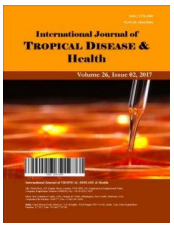

International Journal of TROPICAL DISEASE & Health

35(4): 1-10, 2019; Article no.IJTDH.20448
ISSN: 2278–1005, NLM ID: 101632866

Assessment of Disease Morbidity Pattern and Health Care Seeking Behaviour among the Elderly in Calabar Municipality, Cross River State, Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. Author MUI did the study design and wrote the protocol. Authors JEE and SAI did the statistical analysis and literature searches while analyses of study was by author PIE. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/IJTDH/2019/v35i430129
Editor(s):
(1) Prof. Anthony R. Mawson, Department of Epidemiology and Biostatistics, School of Public Health, Jackson State University, Jackson, Mississippi, USA.
Reviewers:
(1) Anthony Olasinde, Federal Medical Centre, Nigéria.
(2) Gülsen Meral, Kagithane State Hospital, Turkey.
(3) Luciana de Barros Correia Fontes, Universidade Federal de Pernambuco, Brazil.
Complete Peer review History: http://www.sdiarticle3.com/review-history/20448

Original Research Article

Received 22 June 2015
Accepted 01 September 2015
Published 17 April 2019

ABSTRACT

Aims: This study was aimed at assessing disease morbidity pattern and health care seeking behaviour among the elderly in Calabar Municipality, Cross River State, Nigeria.
Study Design: Descriptive cross-sectional study design
Place and Duration of Study: Calabar Municipal Local Government Area, Cross River State between Feburary 2015 to March 2015.
Methodology: Multi-stage sampling technique was used to select 200 elderly persons who gave consent to participate in the study. A semi-structured questionnaire was used to collect data from the respondents. Data collected were collated and analysed using IBM SPSS version 20.0 and results were presented in tables. Chi-square was used to test for association between categorical variables.

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Results: The result obtained showed that respondents within the age bracket of 65-69years 74(37.0%) constituted majority followed by those aged 70-74years 56(28.0%) and 75-79years 42(21.0%). More than half of the respondents 110(55%) were females while the remaining 90(45%) were males. This study revealed that malaria 50(23.1%), high blood pressure 43(19.9%) and joint pain/arthritis 31(14.4%) were the most identified health problems suffered by the elderly and the hospital/healthcare centre was where most elderly persons sought for treatment whenever they fall ill. Expenditure on health services received was largely out-of-pocket expenditure 86(43.0%). Other respondents revealed that their children 64(32.0%), relatives/in-laws 28(14.0%), spouse 16(8.0%) and friend(s) 6(3.0%) were responsible for their hospital bills. Most respondents 106(53.0%) who patronized the hospital/health center were satisfied with treatment received. Increasing age and gender were significantly associated with disease morbidity pattern among the elderly ($P < .05$).
Conclusion: Improving geriatrics care through effective implementation of intervention programmes is pivotal to mitigating the rate of disease morbidity among the aged population.

Keywords: Elderly; morbidity pattern; health seeking behaviour; calabar municipality.

1. INTRODUCTION

Globally, there have been clear indications that individuals aged 60 years and above are substantially increasing numerically and are projected to increase by one billion by 2020; two-third of whom will domicile in poor and low-income settings [1]. Research has shown that as people advance in age, they are often vulnerable to chronic medical conditions. Consequently, this has contributed to the dismal health indices of countries and their economies. Hence, it is pertinent to suggest that increase morbidity and mortality from infectious and non-infectious diseases is often a common phenomenon among the aged population in both developed and developing countries.

