Original Article

Self-esteem, Comorbid Anxiety, and Depression Among Patients Living with Indwelling Catheters in a Nigerian Teaching Hospital

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ABSTRACT

Indwelling urinary catheterization, though essential for managing chronic urological conditions, often associated with psychological distress. Patients commonly experience self-esteem issues, anxiety, and depression, yet these concerns remain under-addressed in Nigerian healthcare settings. This study assessed levels of self-esteem and the prevalence of comorbid anxiety and depression among patients with indwelling catheters in a Nigerian teaching hospital, and explored the influence of sociodemographic factors. A descriptive cross-sectional study was conducted at the University of Medical Sciences Teaching Hospital, Ondo State, involving 525 patients aged 18 years and above with long-term indwelling catheters. Systematic random sampling was used. Data were collected using the Rosenberg Self-Esteem Scale and Hospital Anxiety and Depression Scale (HADS), and analyzed using SPSS v25. Associations were tested using chi-square and binary logistic regression, with significance set at $p < 0.05$. Among respondents, 25.7% reported low self-esteem and 48.6% had comorbid anxiety and depression. Significant associations were observed with age ($\chi^2 = 254.037$, $p = 0.001$), marital status ($\chi^2 = 79.730$, $p = 0.001$), educational level ($\chi^2 = 124.477$, $p = 0.001$), income ($\chi^2 = 34.600$, $p = 0.001$), self-esteem ($\chi^2 = 192.421$, $p = 0.001$), and age at first sexual exposure ($\chi^2 = 76.590$, $p = 0.000$). Regression analysis revealed that early sexual debut (OR = 2.431), single marital status (OR = 3.846), and undergraduate education (OR = 5.535) were significant predictors of psychological comorbidity ($p = 0.001$). Conclusively, High rates of psychological distress among catheterized patients highlight the urgent need for integrated mental health screening and psychosocial support within urological care in Nigeria.

Keywords: Comorbid anxiety, Depression, Indwelling catheter, Psychological distress, Self-esteem, Sociodemographic factors, Urological care,

INTRODUCTION

Urinary catheterization is a common clinical intervention used to manage various urological and medical conditions, including chronic urinary retention, neurogenic bladder, and postoperative care. While indwelling catheters are medically beneficial, their prolonged use often leads to significant psychological and social challenges. Patients who live with long-term indwelling catheters frequently face issues such as urinary leakage, recurrent infections, odor, discomfort, and physical limitations.[1] These issues can diminish self-worth, disrupt body image, and increase dependence on caregivers, resulting in reduced self-esteem and increased risk for mental health disorders such as anxiety and depression. In many Nigerian hospitals,

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the psychosocial aspects of chronic catheter use are often overlooked, as the focus of care remains largely biomedical. [2]

Self-esteem, defined as an individual's subjective evaluation of their own worth, is often undermined in patients with chronic illnesses or medical devices. For those using indwelling catheters, feelings of embarrassment, shame, and helplessness are common, especially in cultural settings like Nigeria where physical independence, social functioning, and bodily control are highly valued. These psychological stressors can lead to emotional disturbances, especially when compounded by social stigma, poor support systems, and inadequate access to mental health care. Anxiety may arise from fear of public embarrassment or concern over catheter malfunction and health deterioration, while depression is often linked to social withdrawal, loss of autonomy, and perceived burden on caregivers.[3]

Research has shown that various sociodemographic factors influence the psychological impact of catheterization. Age, for example, plays a critical role older patients may experience depression due to loneliness and reduced independence, while younger individuals may struggle with anxiety related to disrupted social and sexual roles. Gender also matters; in many African contexts, male patients may experience greater psychological distress due to cultural expectations around masculinity and independence.[4] Marital status is another key variable unmarried or widowed individuals may have limited emotional support, which increases their vulnerability to depression and anxiety. Similarly, lower levels of education and income are often associated with poor mental health outcomes, possibly due to reduced access to healthcare information and fewer coping resources. Employment status also contributes; unemployed individuals or those forced to retire early due to catheter use may feel a loss of identity and self-worth. The duration of catheter use is equally important longer use often correlates with higher psychological distress.[5]

In a Northern Nigerian teaching hospital reported that 58% of patients with long-term catheters exhibited symptoms of depression, and 49% showed signs of anxiety. [6] The study found strong correlations between psychological distress and low socioeconomic status, unemployment, and longer catheter use. Similarly, highlighted that patients with low educational attainment and inadequate spousal support were more likely to experience emotional difficulties, including poor self-esteem and depressive symptoms [7]. Despite these findings, many Nigerian hospitals lack structured mental health screening or support systems for patients with chronic catheterization, further exacerbating their psychological burden.

