ORIGINAL RESEARCH

Factors associated with happiness among older persons attending a geriatric centre in southwestern Nigeria

Lawrence Adekunle ADEBUSOYE[1], Oluwagbemiga OYINLOLA[2], Oladipo Kunle AFOLAYAN[3], Eniola Olubukola CADMUS[4*]

1. Family Physician and Geriatrician, University College Hospital, Ibadan, Nigeria
2. Department of Medical Social Services, University College Hospital, Ibadan, Nigeria
3. Chief Tony Anenih Geriatric Centre (CTAGC), University College Hospital, Ibadan, Nigeria
4. Consultant Community Physician, Department of Community Medicine, College of Medicine, University of Ibadan, Nigeria

*Corresponding Author: Eniola Olubukola CADMUS; **E-mail:** eniyolacadmus@gmail.com

Abstract

Introduction

Happiness is an important indicator of physical and mental health, especially in older persons. Despite the growing interest, empirical insights into the factors influencing happiness among older persons in many low- and middle-income countries, including Nigeria, are lacking. The present study assessed the factors associated with happiness among older persons.

Methods

A cross-sectional study of 378 older persons (≥60 years) attending a geriatric care facility in Ibadan city, Oyo State, southwestern Nigeria, was conducted. A semi-structured, interviewer-administered questionnaire was used for data collection. Happiness was determined using the Oxford Happiness Questionnaire. Data were analysed using descriptive and inferential statistics at a 5% significance level.

Results

Mean age of the respondents was 72.8±7.1 years, and 67.5% were females. Overall, 313 (82.8%) respondents were happy. The most significant factors associated with happiness on logistic regression analysis were having fewer children (OR=2.041; 95%CI= 1.091–3.818, p=0.025), formal education (OR=2.850; 95%CI= 1.280–6.344, p=0.010), absence of depression (OR=12.942; 95%CI= 4.699–35.641, p<0.0001) and engagement in occupational activities (OR=2.870; 95%CI= 1.006–8.187, p=0.049).

Conclusion:

A high level of happiness was reported among the older persons in the study and influenced by non-modifiable socio-demographic and modifiable mental health factors. Holistic healthcare provision must include screening for mental health issues and targeted intervention to alleviate such problems among older persons to improve their happiness.

Keywords: Happiness, Mental health, Nigeria, Older persons, Physical health

Introduction

The population of older persons in Nigeria is increasing in tandem with other countries in sub-Saharan Africa. This demographic change is attributable to advances in medical sciences and changes in the population demographics. Presently, Nigeria ranks 24th globally among countries with the highest population of older persons, and it is projected that the population of older persons in Nigeria aged 60 years and above will increase from the current 6.98 million to 25.5 million by the year 2050[1]. Similarly, it has been estimated that by 2025, the number of older persons living in low and medium-income countries (LMICs) will be approximately 850 million, accounting for 12% of the overall population of these LMICs[1].

Some reported consequences of ageing are a decrease in hope, joy, and quality of life[2]. Most older persons are prone to loneliness, isolation, and lack of social support, and their independence is often threatened due to physical and mental disabilities 2 with the consequences of a decline in the quality of life and, ultimately, in their hope and happiness[2,3].

Happiness is an emotional or affective state that is characterised by feelings of enjoyment and satisfaction and describes how an individual considers different aspects of life[4,5]. The concept can be defined as a subjective expression of personal welfare that comprises an evaluation of one's emotional state and satisfaction with life. Among older persons, happiness is mainly equated with morale, contentment, well-being, life satisfaction, successful ageing, quality of life, and the good life[4,5].

Happiness confers many protective health benefits for older persons. The benefits include better physical health, greater psychological resilience, and longevity 6. Impaired happiness is not only a consequence of ill health but also a potential contributor to disease risk[7]. The absence of negative states such as depression and distress does not imply a person's happiness. An individual might not be experiencing distress but may not feel particularly happy[7]. Since moods fluctuate rapidly, many experiences are often bittersweet, eliciting positive and negative feelings[7].

Two pathways have been proposed to link happiness and health[7]. The first is that habitual behavioural practices relate to the two. On the one hand, individuals with better subjective well-being have healthy lifestyles that reduce their risk of morbidity and premature mortality[7]. On the other hand, the biological correlates of happiness can mediate the

association with health outcomes[7].

