Original Research Article

Association between Visual Impairment, Family Support, and Depression among Older Adults in Ekiti, Nigeria: Findings and Implicatios

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Abstract

Visual impairment has been reported as one of the leading causes of physical impairment among older adults. Age related visual loss has been found to be associated with increased risk of depression. Affective support which usually come from family has been found to have positive impact on mental health. This descriptive study was carried out to determine the association between visual impairment, family support and depression among older adults aged 60 years and above at the ophthalmology clinic of a tertiary hospital. All consenting participants were consecutively selected over the three months study period. Trained ophthalmologist and Ophthalmic Nurse took the respondents' sociodemograhic data and administered the Family support scale among the elderly and the Hospital anxiety and depression scale. Their visual acuity was also documented. Prevalence of depression was 8.7% among respondents. Both visual impairment and family support were significantly associated with depression. However, further regression analysis found family support as the only predictor of depression.
Keywords: Older adults, Visual impairment, Family support, Depression, Association, Implications.

BACKGROUND

Global population is ageing and visual impairment has been reported to be the third most common physical impairment among older adults [1]. Evans et *al* found a prevalence of 12.4% among a large representative sample of people aged 75 years and above in Britain while a prevalence of 22.3%-54.6% was found among older adults in India [2, 3]. In South Africa, Mashige *et al.,* reported a 63.6% prevalence of visual impairment and blindness which reduced by 19.5% after optical correction [4]. Studies in southern Nigeria have found prevalence ranging from 2% to 18% among general population depending on the study setting [5]. Among older adults in Onitsha, South-East Nigeria, Nwosu *et al.,* reported a prevalence of 42.6% while it was found to be 18.8% among general adult population in Jos, Northern Nigeria [6, 7]. In Ibadan, South-West Nigeria, Adebusoye et *al* reported a prevalence of 44.8% among older adults [8].

Age related vision loss has been found to be associated with increased risk of depression [9-11]. The prevalence of depression among older adults with irreversible vision loss varies between 24 and 45 per cent from previous studies [12-16]. A meta-analysis conducted by Ribeiro *et al*., found the prevalence range of depression to be from 8.8% to 45.2% among older adults [17].

In addition to some degree of limitation in daily activities imposed on individual with advancing age, it has been opined that visual impairment among older adults can bring about social isolation and increased risk of psychological stress [18]. It has been established that relationship with family and friends influence well-being across the life span and low levels of support have been consistently linked with lower levels of well-being [19, 20]. Older adults may be especially vulnerable to the detrimental effects of stress on their well-being when they do not have adequate levels of social support, also, low levels of social

support from family and friends may decrease an individual's ability to adapt to vision loss and may be associated with poorer psychological well-being [19, 21].

Depression among older adults has been linked with increased risk of suicide [22-24]. This is an important finding because suicidal behaviour is likely to be fatal among older adults than at any other age [24]. If left untreated, depression in older adults may result in the onset of physical, cognitive, functional, and social impairment, as well as decreased quality of life, delayed recovery from illness, and increased health care utilization [25, 26].

This study was designed to determine the prevalence of depression among visually impaired older adults and its association with visual impairment and family support.

METHODS
This cross-sectional study was carried out at the Ophthalmology clinic of Ekiti State University Teaching Hospital, Ado Ekiti, South West Nigeria over a period of 3 months (August to October 2022). All consenting older adults aged 60 years and above who presented at the clinic and consented to participate in the study were consecutively recruited on daily basis.

INSTRUMENTS
Information sought from participants includes their socio-demographic characteristics and duration of vision impairment. Depression was assessed using the Depression Sub-scale of the Hospital Anxiety and Depression Scale (HADS-D). Perceived family support among the respondents was assessed using the Family support scale for the elderly. Their visual acuity was assessed by an ophthalmologist and an ophthalmic nurse who were trained on the protocol and procedure for the study. The Hospital Anxiety and Depression Scale is a 14-item questionnaire that assesses both anxiety disorder and depression and has been validated among older adults [27]. The scale consists of two 7-item subscales for symptoms of anxiety disorder and depression. Each item is coded from 0 to 3. Based on the HADS-D score, respondents have been grouped into normal (no symptoms of anxiety. Score 0-7), borderline (indicates the presence of symptoms but to a moderate degree and therefore doubtful, Score 8-10), and abnormal (indicates confirmed cases, score ≥11). The family support scale for the elderly was developed to determine the level of perceived support received by the elderly [28]. It is a 20-item questionnaire, each item has a score of 0 – 3 on a 4-point Likert scale as follows: No

(0), Little (1), Some (2), Much (3). The maximum score is 60 with higher scores reflecting greater perceived support.