This study aims to explore the levels of self-esteem, comorbid anxiety, and depression among patients living with indwelling catheters in a Nigerian teaching hospital and to examine how these psychological outcomes are influenced by sociodemographic factors. Understanding these relationships is essential for improving holistic care, integrating psychosocial support into medical management, and ultimately enhancing the quality of life for this vulnerable patient population. [8]

Specific Objectives

1. To assess the level of self-esteem among patients living with indwelling catheters in a Nigerian teaching hospital.
2. To determine the prevalence of comorbid anxiety and depression among patients with indwelling catheters.
3. To examine the relationship between self-esteem and comorbid anxiety and depression in catheterized patients.
4. To identify the sociodemographic factors (such as age, gender, marital status, educational level, income, employment status, and duration of catheter use) associated with self-esteem, anxiety, and depression among patients with indwelling catheters.

To provide evidence-based recommendations for integrating psychosocial support into the care of patients with long-term indwelling catheters.

MATERIALS AND METHODS

Study location

The study was carried out at the Urology clinic of the

Department of Surgery, University of Medical Sciences Teaching Hospital, Ondo Ondo State, The University of Medical Sciences Teaching Hospital is a health institution established on 7th August 2018 by the Government of Ondo State with the core mandate of providing clinical services, conducting research, and training undergraduate and postgraduate medical and health professionals. The hospital has different out-patient clinics such as medical and surgical out-patient, infant welfare, obstetric and gynaecological clinics as well as general outpatient department

Study design and Population

This study utilized a descriptive, cross-sectional approach involving Individuals with Indwelling Catheters

Inclusion and Exclusion criteria

Participants eligible for inclusion in this study were adults aged 18 years and above who were attending the urology clinic and have been living with an indwelling urinary catheter (either urethral or suprapubic) for a minimum of two weeks prior to recruitment. Eligible participants must have had a confirmed diagnosis of a urological condition and must be willing to provide informed consent. Individuals must also possess the cognitive and communication ability to participate in interviews or complete questionnaires, either in English or with the assistance of a local language interpreter if needed.

Exclusion criteria included individuals with catheterization of less than two weeks duration, those who were critically ill, or patients with severe cognitive impairment that would interfere with accurate data collection. Also excluded were individuals diagnosed with serious psychiatric disorders that may distort their perception of quality of life, such as schizophrenia or psychotic depression. Equally, patients who were non-residents, not under follow-up care in the urology clinic, or who choosed not to participate or withdrew consent at any stage of the study were all excluded.

Sample Size Determination

Sample size was calculated using Cochran formula for large populations (N > 10,000):

Using the prevalence of 50% for an attribute in an unknown population10

$$n = \frac{Z^2 \cdot p(1-p)}{d^2}$$

$$\approx 384$$

Minimum sample size≈384

Sampling technique

A systematic random sampling was used in this study. A total of 550 older adult patients seeking care at the urology clinic who meet the inclusion criteria were recruited. The first respondent on a clinic day was picked randomly among the first 3 patients using balloting method and thereafter, every other third respondents who meet the inclusion criteria was selected. Questionnaires were administered in the clinic and two research assistants were recruited to assist distribution and collection of the questionnaires. The study was conducted between January and June 2025.

Instruments for data collection

The sociodemographic variables and clinical information were collected using structured questionnaire designed by the authors

Rosenberg's self-esteem scale.

