ORIGINAL RESEARCH PAPER

Psychiatry

HIGH RISK OF ANXIETY AND DEPRESSION IN FAMILY CAREGIVERS OF ORTHOPEDIC PATIENTS.

KEY WORDS: orthopedic conditions, patient care givers, depression, anxiety

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ABSTRACT

OBJECTIVE: The objective of this study was to assess for anxiety and depression in caregivers of orthopedic patients and associated factors.

Method: One hundred and twenty six caregivers of orthopedic patients were enrolled in our study. Symptoms of anxiety and depression in caregivers were assessed with the Hospital anxiety depression scale (HADS). Data obtained were analyzed using Statistical Package for Social Sciences Windows version 16. All statistical tests were carried out at a 5% level of probability.

Results: Of the caregivers, 32 (25.4%) had anxiety symptoms (HADS scores > 8) and 17 (13.5%) had depression symptoms (HADS scores > 8). Caregiver anxiety was significantly associated with large family size and residing in the rural area while depression was significantly associated with large family size..

Conclusion: The study demonstrated a significant level of anxiety and depression associated with caring for orthopedic patients, which is comparable to other studies carried out in other parts of the world.

INTRODUCTION

Orthopedic conditions are injuries and diseases that affect the musculoskeletal system. Damage to any of these tissues or structures can come from chronic orthopedic diseases or from an injury. Injuries to the musculoskeletal system constitute 16% of the total burden of disease worldwide,[1] this makes it the leading cause of morbidity. Most orthopedic traumas may lead to death even though some of them survive with different unpleasant health outcomes.[2] One world health organization data indicates that 20-50 million people have experienced non-fatal musculoskeletal injuries annually throughout the world.[3] Patients undergoing orthopedic surgery can experience difficulties in the management of post-surgical symptoms and physical limitations.[4] Orthopedic patients may experience barriers such as difficulties with Activities of Daily Living (ADL) [5,6], and problems returning to post-surgical lives.

For these reasons, the role of the caregiver (often called the "hidden patients") is of paramount importance in supporting dependent people both in simple and complex activities.[7] Although they are often family members without formal training, they take part in the activities of daily care, offering emotional support to the patients and replacing, in whole or in part, the physically dependent patients in the ADLs. Additionally, they monitor the patient's care pathway, managing the symptoms and taking on the family responsibilities previously managed by the patients.[8] All these factors contribute to increasing the caregivers' workload and they could cause psychological distress among caregivers such as mood disturbances like anxiety, depression, feeling of loneliness, isolation, fearfulness and being easily bothered – all arising from providing care for a sick relative.[9]

The burden of orthopedic trauma is enormous on survivors, their families and the society at large. According to a study conducted by Umile et al,[10] on family Caregiver Strain and Challenges When Caring for Orthopedic Patients: The literature indicates that not only the increase in caregivers' stress levels but also the decrease in quality of life. Omefe et al[11] revealed in their study that the physical, emotional, and general health of elderly hip fracture patients are issues that affect caregiving. Therefore the role of the caregiver can lead to a deterioration of their physical, cognitive and mental conditions.

In view of the dearth of literature or studies focused on caregivers of orthopedic patients in this our environment, this study aims at providing an insight into the problems facing the "hidden patients" in this part of the world.

METHODS

This study was designed and conducted as descriptive and cross-sectional in order to determine the anxiety and depression levels of family care givers of orthopedic patients attending Poters Hospital in Jos, Plateau state of Nigeria. Poters Hospital is a 40 bed capacity hospital which rendered orthopaedic and traumatology services with training and research activities. It is located in Jos south LGA of Plateau State of Nigeria, with a population of about 306,716 according to 2006 national census (National Bureau of Statistics, 2006). Most of the patients are within Plateau State and its neighboring states

The population of the study comprised of consented family care givers of patients who had orthopedic conditions such as fractures, dead limb, diabetic foot , chronic osteoathritis and those that underwent major orthopedic surgery (limb amputation, hip and knee replacement, and trauma). The sample of the study consisted of 126 family care givers, who were aged 18 and above, agreed to participate in the study. The study was carried out within a period of one year, i.e from (April 2020-March 2021). We excluded Caregivers with a previous history of mental illness, caregivers of patients with co-morbid mental sub normality and all those who decline consent.

The respondents were interviewed using the following instruments: I; A Socio-demographic questionnaire was used to obtain information about each patient and their care givers to elicit information such as age, gender, income, duration of illness and other related data. Ii; The second set of data collected was to assess anxiety and depressive symptoms among care givers of orthopedic patients using Hospital Anxiety Depression Scale (HADS). The instrument had been validated in many countries including Nigeria.[12-14] HADS has also been found useful in the assessment of psychiatric morbidity in the community. The instrument consists of seven items each for depression and anxiety. Scales are rated on a four point scale ranging from 0-3. A cut of point of 8 and above in either anxiety or depressive subscale indicates depression or anxiety.[14] While those with scores of less than 8 in both subscales were considered to be normal.