Data Analysis
Frequency distribution, Chi square, Fisher's exact, and correlation and regression tests were performed as appropriate using the Statistical package for social sciences (SPSS) version 25. For the purpose of statistical analysis and to meet the objective of this study, the scores on the family support scale was dichotomized into three as follows; poor support (a score of <50% of the maximum score), moderate support (score of 50% - 74%), and good support (score of ≥75%). Also, visual impairment was classified into moderate, severe impairment and blindness. The "mild impairment" class in ICD classification was fused with "no impairment".

Ethical approval for this study was obtained from Ethics and research committee of Ekiti State University Teaching Hospital, Ado Ekiti, Nigeria. (protocol Number: EKSUTH/A67/2022/09/003)

RESULTS
A total of 115 older adults above 60 years with a mean age of 71.4±8.30 years participated in this study. Majority of respondents (80%) were between 60 and 79 years with female preponderance (56.6%). A high proportion of participants (63.4%) were still married (Table 1).

Prevalence of depression was 8.7% and about half (50.4%) of all the respondents had been having visual impairment for 1–5 years. Overwhelming majority of respondents (85.2%) perceived their family support as good, 11.3% as moderate and 3.5% as poor. Majority of respondents (73.9%) had moderate degree of visual impairment while 25.2% were blind (Table 2). There was no statistically significant association between respondents' socio-demographic characteristics and depression (Table 3). However, there was a statistically significant association between family support (P= 0.005) and depression and degree of visual impairment and depression (P=0.004) (Table 4).

A multiple regression was conducted to examine the impact of family support and visual impairment on depression. The overall model explained 6.3% of variance which was statistically significant, F (2, 112) = 3.773, P= 0.0026. An inspection of individual predictor revealed family support (Beta = -.247, P= 0.009) is the only significant predictor and it is negatively correlated with depression (Table 5).

Table 1: Sociodemographic characteristics of respondents

Variable	Frequency	Percentage
Age (years)		
60 – 69	57	49.5
70 – 79	35	30.4
80 – 89	18	15.7
90 – 99	4	3.5
≥100	1	0.9
Total	115	100.0
Sex		
Male	49	43.4
Female	64	56.6
Total	113	100.0
Marital status		
Married	71	63.4
Widow	35	31.2
Divorced	6	5.4
Total	112	100.0
Religion		
Islam	106	96.4
Christianity	4	3.6
Total	110	100.0

Table 2: Other characteristics

Variable	Frequency	Percentage
Duration of reduced vision (years)		
<1	10	8.9
1 – 5	57	50.4
6 – 10	33	29.2
11 – 15	8	7.1
16 – 20	5	4.4
Total	113	100.0
Severity of visual impairment		
Moderate	85	73.9
Severe	1	0.9
Blindness	29	25.2
Total	115	100.0
Family support		
Good support	98	85.2
Moderate support	13	11.3
Poor support	4	3.5
Total	115	100.0

Table 3: Relationship between respondents' sociodemographic characteristics and depression

Variable	Normal	Borderline	Depression	Total	Fishers test
Ag (year)					
60 – 69	50	3	4	57	
70 – 79	29	2	4	35	
80 – 89	15	1	2	18	0.290
90 – 99	2	2	0	4	
≥100	1	0	0	1	
Total	97	8	10	115	
Sex					
Male	43	2	4	49	
Female	54	6	4	64	0.710
Total	97	8	8	113	

Variable	Normal	Borderline	Depression	Total	Fishers test
Marital status					
Married	63	4	4	71	
Widow	28	4	3	35	0.663
Divorced	6	0	0	6	
Total	97	8	7	112	
Religion					
Christianity	91	8	7	106	
Islam	4	0	0	4	1.000
Total		8	7	110	