The determinants of happiness in older individuals are numerous and include genetics, personality, education, marital and socioeconomic status. Other determinants include social networks, stress exposure, physical activities and health status[7]. The relationship between age and happiness among older persons is inconsistent. Some studies have reported an inverse association between increasing age and happiness[4,8]. In contrast, a U-shaped relationship was observed among older Iranians[9]. Also, research shows that happiness is associated with higher educational status, relationship status, higher income/ socioeconomic status, and being physically active[4,7,9–11]. Happiness is influenced by clinical factors such as depression, cognition, nutritional status, and functional independence[4,6,7].

Despite the growing interest, happiness and its associated factors have been scarcely studied among older persons in many LMICs, including Nigeria[4]. Older Nigerians face a myriad of socioeconomic and health issues. These include poor living conditions, poverty, loneliness and a sedentary lifestyle. Other problems include illiteracy, chronic illnesses, and a high cost of medical treatment. The World Happiness Report showed that Nigeria fell from 91st position (5.155 points) out of 156 countries in 2018[12] to 118th position (4.552 points) in 2022[13], with points mainly lost in the social support domain. This downward trend is expected to continue in the face of deepening poverty and the constriction of social support for older Nigerians[14,15].

Most research on the perception of age and ageing is predominantly negative, focusing on social and health problems. The negativity may be integrated into an older person's self-view of ageing[16]. The negative views of older person's ageing are related to poor health, poor well-being, and shorter survival times[16]. Therefore, recognising factors that affect happiness in older persons could help reduce the problems society may face in the future. This study determined the level of happiness and associated factors among older persons in southwestern Nigeria.

Methods

Study Area

The study was conducted at the Chief Tony Anenih Geriatric Centre (CTAGC), University College Hospital (UCH), Ibadan. Ibadan has a population of 3.6 million inhabitants and is the cosmopolitan capital city of Oyo State, southwest Nigeria 17. The UCH is a public fee-paying facility established by the Federal Government of Nigeria in November 1957 as the pioneer tertiary hospital in Nigeria. The CTAGC is a purpose-built facility for the care of older persons established in 2012. The CTAGC offers outpatient, inpatient and surgical services. Special clinics include old age psychiatry, memory, neurology, rheumatology, endocrinology, ophthalmology, dental, and community geriatrics. Other specialities include physiotherapy, dietetics and medical social work. Presently, the Centre has a patient base of about 21,000. On average, 8 to 10 newly registered and 45 follow-up older patients are attended to at the CTAGC daily.

The CTAGC attracts a variety of clients from within Oyo State and across the country. The CTAGC operates at a reduced rate of about 50% of what is obtained in the UCH. This provision removes cost as a barrier and increases older persons' access to health care.

Study design and sampling

A cross-sectional design was used. The Leslie-Kish formula for the single proportion was used to calculate the sample size at an estimated prevalence of 50% since the prevalence of happiness is not known among older patients in Nigeria, and correcting for the finite population (Cochran, 2017). The inclusion criterion was male and female older patients (≥60 years) who presented consecutively during the study period.

An average of 8-10 new patients are seen daily. All newly registered older patients between 1st February and 24th April were approached to participate in the study. Older patients with impaired cognition were not excluded. Individuals who were acutely ill or otherwise unable to communicate were excluded. The respondent's ages were determined by asking them. For those who could not remember, the table of historical events used in previous research was employed[19,20].

Data Collection Procedure: Older male and female clinic attendees aged 60 years and above were recruited for the study. Two research assistants collected data using a semi-structured questionnaire after a pretest. Information on the respondents' demographic characteristics such as age, sex, ethnicity, religion, marital status, number of children, educational level, income, occupation, living arrangement, lifestyle habits, financial and social support was obtained.

Measurements

The 29-item Oxford Happiness Questionnaire (OHQ) was used to measure personal happiness. OHQ was developed by psychologists Michael Argyle and Peter Hills at Oxford University[21] and scored from 1 to 6 points on a 6-point Likert scale[22]. The level of happiness was categorised using the total score of the 29 items divided by 29 to give an aggregate score from 1 to 6. The scores are interpreted as 'Not happy' $(1 - 2)$, 'Somewhat happy' $(2 - 3)$, 'Not particularly happy or unhappy' $(3 - 4)$, 'Somewhat happy or moderately happy' (4), 'Rather happy or pretty happy' $(4 - 5)$, 'Very happy' $(5 - 6)$, and 'Too happy' (6). Similar to previous research, a cut-off score of 3.5 out of 6 was taken as the numerical average of happy and unhappy responses[23].