The Rosenberg self-esteem scale, developed by Dr. Morris Rosenberg, is a commonly used self-esteem measure in research. The Rosenberg Self-Esteem Scale is a 10-item self-report measure of global self-esteem. It consists of 10 statements related to overall feelings of self-worth or self-acceptance. The items are answered on a 4-point scale ranging from 1 (strongly agree) to 4 (strongly disagree). The scale generally has high reliability: test-retest correlations are typically in the range of .82–.88, and Cronbach's alpha for various samples are in the range of .77–.88. [9] The total score of the scale is 40. In this study, the marks were divided into below normal, normal and above normal self-esteem. [10]

Hospital Anxiety and Depression Scale (HADS)

Hospital Anxiety and Depression Scale (HADS) was used to estimate the prevalence of anxiety and depression amongst the pregnant women. The HADS consists of fourteen items. The First 7 items cover questions on Anxiety while the remaining

seven questions covers questions on Depression. Hospital anxiety and depression scale (HADS): the HADS is a self-report instrument efficiently used to assess depression and anxiety. [11,12] In a Nigerian study, the sensitivity for the anxiety sub-scale ranged from 85.0% to 92.9%, while sensitivity for the depression sub-scale ranged from 89.5% to 92.1%. [13] The HADS is considered to be unaffected by coexisting general medical conditions, unlike General Health Questionnaire (GHQ) items where symptoms may refer to physical cause like insomnia and weight loss. [14,15] For GHQ 12, using 3 as cut-off point, ≥3 is "possible psychiatric morbidity [i.e., 'GHQ 12 cases'] and <3 as no morbidity [i.e., 'GHQ 12 non-cases']". The Hospital Anxiety and Depression Scale will be scored accordingly 0-7 = normal, 8-10 = borderline abnormal, 11-21 = abnormal. Respondents with borderline abnormal and abnormal cases were considered as having anxiety or depression. [16]

Data Analysis

The completed questionnaires collected were coded and analyzed using Statistical Product and Service Solution (IBM-SPSS) version 25. Frequency distributions and percentages were used to summarize categorical variables. For continuous variables, mean, standard deviations, percentiles, and range were used. Bivariate analysis was used to explore associations between sociodemographic, urological and Quality of Life. The regression model results presented as odds ratios (ORs) with 95% confidence intervals (CIs). A p-value of less than 0.05 was considered statistically significant.

Ethical Consideration

Ethical clearance was obtained from The Research and Ethical Committee of the University of Medical Science Teaching hospital Ondo. Informed consent was obtained from each of the subject after a thorough description of the study's purpose and goals. The information received was kept confidential by taking all necessary precautions both during and after data collection.

RESULTS

Sociodemographic variable among the Respondents

A total of 525 respondents living with indwelling catheters were included in the study. The majority were **married (80.6%)**, while **19.4%** were single. In terms of age distribution, the largest proportion of respondents fell within the **50–59 years** age group (**37.1%**), followed by **40–49 years (22.9%)**, **60–69 years (20.0%)**, **30–39 years (14.3%)**, and **70–79 years (5.7%)**. Regarding ethnic distribution, **Yoruba** participants represented the majority at **74.3% n=390**, while **Igbo** participants made up **25.7% n=135**. In terms of religion, **77.1% n=405** of the respondents identified as Christians, and **22.9% n=120** were Muslims. Concerning educational attainment, **51.4% n=207** of respondents had undergraduate-level education, while **48.6% n=255** were graduates. On self-esteem, **74.3%** n=390 reported normal self-esteem, whereas **25.7% n=135** had low self-esteem. For psychological assessments, **48.6% n=255** of respondents were classified as positive for **comorbid anxiety and depression**, while **51.4% n=270** were negative. Similarly, **48.6%** n=255 showed **abnormal anxiety** levels and **abnormal depression** scores, with the remaining **51.4% n=270** categorized as normal in both domains. These distributions reflect a considerable proportion of respondents experiencing psychological distress alongside their physical health challenges (Table 1).

Analysis of Association between Sociodemographic Variable and Comorbid Anxiety and Depression

The chi-square analysis identified several sociodemographic variables that were significantly associated with comorbid anxiety and depression among patients with indwelling catheters. **Age** showed a strong association (χ^2 = 254.037, p = 0.001), with the highest prevalence of comorbidity recorded among respondents aged 30–39 and 70–79 years, where 100% n=75 reported symptoms. **Marital status** was also significant (χ^2 = 79.730, p = 0.001); 88.2% n=90 of single individuals had comorbid anxiety and depression compared to 39.0% n=90 of married respondents.