Many health problems are known to increase with age and this demographic trend may lead to an increase in the total number of health conditions in this population [2]. In addition, because there is a growing body of evidence that older people are at risk of multiple co-morbid conditions, their search for health care will probably also increase. Studies have reported high morbidity profile of acute and chronic health problems predominant among the elderly. A study in Bostwana revealed that the musculoskeletal system, eye diseases including cataract and blindness, were the most frequent health problem reported [3]. Abdulraheem [4] reported that the most frequently reported illnesses were body pain (89.5%), joint pain (86.4%), generalized body weakness and fatigue (81.5%), poor sight (78.2%), fever (71.3%) %), irritability, anger, and nervous tension (70%), listlessness, depression, and headaches (60%) and decreased mobility (65.8%). Exavery and colleagues [5] in their study found that four most prevalent chronic diseases among the elderly were arthritis (6.8%), cataracts (4.3%), angina (3.9%) and depression (3.6%). A review by Lloyd-sherlock [6] revealed that hypertension **(**19% and 30% of urban male and female; 13% and 17% rural male and female respectively), was the most prevalent self-reported health problem among the elderly. Other self-reported conditions included, heart disease, Osteoarthritis, diabetes, stroke. Adebusoye et al. [7] in their study reported that the most prevalent morbidities found among the elderly were hypertension (40.0%), cataracts (39.4%) and osteoarthritis (26.8%). Odaman et al [8] also reported that approximately 63% of elderly persons had age associated illnesses such as blood pressure, cardiac problems, diabetes, joint pains, kidney infections, cancer and tuberculosis.

A cross-sectional study in a rural hospital in South-Eastern Nigeria identified acute malaria, hypertensive crises syndrome and acute hypertensive heart failure as three most common geriatric health conditions [9]. Agbogidi and Azodo [10] found out that musculoskeletal pain (40.5%), malaria (29.0%), cough (10.1%), hypertension (6.6%), eye problem (5.0%), diabetes mellitus (4.8%) and diarrhoea (4.0%) were the most common illnesses reported by the elderly. A retrospective review carried out in Nigeria on disease mortality patterns of elderly patients reported that the most common cause of mortality was cerebrovascular accident (25.1%) malignancies (15.2%) and diabetes mellitus (metabolic disorder) (8%) [11]. In the later study, other causes of death were congestive cardiac failure (6.2%), Septicaemia (5.2%), trauma (4.6%) while chronic renal failure and chronic obstructive pulmonary disease consist of 3.9% cases. Another household survey in South-West

Nigeria reported that eye defects (91%), musculoskeletal disorders (58.1%), hypertension (24.3%), sleep disorder (24%), and dementia (15.8%) were the major health problems among the elderly [12]. Abegunde et al. [13] observed that musculoskeletal problems, hypertension, visual impairment and Osteoarthritis were the most prevalent health problems in both urban and rural elderly population.

2. OBJECTIVE OF THE STUDY

The ultimate goal of this study was to empirically assess disease morbidity pattern and health care seeking behaviour among the elderly in Calabar Municipality, Cross River State, Nigeria

3. METHODOLOGY

3.1 Study Setting

The study area is Calabar Municipality. It is situated in the Southern Senatorial District of Cross River State, Nigeria. Calabar Municipality is made up of an estimated population of 176,218 [14]. Calabar Municipal council has 10 political wards with a land mass of 141.33 square kilometer. The municipal is bounded by Calabar River to the west, Akpabuyo Local Government Area to the East, Odukpani Local Government Area to the North and Atlantic Ocean to the south. It is a cosmopolitan city which embraces all ethnic groups in Nigeria. The two dominant ethnic groups are the Efiks and Quas which share common culture and religion. English and Efik are the languages widely spoken. The municipal is predominantly a Christian city with few Muslims and traditional religious groups and mainly occupied by civil servants, businessmen and traders. It also has industries and establishments such as airport, export processing zone, Naval and Army base, Tinapa, NNPC depot, cement factory etc. The municipal has three levels of health care namely; primary, secondary, tertiary level as well as private health care. Calabar is famous for its rich cultural heritage, warm hospitality and peace-loving disposition.

3.2 Study Design

A cross-sectional descriptive study design was employed to assess disease morbidity pattern and health care seeking behaviour among the elderly in Calabar Municipality, Cross River State, Nigeria.

3.3 Study Population

All aged persons who were 65 years and above residing in Calabar Municipality constituted the study population. Elderly persons with hearing defect and the dumb were excluded from participating in the study.