The functional ability of the respondents was assessed using Barthel's activities of daily living index. The Barthel Index is a 10-item simple-to-administer tool for assessing self-care and mobility activities of daily living. It is widely used in geriatric assessment settings[24]. The reliability, validity, and overall utility of the Barthel Index are rated as good to excellent. Information for assessing functional ability among older people is gained from observation, self-report, or informant reports. Total possible scores range from $0 - 20$, with lower scores indicating increased functional disability[24,25].

Cognition was assessed using 'the six-item screener'[26]. This brief and reliable instrument for identifying subjects with cognitive impairment has diagnostic properties comparable to the complete Mini-Mental State Examination (Sensitivity 95.2 and Specificity 86.7)[26]. The screener is easily scored by a simple summation of errors. The sensitivity and specificity of the six-item screener for a diagnosis of dementia were 88.7 and 88.0, respectively[26].

The Mini-Nutritional Assessment- Short-Form (MNA-SF) was used to screen for malnutrition among the participants. The tool has been previously used in Nigerian studies[27–29].

The Geriatric Depression Scale (GDS) developed by Sheikh and Yesavage was used to assess depression[30].

Table 1: Sociodemographic characteristics of the respondents (N = 378)

Variables	Frequency	Percentage
Gender		
Male	123	32.5
Female	255	67.5
Age group (years)		
60-69	131	34.7
70-79	171	45.2
80 and above	76	20.1
Marital status		
Married	215	56.9
Divorced	5	1.3
Widowed	158	41.8
Education		
No Formal	59	15.6
Primary	56	14.8
Secondary	74	19.8
Tertiary	189	50.0
Occupational status		
Not engaged in occupational activities	305	80.7
Currently engaged in occupational activities	73	19.3
Income (Naira)		
≤30,000	39	10.3
>30,000	339	89.7
Living arrangement		
Alone	19	5.0
With Spouse	170	45.0
With Children/ Grandchildren	174	46.0
With Relatives/ Friends	15	4.0
No of children		
0-5	255	67.5
>5	123	32.5
Financial support		
Self	24	6.3
By Spouse	3	0.8
By Children/ Grandchildren	350	92.6
By Relatives/ Friends	1	0.3
Social support		
Self	20	5.3
By Spouse	122	32.3
By Children/ Grandchildren	226	59.8
By Relatives/ Friends	10	2.6

Table 2: Association between sociodemographic characteristics and happiness

Variable	Not Happy=65 n (%)	Happy=313 n (%)	χ^2	p-value
Gender				
Male	49 (19.2)	206 (80.8)	2.246	0.134
Female	16 (13.0)	107 (87.0)		
Age group (Years)				
60-69	21 (16.0)	110 (84.0)	4.173	0.124
70-79	25 (14.6)	146 (85.4)		
80 and above	19 (25.0)	57 (75.0)		
Marital status				
Currently married	29 (13.5)	186 (86.5)	4.813	0.028*
Not currently married	36 (22.1)	127 (77.9)		
Education Status				
Had no formal education	21 (35.6)	38 (64.4)	16.619	<0.0001*
Had formal education	44 (13.8)	275 (86.2)		
Occupational status				
Not engaged in occupational activities	60 (19.7)	245 (80.3)	6.802	0.009*
Engaged in occupational activities	5 (6.8)	68 (93.2)		
Income				
≤ 30,000	13 (33.3)	26 (66.7)	7.954	0.005*
> 30,000	52 (15.3)	287 (84.7)		
No of children				
0 – 5	32 (12.5)	223 (87.5)	11.884	0.001*
> 5	33 (26.8)	90 (73.2)		
Living arrangement				
Alone	3 (15.8)	16 (84.2)	18.873	<0.0001*
With Spouse	14 (8.2)	156 (91.8)		
With Children/ Grandchildren	45 (25.9)	129 (74.1)		
With Relatives/ Friends	3 (20.0)	12 (80.0)		
Financial support				
Spouse	0 (0.0)	3 (100.0)		0.428[f]
Others	65 (17.3)	310 (82.7)		
Social support				
Self	4 (20.0)	16 (80.0)	12.281	0.006*
By Spouse	9 (7.4)	113 (92.6)		
By Children/ Grandchildren	50 (22.1)	176 (77.9)		
By Relatives/ Friends	2 (20.0)	8 (80.0)		