Following approval by the Plateau Specialist Hospital

research ethical committee and permission from the Porters Hospital to carry out the study, all consecutive care givers of orthopedic patients either admitted or on outpatient clinic visit that met the inclusion criteria were approached. The purpose, method, and role of each participant in the study were clearly explained and consent taken. They were then enrolled into the study until the desired sample size was reached.

Data Analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 16.0 for windows. Data collected on the study questionnaire was entered using numeric codes. Frequency distribution tables of variables were generated and chats formed. Measure of central tendency and dispersion of quantitative variables as well as proportion for qualitative variables were determined. Descriptive statistic was calculated for all continuous variables. Chi square test and student "t" test were used to test for association. All statistical tests were carried out at 5% level of probability.

RESULT

Regarding socio-demographic variables among 126 caregivers,(in table 1),55.6% were female,53.2% were of age group 20-40years, 77% had formal education, 78.6% had family size >5, 72.2% were unemployed, 54.8% had no financial support, 54.8% lives in urban setting, 50 % gives physical support to the patients, 38.9 % were other members of the family while 31% were parents.

In table 2: It was determined that while the "anxiety" mean score of the patient care givers was 7.754 ± 4.606, their "depression" mean score was 7.151 ± 549. 94 (74.6%) of the patient care givers had no anxiety <8, and 32 (25.4%) had anxiety >8. 109 (86.5%) of the patient relatives had no depression <8 and 17 (13.5%) of them had depression >8.

In table 3:The depression rate of family care givers with family size >5 was determined as significantly higher than those with family size <5 members (p=0.017<0.05). However, age, gender, education, financial support, place of residence, employment status, responsibility to patient and relationship with patient were not significantly associated with the level of depression among caregivers of orthopedic patients.

Table 4, Shows that family size of caregivers (p= 0.012) and place of residence of caregivers (p= 0.048) were significantly associated with the level of anxiety among caregivers of orthopedic patients. However, age, gender, education, financial support, employment status, responsibility to patient and relationship with patient were not significantly associated with the level of anxiety among caregivers of orthopedic patients.

Table 1: Socio-demographic variables of caregivers of orthopedic patients (n=126)

Socio-demographic variables	Frequency	Percentage
Age		
<20	12	9.5
20-40	67	53.2
>40	47	37.3
Gender		
Male	56	44.4
Female	70	55.6
Formal education		
Yes	97	77.0
No	29	23.0
Family size		
≤5	27	21.4
>5	99	78.6
Financial support		
Yes	57	45.2
No	69	54.8
Place of residence		
Urban	69	54.8
Rural	57	45.2
Employment status		
Employed	35	27.8
Unemployed	91	72.2
Responsibility to the patient		
Physical support	63	50.0
Financial support	22	17.5
Both	41	32.5
Relationship with the patient		
Parent	39	31.0
Spouse	21	16.7
Child	17	13.5
Others	49	38.9

Table 2: The anxiety and depression level of the study participants

		N	%	Mean±SD
Anxiety	< 8	94	74.6	7.754±4.606
	>8	32	25.4	
Depression	<8	109	86.5	7.151±3.549
	>8	17	13.5	

Table 3: Association between Socio-demographic variables and level of depression in caregivers of orthopedic patients - (n=126)

Socio-demographic variables				
	Normal n(%)	Depression n(%)	x^2	p-value
Age				
<20	12(100)	0(0.0)	5.215	0.266
20-40	60(89.5)	7(10.4)		
>40	37(74.5)	10(21.3)		
Gender				
Male	52(93.4)	4(7.1)	3.690	0.158
Female	57(81.4)	13(18.6)		
Formal education				
Yes	85(87.6)	12(12.4)	2.034	0.362
No	24(82.7)	5(17.2)		
Family size				
≤5	27(100)	0(0.0)	8.154	0.017*
>5	82(82.8)	17(17.2)		
Financial support				
Yes	52(91.2)	5(8.8)	3.583	0.167
No	57(82.6)	12(17.4)		
Place of residence				
Urban	61(88.4)	8(11.6)	1.690	0.430
Rural	48(84.2)	9(15.8)		
Employment status				
Employed	31(88.6)	4(11.4)	0.463	0.793
Unemployed	78(85.7)	13(14.3)		
Responsibility to				
Physical support	55(87.3)	8(12.7)	1.752	0.781
Financial support	20(90.9)	2(9.1)		
Both	34(82.9)	7(17.1)		
Relationship with patient				
Parent	34(87.2)	5(12.8)	2.981	0.811
Spouse	20(95.2)	1(4.8)		
Child	13(76.4)	4(23.5)		
Others	42(85.7)	7(14.3)		

Significant level at *p<0.05

Table 4: Association between Socio-demographic variables and level of anxiety in caregivers of orthopedic patients- (n=126)