3.4 Sample Size Determination

Sample size for this study was determined using Fishers' formula, [15] which is given as

$$n = \frac{Z^2Pq}{d^2}$$

Where

- n = Sample size
- Z = 1.96(i.e. 95% confidence interval)
- d = 0.08 (acceptable margin of error)
- P = 63% = 0.63 (Proportion of elderly persons suffering from chronic medical conditions) [8]
- q = 1-P = 0.37 (Proportion of elderly persons not suffering from chronic medical conditions)

Therefore,

$$n = \frac{(1.96)^2 \times 0.63 \times 0.37}{(0.08)^2} = 139.9 \approx 140$$

The sample size for this survey was 140. However, to make room for non-response and attrition bias, the desired sample size was increased by 30% giving a sample size of 200 that was used for the study.

3.5 Sampling Procedure

Multi-stage random sampling technique was employed in the selection of wards, streets, household and respondents and the procedure is described as follows:

Stage 1: Selection of wards: Random sampling was employed to select 5 wards using the lottery method. Numbers were assigned to each ward, folded, put in a basket and shaken vigorously. Someone (research assistant) was asked to pick a piece of the folded paper after which it was shaken until all that were considered for the study were picked.

Stage 2: Selection of streets: In each selected ward, simple random sampling technique was employed to select 4 streets from each ward

using the lottery method. Numbers were assigned to each street, folded and put in a basket. It was shaken vigorously and picked by a research assistant which gave a total of 20 streets.

Stage 3: Selection of households: In each selected street, systematic sampling technique was employed to select 10 households from each selected street with an elderly person that is 65 to 90years inclusion criteria and excluded elderly with hearing/dumb defect. This procedure continued until 10 households were duly selected from 20 streets (i.e. 10 households x 20 streets = 200 elderly persons).

Stage 4: Selection of respondents: In each household, simple random sampling method was employed to select 200 respondents using lottery methods.

3.6 Instrument for Data Collection

A structured questionnaire was designed to generate quantitative data from the respondents. The questionnaires were interviewer-administered to respondents that gave their consent to participate in the study. It comprised two sections and 13 items. Sections A comprised socio-demographic characteristics of respondents while section B comprised self-report health problems and health care seeking behaviour among the elderly. The questionnaire was pre-tested among 20 (i.e. 5% of sample size) elderly people residing in Calabar South Local Government Area. The essence of pre-testing the questionnaire was to ascertain its reliability and validity. Pre-testing helped to determine the relevance of questions and variables under measurement, remove ambiguity where it exists, improve on sequencing of questions and estimate maximum time for completion of questionnaires.

3.7 Method of Data Analysis

Data entry and analysis were done using the IBM Statistical Package for Social Sciences Software (SPSS 20.0 version, 2012) and Microsoft excel 2007. Results were expressed as percentages and presented in tables. Chi-square was used to test for association between categorical variables at 5% level of significance.

3.8 Ethical Considerations

A letter of introduction was collected from the Department of Public Health, University of Calabar, Calabar. This letter was used as an entry point to the study area. Verbal informed consent was duly sought and obtained from the respondents that took part in the study. The objectives, significance and benefits of the study were explained to the respondents and participation in this study was strictly voluntary. The research participants were assured of confidentiality of information volunteered by them and were told to withdraw from participating in the study at any time they desire to do so.

4. RESULTS

4.1 Distribution of Respondents by Age, Sex, Religion, Marital Status and Educational Status

Two-hundred copies of the questionnaire were administered to the respondents and the response rate was 100%. The demographic distributions of the respondents were as follows: most respondents were aged 65-69 years 74(37.0%) while others were aged 70-74 years 56(28.0%) and 75-79 years 42(21.0%). There were 110(55.0%) females while 90(45.0%) were males. Respondents staying with their family members were 92(46.0%) while 60(30.0%) reported staying with their spouse and 48(24.0%) said they stay alone (Fig. 1). Religion affiliation revealed that Christians were 174(87.0%), Muslims 10(5.0%) and traditionalists 16(8.0%). Most respondents were married 104(52.0%), 54(27.0%) widow/widower while 26(13%) single. Those who had tertiary education were 96(48.0%), secondary 42(21.0%), primary 24(12.0%) while 38(19.0%) had no formal education (Table 1).

4.2 Distribution of Respondents according to their Occupational Status and Income Level

Most of the respondents 135(67.5%) had not been employed in the last 12 months (Fig 2). The remaining 65(32.5%) respondents were government employed 19(29.2%), self-employed/business/farming 10(15.4%) and private employment 8(12.3%). About 28(43.1%) said they were pensioners. Most study participants 29(44.6%) earned moderate level of income, 25(38.5%) low and 11(16.9%) earned high income (Table 2).