* Significant at 5% level of significance; [f] Fisher's Exact test

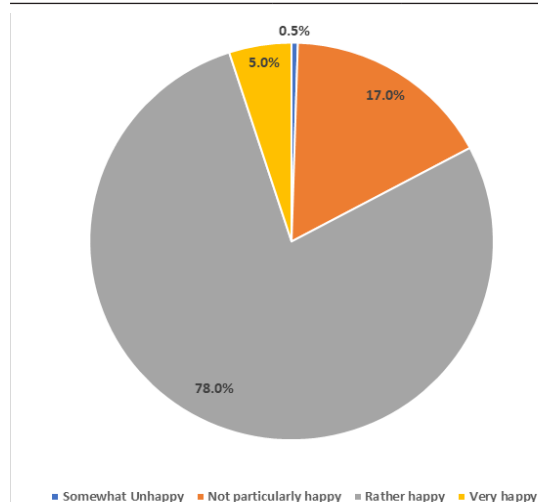**Table 3: Clinical factors associated with happiness**

Variable	Not Happy=65 n (%)	Happy=313 n (%)	χ^2	p-value
Cognition				
Poor	6 (46.2)	7 (53.8)	7.929	0.005*
Normal	59 (16.2)	306 (83.8)		
Nutritional status				
Malnutrition/ At risk of malnutrition	14 (21.9)	50 (78.1)	1.185	0.276
No malnutrition	51 (16.2)	263 (83.8)		
Functional ability				
Dependent	16 (38.1)	26 (61.9)	14.494	<0.0001*
Independent	49 (14.6)	287 (85.4)		
Depression				
Had depression	18 (72.0)	7 (28.0)	56.469	<0.0001*
Had no depression	47 (13.3)	306 (86.7)		
Physical activity				
Not active	2 (100.0)	0 (0.0)	26.787	<0.0001*
Moderately active	57 (22.3)	199 (77.7)		
Very active	6 (5.0)	114 (95.0)		
Body Mass Index				
Underweight	1 (12.5)	7 (87.5)	2.675	0.444
Normal	26 (20.5)	101 (79.5)		
Overweight	18 (13.2)	118 (86.8)		
Obese	19 (18.3)	85 (81.7)		

Figure 1: Levels of Happiness

The GDS-short form has been used in Nigerian studies[31,32] with a similar scoring system.

Anthropometric measurements

The respondent's heights were recorded in meters using a measurement stand (stadiometer) manufactured by Seca Corporation, Columbia, Maryland, USA. The stadiometer was positioned on a flat surface. All the respondents were asked to remove their shoes, and their heels were placed against a wall. Female respondents were asked to remove their headwear, and their hair flattened temporarily with a hard flat surface, making a perpendicular tangent to the wall.

The respondent's weights were measured using a weighing scale manufactured by Hana, Japan, and recorded in kilograms (kg) to the nearest 0.1kg. The weighing scale was placed on a flat horizontal surface, and the respondents were asked to remove their personal effects, like bags, shoes, and heavy clothing, before mounting it. The respondent's readings were done with the researcher standing in front of the respondents. The zero mark was checked after every reading for accuracy. The respondent's BMI was calculated by dividing the weight (kg) by height (m²) and was graded using the World Health Organization anthropometric classification 28,33. Underweight was defined as BMI <18.4kg/m² and 18.5 – 24.9 kg/m² as normal. Overweight was ascribed to older patients with a BMI of ≥25.0 kg/m², and obesity was categorised as a BMI ≥30.0 kg/m²,33.

Validation

Research in happiness is a grey aspect of ageing, as most studies focus on the disease/ illness aspects of older persons. The Oxford Happiness Questionnaire has been used among older people in other LMICs, such as Iran[34] and India[22]. For this study, the face validity of the study instrument was ascertained through a panel discussion by experts in ageing research.

The panel consisted of two family physicians and a community physician. The panel looked at the items in the questionnaire and agreed that it is a valid measure of the various aspects of happiness and functioning. Further instrument validation included a pre-test among a representative sample of older patients similar to clients attending CTAGC. The questionnaire was pretested on 30 older persons at Agbeke Mercy Medical Centre, an outstation of the Department of Family Medicine, UCH, Ibadan.

The questionnaire was administered in English or Yoruba based on the respondent's preferences. Interviews were conducted by two bilingual research assistants trained over two days in the administration of the questionnaire. The questionnaire survey took about 30 minutes to administer, while the anthropometric measurements took about 15 minutes, totalling 45 minutes for each respondent.