Socio-demographic variables		

	Normal n(%)	Anxiety n(%)	X^2	p-value
Age				
<20	11(91.7)	1(8.3)	5.649	0.227
20-40	52(77.6)	15(22.4)		
>40	31(66.0)	16(34.0)		
Gender				
Male	44(78.6)	12(21.4)	1.852	0.396
Female	50(71.5)	20(28.6)		
Formal education				
Yes	77(79.4)	20(20.6)	5.584	0.061
No	17(58.6)	12(41.4)		
Family size				
≤5	25(92.6)	2(7.4)	8.875	0.012*
>5	69(69.7)	30(30.3)		
Financial support				
Yes	45(78.9)	12(21.1)	1.102	0.576
No	49(71.0)	20(29.0)		
Place of residence				
Urban	56(81.2)	13(18.8)	6.073	0.048*
Rural	38(66.7)	19(33.3)		
Employment				
Employed	29(82.9)	6(17.1)	2.019	0.364
Unemployed	65(50.5)	26(28.6)		
Responsibility to				
Physical support	49(77.8)	14(22.2)	2.759	0.599
Financial support	15(68.2)	7(31.8)		
Both	30(73.2)	11(26.8)		
Relationship with patient				
Parent	29(74.4)	10(25.6)	5.789	0.447
Spouse	14(65.7)	7(33.3)		
Child	12(70.6)	5(29.4)		
Others	39(79.6)	10(20.4)		

Significant level at *p<0.05

DISCUSSION

In Nigeria, the number of studies on anxiety and depression seen in family care givers of orthopedic patients is limited. Therefore, in this study, we aimed to determine anxiety and depression levels and associated factors of the family care givers of these orthopedic patients.

The results of this study show that about 25.4% and 13.5% of our subjects experienced anxiety and depression respectively while caring for their relatives and this was significantly associated with large family size and living in rural areas.

In the previous studies done by Ayfer et al[15], it was determined that about 25.0% and 38.3% of the study participants experience anxiety and depression respectively. Compared to our current study their depression level is higher. This may be due to the fact that their study was conducted on care givers of patients undergoing major orthopedic surgery, which may be life threatening and more task on care givers than our study which included other orthopedic conditions. Even though the depression level was much higher in the younger age group in their study compared to our study which was more in the older age group. This may be due to the fact that older adults are at increased risk of experiencing depression due to more responsibilities, medical illnesses and disabilities.

In the study conducted by Maruiti et al.[16] with the relatives of 39 patients hospitalized in the intensive care, they accepted that the anxiety and depression occurred when the HADS score was 8 and higher. They reported the incidence of the anxiety and depression symptoms in the patient relatives as 71.8% and 53.8%. Another study conducted by Lins-Fumis and Deheinzelin[17] with the relatives of 300 cancer patients, they found that 71% of the patient relatives had anxiety and 50.3% had depression. Maruiti et al and Lins-fumi/ Deheinzelin, recorded higher levels of anxiety and depression among care givers in their study compared to our current study. This may be due to the fact that their study participants were taking care of more life threatening conditions (intensive care patients and cancer patients respectively) than our study participants who were taking care of orthopedic patients.

Depression is significantly associated with family size in our study i.e (family size >5) while anxiety is significantly associated with large family size and residing in a rural area. The association between large family size with depression and anxiety might be because of increase responsibility and demand from other family members, therefore putting a strain on the family resources which in turn can affect care giver mental health. Large families are at increased risk of producing more delinquents and alcoholics which can affect the family negatively including their mental health.

The significant association of anxiety with residing in rural area in this study might be due to the fact that, rural dwellers are more likely to be poorer than their urban counterparts[18] and they have poor access to medical and mental health care. Poor access may result from poor road network, distance from centre's where the health facilities are located or poverty.[19]

In the literature, it has been reported that the most common risk factors associated with anxiety and depression symptoms among the patient relatives are being the patient's spouse, female gender, and low educational level.[20,21] However this is not consistent with our finding, where the risk factors were large family size and residing in a rural area. This might be because their study was carried out among patient relatives after patient's death in the intensive care unit, which could be more traumatizing and heartbroken.

Females constituted the majority of the caregivers in this study. This is in keeping with the tradition of the area where female relatives constitute the majority of caregivers. A similar observation was made by an earlier study on care givers of epilepsy patients in Nigeria.[22]Female gender show higher level of anxiety and depression than the male gender in this study; even though there was no significant association with either depression or anxiety. Never the less this is consistent with the literature where it has been stated that gender is related to stress response and severe anxiety and depression symptoms are observed in women compared to men.[23] It has also been reported that the anxiety disorders are twice as much in women compared to men.[24]

Limitations

The study is hospital based and access to hospital care is not easy in low resourced areas. As such the findings of this study might not necessarily reflect the situation in the wider community. Type of orthopedic conditions were also not taking into consideration in this study insofar as a care giver looking after a patient with major limb amputation is far more likely to be depressed or have anxiety symptoms than one taking care of chronic osteoarthritis.

CONCLUSION

The study found significant levels of anxiety and depression among care givers. This is associated with large family size and residing in the rural area; which is comparable to studies carried out in other parts of the world. The findings of this study show the need for the provision of accessible, affordable care for orthopedic patients and support for the family caregivers

Competing interests: We declare that there is no competing interest

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