4.3 Self-report Health Problems among Respondents

Health problems mostly suffered by the respondents include; malaria/fever 50(23.1%),

high blood pressure 43(19.9%), joint pain/arthritis 31(14.4%) diabetes 21(9.7%), eye problem 19(8.8%), chest/heart pain 18(8.3%), cancer 12(5.6%), stroke 10(4.6%) and Ear/Nose/Throat problem 10(4.6%). Females (52.8%) had higher disease morbidities than males (47.2%) ($P < 0.05$) (Table 3).

Table 1. Distribution of respondents by age, sex, religion, marital status and educational status (n = 200)

Variables	Number of respondents	Percentage
Age in years		
65-69	74	37.0
70-74	56	28.0
75-79	42	21.0
80-84	16	8.0
85 and above	12	6.0
Total	200	100
Sex		
Male	90	45.0
Female	110	55.0
Total	200	100
Religion		
Christianity	174	87.0
Muslims	10	5.0
Traditional religion	16	8.0
Total	200	100
Marital status		
Single	26	13.0
Married	104	52.0
Divorced	8	4.0
Separated	8	4.0
Widow/widower	54	27.0
Total	200	100
Educational status		
No formal education	38	19.0
Primary education	24	12.0
Secondary education	42	21.0
Tertiary education	96	48.0
Total	200	100

Source: Osuchukwu et al [27]

4.4 Places Sought for Treatment among Respondents

Out of 200 respondents, 106(53.0%) said they visit the hospital/health center whenever they were sick. Others revealed that chemist/pharmacy shop 40(20.0%), church/prayer house 16(8.0%) and traditional home/herbalist 10(5.0%) were places they sought for treatment whenever they had health problems. About 14(7.0%) and 14 (7.0%) respondents subscribed to self-medication with local herbs and orthodox medicine respectively. Gender difference in places sought for treatment among respondents was statistically significant ($P < 0.05$) (Table 4).

4.5 Expenditure on Medical Bills among Respondents

Expenditure on health services received by the respondents was solely out-of –pocket expenditure 86(43.0%) while others revealed that their children 64(32.0%), relatives/in-laws 28(14.0%), spouse 16(8.0%) and friend(s) 6(3.0%) were responsible for their medical bills. Females spent more on health services than their male counterparts and the difference was significant ($P < 0.05$) (Table 5).

4.6 Level of Satisfaction with Treatment Outcome among Respondents

One hundred and six respondents (53.0%) were satisfied with treatment received while others said they were dissatisfied 44(22.0%), very satisfied 38(19.0%) and very dissatisfied 12(6.0%) with the treatment outcome. Satisfaction level was higher among female elderly than males and the difference was significant ($P < 0.05$) (Table 6).

5. DISCUSSION

In this study, malaria, high blood pressure, joint pain/arthritis, diabetes, eye problem and chest/heart pain were the most health problems predominantly reported by the respondents. This is similarly reported in other studies in Nigeria [8,9,10,12,13,16]. Also, female participants showed a higher prevalence of morbidity as compared to their male counterparts. This report is consistent with that of Abdulraheem [4] where elderly females were more vulnerable to health problems than elderly males. Increase morbidity among female respondents substantially results in regular use of health services than males. Malaria as identified in this study, is the most common causes of morbidity from communicable disease in all age groups in Nigeria, although non-communicable diseases especially hypertension, arthritis, diabetes, eye problem and chest/heart pain constitute the greater burden of geriatric health problems. Since

malaria infection is hyper-endemic in Nigeria, most elderly persons are often susceptible to the risk of acute or severe malaria due to diminish immunity. It can be hypothesized that as people gradually advanced in age, their immune system is gradually compromised making them prone to infections. Hence, incorporating the aged population in malaria control programmes is crucial in averting malaria in endemic areas thereby increasing longevity.