Table 4: Relationship between other characteristics and depression

Variable	Normal	Borderline	Depression	Total	Fishers test
Family support					
Good	88	5	7	98	
Moderate	8	3	2	13	0.045
Poor	3	0	1	4	
Total	97	8	10	115	
Degree of visual Impairment					
Moderate	75	2	8	85	
Severe	0	1	0	1	0.004
Blindness	22	5	2	29	
Total	97	8	10	115	
Duration of visual Impairment (year)					
<1	6	0	4	10	
1 – 5	49	4	4	57	
6 – 10	29	3	1	33	
11 – 15	7	1	0	8	0.125
16 – 20	5	0	0	5	
Total	96	8	9	113	

Table 5: Multiple regression

Variable	B-coeff	R^2	F	t-value	P-value±
Family support	-0,247	0.063	3.773	-2.658	0.009
Visual impairment	-0.105	0.063	3.773	-1.127	0.261

DISCUSSION

The age range of the respondents observed in this study was 60 – 102 years (mean = 71.4 ± 8.30 years) is higher than the mean age of 67 years reported in an hospital based study in an eye clinic by Mulinde *et al.,* [29] . But lower than 73.3±4.6 years reported in a study among older adults living in old age homes in South Africa [30]. Similar to female preponderance observed in this study, some authors such as Masinge also reported such finding [30]. Contrary to this, Mulinde et al reported a male preponderance of respondents in their study [29]. Majority of respondents in this study (63.4%) were married while 31.2% were widowed. Mashinge *et al.,* in their study in South Africa found the highest proportion of their respondents to be married (49.7%) while 37.3% were widowed [30].

The prevalence of depression from this study was 8.7%. This is lower than 32.5% previously reported [14, 31]. However, the prevalence observed in this study is close to the lower range of 8.8% to 45.2%

reported in a meta-analysis conducted by Ribeiro et *al.,* [17].

The highest proportion of respondents in this study (73.9%) were having moderate degree of visual impairment while 25.2% were blind. This is different from previous findings in Nigeria. Isawumi et *al* found moderate, severe impairments, and blindness to have accounted for 51.2%, 20.2%, and 28.5% respectively among adults in an hospital based study [32]. Also, Abdulrahem et *al* in another hospital based study found uniocular and bilateral blindness to have accounted for 19.5% and 41.4% respectively [33].

A large proportion of respondents perceived their family support as good while only 3.5% perceived it as poor. This is in agreement with previous research conducted by Bassey et *al* in Nigeria among visually impaired adults which demonstrated that participants received increased social support from family members because of their impairment [34].

Statistically significant association was found between the degree of visual impairment and depression from this study. Those with moderate impairment were more associated with depression. This agrees with previous findings where older persons who had Acute Macular Degenaration (AMD) with unilateral blindness had greater emotional distress compared with those with bilateral blindness. The investigators speculated that the anticipation of future worsening vision faced by these patients could be a source of great emotional stress and fear [18]. However in a meta-analysis conducted by Parravano et *al*, the prevalence of depression did not vary by severity of visual impairment [35]. Also in a meta-analysis conducted by Osaba et *al*, an inconsistent result was reported by researchers on the association between depressive symptoms and severity of vision loss [36]. While some studies did not show any association [37, 38], others reported that depression severity was higher in those with substantial vision loss [39].

There is a statistically significant association between family support and depression from this study with family support having negative correlation with depression. Studies have shown that affective support has the most important positive impact on mental health, family support being an important source of affective support [40-42].

The model of our multiple regression to examine the impact of visual impairment and family support on depression could explain 6.3% of the variance and this was statistically significant. The only significant predictor of depression was family support with negative correlation. This further demonstrated the importance of family support on the psychological well-being of older adults with visual impairment.

CONCLUSION
This work will further contributed to knowledge on the relationship between visual impairment, family support and depression among the study population. Unlike most previous studies on the subject, this work has been able to statistically demonstrate the impact of family support on the risk of depression among older adults with visual impairment.

This study has implications for policy, clinical practice and the traditional family institution. There should be policy in place that may foster family support. Clinicians should pay attention to the availability and strengthening of family support among these older adults. In a transitional society like ours where the traditional family system and values are breaking down, there must be deliberate efforts at the family level to prevent extreme westernization of our family system.

The findings from this study should be generalized with caution being a hospital based study.

However, its strength lies in the relevance to policy, practice, and the family institution. Further community based study is recommended to make the findings more generalizable.

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