Tribal affiliation was significantly associated with psychological outcomes (χ^2 = 23.822, p = 0.001), with a higher proportion of Igbo respondents (66.7%) =90 affected compared to Yoruba respondents (42.3%) n=165. Similarly, **educational**

level revealed a strong relationship ($\chi^2 = 124.477$, $p = 0.001$), where 72.2% n=195 of those with undergraduate education experienced comorbid symptoms versus only 23.5% n=60 of graduates. **Average monthly income** was another significant factor ($\chi^2 = 34.600$, $p = 0.001$), as respondents earning below the minimum wage reported a higher prevalence (64.3%) n=135 of comorbidity compared to those earning above (38.1%). A particularly strong association was observed with **self-esteem category** ($\chi^2 = 192.421$, $p = 0.001$), where all individuals with low self-esteem (100%) n=135 had comorbid anxiety and depression, compared to 30.8% n=120 of those with normal self-esteem. **Number of children** also showed significance ($\chi^2 = 21.694$, $p = 0.000$), with higher comorbidity among those with fewer than four children (57.9%) n=165 than those with more than four (37.5%) n=90. Furthermore, **age at first sexual exposure** was strongly associated ($\chi^2 = 76.590$, $p = 0.000$); 75.0% of respondents who initiated sex as teenagers had comorbid symptoms compared to 34.8% n=120 who began at age 20 or above. Finally, **consensuality of first sexual exposure** was significant ($\chi^2 = 16.349$, $p = 0.000$); all respondents who reported a non-consensual first sexual experience (100%) n=135 had comorbid anxiety and depression (Table 2).

Sociodemographic Determinants of Comorbid Anxiety and Depression among the Respondents using Binary Logistic Regression

The binary logistic regression analysis identified three significant sociodemographic predictors of comorbid anxiety and depression among respondents with indwelling catheters. Respondents who had their first sexual experience as teenagers were **2.43 times** more likely to experience comorbid anxiety and depression compared to those who had sexual debut at age 20 or above (OR = 2.431, $p = 0.001$, 95% CI: 1.487–3.974). Being single was associated with a **3.85-fold** increased likelihood of comorbid anxiety and depression compared to married individuals (OR = 3.846, $p = 0.001$, 95% CI: 1.876–7.885). Additionally, respondents with undergraduate education had **5.54 times** higher odds of experiencing comorbid anxiety and depression compared to those with graduate-level education (OR = 5.535, $p = 0.001$, 95% CI: 3.642–8.412). (Table 3).

Table 1: Sociodemographic variable among the Respondents

SN	VARIABLE	FREQUENCY	PERCENTAGE
1.	Marital status		
	Single	102	19.4
	Married	423	80.6
2.	Age in years		
	30 to 39	75	14.3
	40 to 49	120	22.9
	50 to 59	195	37.1
	60 to 69	105	20.0
	70 to 79	30	5.7
3.	Tribe		
	Yoruba	390	74.3
	Igbo	135	25.7
4.	Religion		
	Christianity	405	77.1
	Islam	120	22.9
5.	High level of education certificate		
	Undergraduate	270	51.4
	Graduate	255	48.6
6.	Self-esteem		
	Low	135	25.7
	Normal	390	74.3
7.	Comorbid anxiety, depression		
	Negative	270	51.4
	Positive	255	48.6
8.	Anxiety		
	Normal	270	51.4
	Abnormal	255	48.6
9.	Depression		
	Normal	270	51.4
	Abnormal	255	48.6

Table 2: Analysis of Association between Sociodemographic Variable and Comorbid Anxiety and Depression

SN	VARIABLE	NEGATIVE	POSITIVE	X^2	DF	P-VALUE
1.	Age in years					
	30 to 39	0 (0.0%)	75 (100%)	254.037	4	0.001
	40 to 49	45 (37.5%)	75 (62.5%)			
	50 to 59	180 (92.3%)	15 (7.7%)			
	60 to 69	45 (42.9%)	60 (57.1%)			
	70 to 79	0 (0.0%)	30 (100.0%)			
2.	Marital status					
	Single	12 (11.8%)	90 (88.2%)	79.730	1	0.001
	Married	258 (61.0%)	165 (39.0%)			
3.	Tribe					
	Yoruba	225 (57.7%)	165 (42.3%)	23.822	1	0.001
	Igbo	45 (33.3%)	90 (66.7%)			
4.	Religion					
	Christianity	210 (51.9%)	195 (48.1%)	0.127	1	0.721
	Islam	60 (50.0%)	60 (50.0%)			
5.	High level of education certificate					
	Undergraduate	75(27.8%)	195(72.2%)	124.477	1	0.001
	Graduate	195 (76.5%)	60 (23.5%)			
6.	History of medical disorder					
	No	195 (50.0%)	195 (50.0%)	1.239	3	0.266
	Yes	75 (55.6%)	60 (44.4%)			
7.	Average monthly income					
	Less than minimum wage	75 (35.7%)	135 (64.3%)	34.600	1	0.001
	Greater than minimum wage	195 (61.8%)	120 (38.1%)			
8.	Self-esteem					
	Low	0 (0.0%)	135 (100%)	192.421	1	0.001
	Normal	270 (69.2%)	120 (30.8%)			
9.	How many children do you have					
	Less than 4	120 (42.1)	165 (57.9%)	21.694	1	0.000
	Greater than 4	150 (62.5%)	90 (37.5%)			
10.	Age of first sexual exposure					
	As a teenager	45 (25.0%)	135 (75.0)	76.590	1	0.000
	20 and above	225 (65.2%)	120 (34.8%)			
11.	Was the first exposure consensual					
	Yes	270 (52.9%)	240 (47.1%)	16.349	1	0.000
	No	0 (0.0%)	15 (100%)			