Table 2. Distribution of respondents according to their occupational status and level of income (n=200)

Variables	Number of respondents	Percentage (%)
Occupational status		
Type of occupation		
Pensioner	28	43.1
Self-employed/ business/farming	10	15.4
Government employment	19	29.2
Private employment	8	12.3
Total	65	100
Monthly Income level		
Low	25	38.5
Middle	29	44.6
High	11	16.9
Total	65	100

Source: Osuchukwu et al [27]

High blood pressure or hypertension was the second cause of morbidity among the elderly and is higher among male (11.6%) than females (8.3%). This report corroborates other studies that identified hypertension as the most common non-communicable disease in Nigeria [9,17,18]. Studies conducted in virtually all continents of the world have identified hypertension as a major geriatric health problem. Iloh et al. [19] asserts that hypertension and aging has a synergistic relationship which is often reflected in most studies. The elderly population should be encouraged to visit the health center for medical examination at regular intervals for prompt detection and treatment of any hypertensive case. Recommendations from physicians would also necessitate regular checkup for high blood pressure among the elderly each time they visit the health facility. This would eventually promote primary and secondary prevention of hypertensive cases thereby ameliorating the mortality rate from hypertension.

Joint pains/arthritis was the third most common morbidities as reported by the respondents and is significantly higher among females (8.8%) than males (5.5%). This is in accordance with other studies that identified musculoskeletal problems and osteoarthritis as major causes of frequent illness among the aged population [7,20,21,22,23]. Osteoarrthritis has also been found to be associated with higher frequency of falls, disability and psychological distress among the elderly [24].

Table 3. Self-report health problems among respondents according to gender (n=216)

Variables	Number of respondents (percentage)		
	M (%)	F (%)	Total (%)
Malaria/fever	20(9.2)	30(13.9)	50(23.1)
High blood pressure/Hypertension	25(11.6)	18(8.3)	43(19.9)
Diabetes	11(5.1)	10(4.6)	21(9.7)
Cancer	5(2.3)	7(3.2)	12(5.6)
Stroke	7(3.2)	3(1.4)	10(4.6)
Chest/heart pain	10(4.6)	8(3.7)	18(8.3)
Ear/Nose/Throat problem	3(1.4)	7(3.2)	10(4.6)
Eye problem	9(4.2)	10(4.6)	19(8.8)
Joint pain/arthritis	12(5.5)	19(8.8)	31(14.4)
Depression	0(0.0)	2(0.9)	2(0.9)
Total	102(47.2)	114(52.8)	216(100)