Ethical consideration: The study received approval from the University of Ibadan/University College Hospital Institutional Ethical Review Board (UI/EC/19/0603). Written informed consent was obtained from most of the respondents before the administration of the questionnaire.

Table 4: The most significant factors associated with happiness

	β	p-value	Odds Ratio	95% CI for OR	
				Lower	Upper
Marital status					
Not currently married	Ref				
Currently married	0.426	0.181	1.531	0.821	2.857
Number of Children					
> 5	Ref				
≤ 5	0.714	0.025*	2.041	1.091	3.818
Education					
Had no formal education	Ref				
Had formal education	1.047	0.010*	2.850	1.280	6.344
Monthly Income					
≤ 30,000 Naira	Ref				
> 30,000 Naira	0.022	0.964	1.022	0.391	2.670
Cognition					
Had cognitive impairment	Ref				
Had no cognitive impairment	0.014	0.986	1.014	0.233	4.414
Functional Status					
Dependent	Ref				
Independent	0.560	0.207	1,751	0.734	4.184
Depression					
Had depression	Ref				
Had no depression	2.560	<0.0001*	12.942	4.699	35.641
Employment					
Not currently engaged in occupational activities	Ref				
Currently engaged in occupational activities	1.054	0.049*	2.870	1.006	8.187
Living arrangement					
Not Living alone	Ref				
Living alone	-0.247	0.783	0.781	0.135	4.530
Social support					
Yes	Ref				
No	0.080	0.927	1.083	0.199	5.886
Physical Activity					
Not physically active	Ref				
Physically active	-20.896	0.999	0.000	0.000	.

However, for those unable to sign the documents, verbal consent was permitted and cleared by the Ethical Review Committee.

Data analysis

Data were analysed using the Statistical Package for Social Sciences version 27 (SPSS-27). Univariate analyses were presented using frequency tables, means, standard deviations and graphs. Bivariate analysis utilised Chi-square statistics to test the association between the categorical variables. Variables significantly associated with happiness at 5% on bivariate analysis were entered into a logistic regression model to explore the relationship between socio-demographic characteristics, clinical factors, and happiness at a significance level, $p < 5\%$.

Results

All newly registered patients who fit the inclusion criteria within the study period (410) were approached. However, 32 declined participation, giving a response rate of 92.2 %. Reasons for declined participation were mainly due to time constraints and caregivers' impatience to complete the hospital visit. A total of 378 respondents were interviewed, with a female preponderance of 255 (67.5%) and a mean age of 72.8 ± 7.1 years. A higher proportion of the respondents (45.2%) were aged between 70 to 79 years. Over half of the respondents were married (56.9%) and had tertiary education (50.0%). The majority were not engaged in occupational activities (80.7%) and earned more than 30,000 Naira ($65.2) monthly (89.7%). Over two-thirds of the respondents had ≤ 5 children (67.5%) and were supported socially (59.8%) and financially (92.6%) by their children/grandchildren. Table 1.

As shown in Figure 1 majority of the respondents, 313 (82.8%), were happy. Table 2 describes the association between the respondents' socio-demographic characteristics and happiness. Being married (p = 0.028), having formal education (p <0.0001), engaging in occupational activities (p = 0.009), earning more than 30,000 Naira (p = 0.005), having ≤ 5 children (p = 0.001), living with someone (p <0.0001) and having social support from their spouses (p = 0.006) were significantly associated with happiness.

As shown in Table 3, clinical factors associated with happiness were normal cognition (p = 0.005), functional independence (p <0.0001), having no depression (p <0.0001) and being very physically active (p <0.0001).

The significant factors for happiness on logistic regression analysis were having fewer children (OR = 2.041; 95% CI = 1.091 – 3.818, p = 0.025), having formal education (OR = 2.850; 95% CI = 1.280 – 6.344, p = 0.010), having no depression (OR = 12.942; 95% CI = 4.699 – 35.641, p<0.0001) and engagement in occupational activities (OR = 2.870; 95% CI = 1.006 – 8.187, p = 0.049). Table 4.

Discussion

Most studies focus on the negativity of ageing, presented mainly as social and health problems. Our study delved into a grey aspect of ageing, mostly unresearched in older Nigerians, by determining the level and factors associated with happiness among older persons. Majority of the respondents in this study were happy, which was in tandem with reports from older persons in Singapore (96.2%) 6, the United States (82.7%) 35, Turkey (81.8%) 10, and Iran (71.2%)[22].

