.056	.502	-2.697 - 5.132
PSA	T-test = 9.473	.036*	-28.942 - -1.068
Co morbidity	χ^2= 0.790	.486	-3.642 - 1.926

*significant

4. CONCLUSION

This study shows that there is a high rate of psychiatric morbidity among patients with LUTS. Main factors associated with these morbidities were alcohol use, severity of the LUTS and high PSA score. Assessment of depression in patients with LUTS using simple psychological instruments will help in early detection and prompt treatment of psychological morbidity, thereby ensuring better quality of life for the patients.

CONSENT

Written informed consent of the patients was obtained before they were included in the study. Those who declined consent were not victimized in any way.

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