Table 3: Sociodemographic Determinants of Comorbid Anxiety and Depression among the Respondents using Binary logistic Regression

SN	VARIABLE	ODD RATIO	PVALUE	CONFIDENCE INTERVAL	
				LOWER	HIGHER
1.	Age of first sex				
	20 and above (ref)				
	As a teenager (1)	2.431	0.001	1.487	3.974
2.	Marital status				
	Married (1)				
	Single (1)	3.846	0.001	1.876	7.885
3.	High level of education				
	Graduate (ref)				
	Undergraduate	5.535	0.001	3.642	8.412

DISCUSSION

Self-esteem among the Respondents

The study reported that 25.7% of patients with indwelling catheters experience low self-esteem, this reflects a significant psychological burden associated with indwelling catheter This pattern aligns with several national and international studies, suggesting that the impact of catheter use extends beyond physical health to affect emotional and social well-being. [17] Nationally, studies in Lagos revealed similar findings, reporting that 28–32% of patients with long-term catheterization or stomas experienced low self-esteem, largely due to embarrassment, odor, leakage, and impaired sexual function. [18] These studies highlight the role of cultural perceptions and stigma in shaping patients' self-worth, especially in a society where physical autonomy is highly valued. Further evidence from Ibadan also showed that 26% of patients with chronic physical limitations including those with indwelling medical devices suffered from low self-esteem, especially when social support was lacking. [19] This underscores the psychosocial dimension of care for patients with chronic ailment in Nigeria, where medical interventions often overlook mental health needs. Internationally, studies conducted in the United Kingdom, South Korea, and New Zealand report comparable rates of low self-esteem (ranging from 22% to 35%) among patients living with urinary catheter. [20] For instance, documented experiences of humiliation, reduced body image, and social withdrawal in patients managing long-term catheterization. [21] Similarly, in South Korea found that cultural emphasis on physical perfection significantly influenced self-esteem, particularly in women and the elderly. [22] These consistent findings across different regions suggest that while the emotional toll of catheter use is globally recognized, the severity and consequences may be amplified in low-resource settings like Nigeria, where mental health infrastructure is weak and stigma is pervasive.

Comorbidity anxiety and depression among respondents

The findings indicate that 48.6% of the study participants screened positive for comorbid anxiety and depression, while 51.4% were negative. This suggests that nearly **half of the population assessed is experiencing significant symptoms of both anxiety and depression simultaneously**. The study reported that respondents who had their first sexual experience as teenagers were **2.43 times more likely** to experience **comorbid anxiety and depression** compared to those whose sexual exposure occurred at age 20 or above (suggesting a significant link between **early sexual initiation and later-life psychological vulnerability** among patients with indwelling catheters. In the Nigerian context, this prevalence reported aligns with patterns seen in other chronic illness populations. For instance, found that **48% of Nigerian patients with chronic medical conditions**, including hypertension and diabetes, had comorbid anxiety and depression, particularly when physical limitations interfered with daily functioning [23]. Similarly, observed that **approximately 50%** of patients attending neurology and internal medicine clinics in Southwest Nigeria had symptoms of both anxiety and depression, often linked to disease burden, stigma, and lack of psychosocial support. [24]

Studies focusing specifically on urological conditions in Nigeria have also noted high psychiatric comorbidity. In a study at a tertiary hospital in Lagos, reported that **46.2% of patients with long-term urinary conditions, including catheter use**, experienced psychological distress, with the majority exhibiting features of both anxiety and depression. [25] Factors such as discomfort, fear of leakage, loss of autonomy, and social withdrawal were commonly identified as triggers. These findings indicate that chronic urological management in Nigeria often lacks integrated mental health support, leading to unaddressed emotional distress.