Socioeconomic factors such as being married, having a formal education, engagement in occupational activities, higher income, fewer children, and spousal support in social and living arrangements were significantly associated with happiness. However, there were no gender differences in happiness, which contradicts the reports from Iran[8,9] and South Africa, where men reported a more significant proportion of happy life expectancies compared to women across all ages[11].

Research suggests that increasing age is negatively associated with happiness[4,8]. Some authors have reported contrasting findings on happiness and increasing age[36]. For instance, in Thailand, studies found that age changes did not bring about a dramatic difference in happiness among older people[9,37]. In this study, however, although there was a decline in the proportion of happy respondents with age, age was not significantly associated with happiness.

Older persons rely heavily on their families for support. However, this arrangement is rapidly eroding in many settings due to demographic and social changes such as reduced family size and increased female workforce participation[5,38]. This situation makes older persons rely on their spouses for living and social support. As such, it is unsurprising that older married persons were more likely to be happy than their unmarried counterparts.

For engagement in occupational activities, a hierarchical linear modelling result revealed that working older individuals are not happier than nonworking individuals overall[39]. However, involvement in work as a daily activity coincides with higher momentary happiness levels. Furthermore, working older individuals experience more happiness during relaxing activities and weekends, whereas nonworking older individuals experience more happiness during administrative activities[39]. Similarly, Sumngern et al. observed that older Thai persons who were not working experienced higher levels of happiness than those who were working[5]. This was dissimilar to our finding that active occupational engagement was significantly associated with being happy.

This finding should be viewed in the context of the reasons why older people engage in occupational activities. Some older persons might be working because of poverty and the need to fend for themselves. Others work because they own the business and are employers of labour. In addition, individuals with a higher level of formal education are more likely to be employable, which may explain why a higher educational level contributes to the positive feeling of happiness among older persons in the study[8,9].

Education has been evaluated as the most basic socioeconomic indices in older persons. Higher education levels equip older individuals with appropriate strategies to effect physical and mental health changes, which leads to happiness[8]. Gray and associates reported poverty as the strongest predictor of happiness among older Thai persons[37]. Older persons who reported that they were not poor or as poor as their neighbours were significantly happier than those who reported that they were poorer than their neighbours. Economic growth has been found to increase happiness in low-income countries but not in high-income countries[37]. The influence of health on older individuals' happiness has been reported in several studies[4,6–8].

Research implies that the relationships between happiness and cognition may be bidirectional. Subjective well-being has been reported to be associated with a reduced risk of dementia and mild cognitive impairment. At the same time, cognitive decline in later life has been shown to lead to reduced happiness and loss of purpose in life. However, more evidence is needed before any firm conclusions can be drawn on this[7,40]. Similarly, Tan et al., 2019 posited that having normal cognition was associated with being happy. Happiness has been shown to reduce the risk of dementia and cognitive impairment. Also, individuals with normal cognition are more likely to report being happy compared with those with cognitive impairment.

Depression was a predictor of happiness in our study. Mental health problems are negatively intertwined with happiness. Also, happiness protects older persons from stress and makes them cope more adequately with their problems[8]. Luchesi et al., 2018 reported that happiness correlates more with mental health than physical health (Luchesi et al. 2018). Therefore, it was not surprising that though depression and functional independence were significant with happiness at the bivariate level, only depression was a predictor in the logistic analysis model.

Conclusion

With the exponential increase in the population of older persons, it is essential to determine factors that can contribute to more successful ageing. The findings from this study add to the existing literature on happiness in the older population. A high level of happiness was reported, similar to previous studies. In particular, mental health issues, specifically depression, are a modifiable mediator of happiness among the participants in the study. We advocate for routine happiness assessment by healthcare providers and the provision of targeted interventions to alleviate mental

health issues in older persons to improve their happiness.

Limitation

The cross-sectional design limits the establishment of a temporal relationship between the variables. Interestingly, most older persons in the study were happy considering the challenges and limitations associated with ageing and their care in Nigeria. This finding may be because the study was facility-based. In Nigeria, payment for health is often out-of- pocket. Hence, the study population are more likely to be of higher socio-economic status who can afford payment and are happier. This finding limits the generalizability of the findings to the poorer older persons in the general populace. A qualitative exploration may have helped to explain and contextualise this finding. There is a need for further investigation using a qualitative approach.

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