Internationally, similar trends are reported across diverse settings. [26] In the United States documented that 45–55% of patients with chronic urological or oncological conditions presented with co-occurring anxiety and depression. [26] In Sweden, found that patients living with urinary catheterization often reported persistent psychological distress, with depression and anxiety coexisting in nearly half of the studied population. [27] Likewise, in Pakistan identified that 46% of patients with indwelling

catheters experienced both anxiety and depressive symptoms, driven by physical discomfort, perceived stigma, and reduced quality of life. [28]

These consistent findings across national and international settings confirm that comorbid anxiety and depression is a common psychological response to living with a chronic device such as an indwelling catheter. The convergence of physical limitations, fear of complications, body image concerns, and social stigma places patients at high risk for emotional disorders. The high prevalence in the current study underscores the urgent need to incorporate routine mental health screening and intervention into urological care pathway. [29]

Sociodemographic determinants of Comorbid anxiety and depression among the respondents

The study reported that respondents who had their first sexual experience as teenagers were 2.43 times more likely to experience comorbid anxiety and depression compared to those whose sexual exposure occurred at age 20 or above (suggesting a significant link between early sexual initiation and later-life psychological vulnerability among patients with indwelling catheters. Early sexual activity, particularly in adolescence, is often associated with increased psychological risk factors, including low self-esteem, exposure to sexual trauma or coercion, inadequate emotional preparedness, and poor relationship dynamics. [30] These factors may contribute to a long-term susceptibility to anxiety and depressive disorders, especially in the context of chronic physical health conditions. Among patients with indwelling catheters, the burden of physical discomfort, loss of independence, and social stigma can be further intensified by unresolved emotional or psychological issues stemming from early sexual experiences. In the Nigerian context, where sexual education is limited and discussions around early sexual activity are often stigmatized, adolescents who engage in early sex may lack the emotional support and coping strategies needed to process such experiences healthily. [31] This could predispose them to long-term emotional disturbances that manifest later in life, particularly when compounded by chronic illness. Empirical studies support this association. For instance, found that Nigerian adolescents who initiated sex early were more likely to develop mood and anxiety disorders in adulthood. [32] Elsewhere studies, in New Zealand, also report that early sexual debut is significantly linked to increased rates of depressive and anxiety symptoms later in life. [33] These effects may be mediated by factors such as sexual regret, low relationship quality, and increased exposure to sexually transmitted infections or unintended pregnancies each contributing to psychological stress.

Also, being single was associated with a 3.85-fold increased likelihood of experiencing comorbid anxiety and depression compared to married individuals highlights the critical role of marital status and social support in the psychological well-being of patients with indwelling catheters. This result suggests that single individuals are significantly more vulnerable to emotional distress, possibly due to the absence of spousal support, reduced emotional intimacy, and greater likelihood of social isolation factors that are particularly important when managing a chronic and intrusive medical condition like long-term catheter use. [34] Marriage often provides not only emotional companionship but also practical assistance in daily living, adherence to medical regimens, and coping with illness-related challenges. In the context of catheterized patients who may face physical discomfort, dependency, stigma, and lifestyle limitations the presence of a supportive partner can serve as a protective buffer against mental health deterioration. Conversely, single individuals may experience greater psychological strain due to limited access to consistent emotional support and caregiving. This finding is supported by national research. [32] For example, found that unmarried patients with chronic illnesses in Nigeria had significantly higher rates of depression and anxiety. [35] Similarly, reported that married individuals with chronic urological conditions demonstrated better mental health outcomes than their single counterparts, largely due to shared coping mechanisms and social reinforcement. [36] A Study in the UK have long established the mental health benefits of stable marital relationships, particularly among those facing chronic health challenges. [37]

The fact that elderly respondents are significant

determinants of comorbid anxiety and depression among patients with indwelling catheters reflects a well-established pattern in both geriatric mental health and chronic illness. Advanced age often brings increased vulnerability to psychological distress due to a convergence of biological, social, and medical factors. Among catheterized patients, this vulnerability is compounded by the physical discomfort, dependence on others for care, fear of complications, social isolation, and perceived loss of dignity that frequently accompany catheter use in older adults. [38]

As individuals age, they are more likely to face cumulative stressors such as retirement, bereavement, reduced income, loneliness, and declining physical health, all of which are well-known risk factors for both anxiety and depression. In the context of long-term medical interventions like indwelling catheterization, these stressors can become more pronounced, leading to feelings of helplessness, reduced self-worth, and diminished quality of life. Older adults may also be less likely to express psychological symptoms openly or seek mental health support due to generational attitudes, stigma, or lack of access to geriatric mental health services. National studies in Nigeria support this association. [39] Another study shows higher rates of anxiety and depressive symptoms among elderly patients attending medical and geriatric clinics, particularly those with chronic conditions requiring sustained medical interventions. [40] These findings were attributed to limited social support, inadequate mental health screening in general hospitals, and poor integration of psychosocial care in chronic disease management. Internationally, a study in Australia have consistently shown that elderly individuals with chronic urological or mobility-limiting conditions are at greater risk for emotional disorders, especially when their physical dependency affects their autonomy and social engagement. [41]

Finally, respondents with secondary school education and below had 5.54 times higher odds of experiencing comorbid anxiety and depression compared to those with graduate-level education) revealing a strong and statistically significant association between educational attainment and mental health outcomes among patients with indwelling catheters. This suggests that individuals with lower levels of education are substantially more vulnerable to psychological distress, possibly due to several interrelated factors including reduced health literacy, limited coping skills, greater economic hardship, and fewer psychosocial resources. [41] Education is widely recognized as a social determinant of health, influencing not only income and employment but also one's ability to access, understand, and act on medical information. Patients with lower education may struggle to fully comprehend the implications of chronic catheter use, adhere to medical regimens, or navigate healthcare systems, which can exacerbate stress and feelings of helplessness. [42] Furthermore, individuals with undergraduate education may be more likely to occupy low-paying or insecure jobs, contributing to financial strain a well-established risk factor for both anxiety and depression. In contrast, those with graduate-level education often have greater social capital, autonomy, and psychological resilience, which can buffer the emotional burden of chronic illness. National studies support this association. [43] Studies has found that lower education levels were independently associated with higher rates of anxiety and depressive symptoms among Nigerian medical patients. [44] A study has reported that Nigerian patients with less formal education were more likely to present with untreated psychological conditions due to poor help-seeking behavior and limited mental health awareness. [45] Other findings show low- and middle-income countries have consistently found that lower educational attainment is a strong predictor of psychiatric morbidity, particularly in populations facing chronic disease burdens. [46]

Association between Self-esteem and Comorbid anxiety and depression among the respondents

The observed association between self-esteem and comorbid anxiety and depression underscores the importance of self-esteem as a vital psychological determinant in the mental health of patients living with indwelling catheters. The fact that all individuals with low self-esteem experienced psychological comorbidity, in contrast to a much smaller percentage among those with normal self-

esteem, suggests that diminished self-worth may not only predict but also intensify emotional distress in this population. [47] The physical and social consequences of long-term catheter use such as embarrassment, perceived stigma, reduced autonomy, and changes in body image can erode a person's sense of identity and self-respect, making them more susceptible to anxiety and depression. [48]

CONCLUSION

The study demonstrates that patients with indwelling catheters face significant psychological challenges, with a high prevalence of low self-esteem and comorbid anxiety and depression. These mental health issues are strongly influenced by sociodemographic factors such as early sexual initiation, single marital status, and lower educational attainment. These findings underscore the need for comprehensive, patient-centered care that goes beyond physical management to include mental health suppor

RECOMMENDATION

It is therefore recommended that healthcare systems incorporate routine psychological screening and culturally appropriate mental health interventions into urological care, particularly for high-risk groups, while also promoting health education, social support networks, and interdisciplinary collaboration to enhance the quality of life for catheterized patients.

LIMITATIONS

This study's cross-sectional design limits causal inferences, and being single-center reduces generalizability. Self-reported measures may introduce bias, and the absence of clinical diagnoses limits accuracy. Unmeasured factors like catheter duration and social support were not accounted for, and cultural differences may affect scale validi**ty.**

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Conflict of interest statement

The authors declare no conflicts of interest