$\chi^2_{Cal} = 22.34; \chi^2_{0.05} = 16.92; df = 9; P < 0.05$

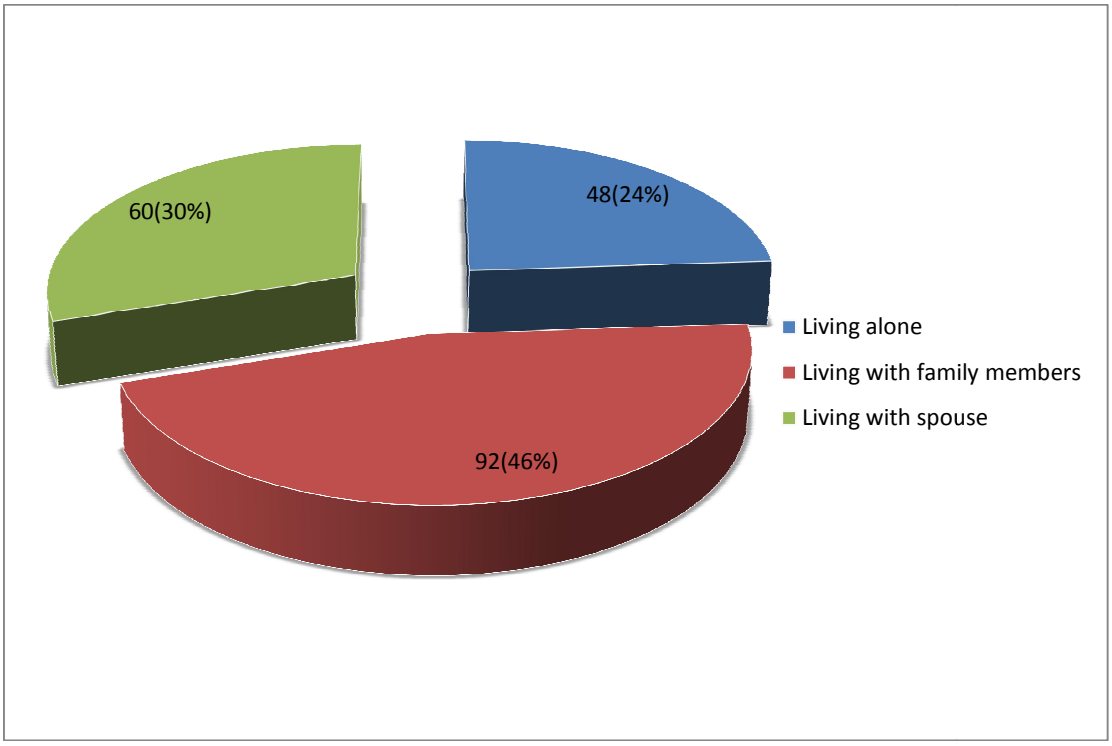

Fig .1. Residential status of respondents

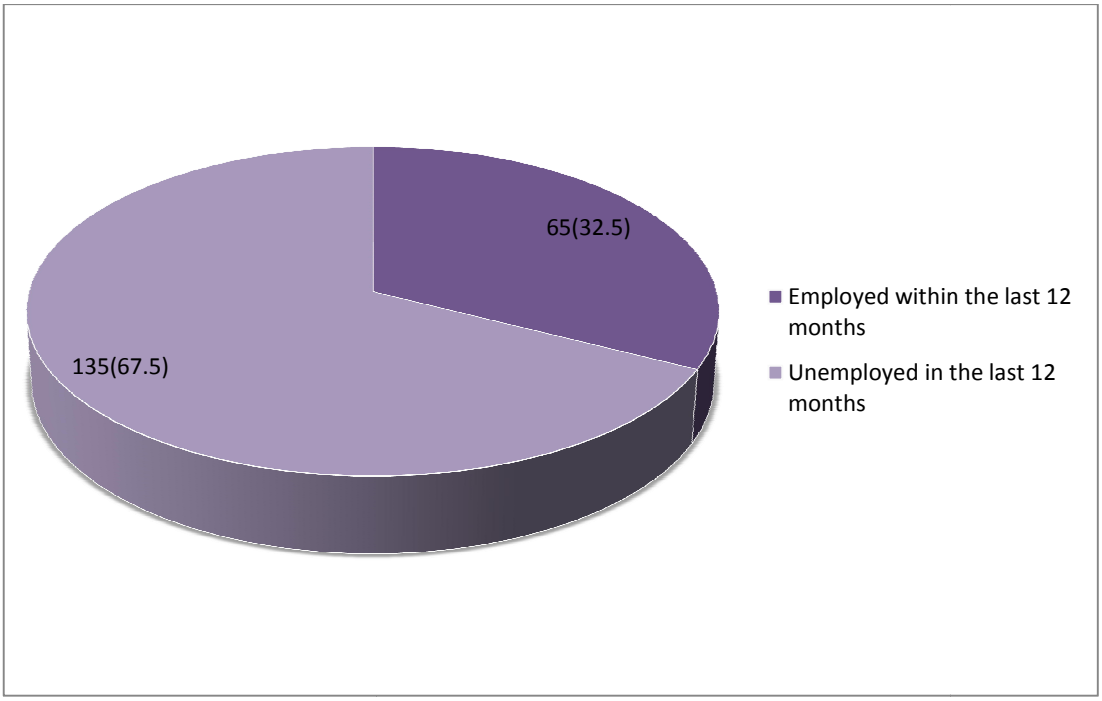

Fig. 2. Respondents' employment status in the last 12 months

Table 4. Places sought for treatment among respondents by gender (n=200)

Variables	Number of respondents (percentage)		
	Male (%)	Female (%)	Total (%)
Hospital/health care	46(23.0)	60(30.0)	106(53.0)
Chemist/pharmacist	15(7.5)	25(12.5)	40(20.0)
Church/prayer house	5(2.5)	11(5.5)	16(8.0)
Self medication using local herbs	10(5.0)	4(2.0)	14(7.0)
Self medication using orthodox	8(4.0)	6(3.0)	14(7.0)
Total	90 (45.0)	110 (55.0)	200 (100)

$\chi^2_{Cal} = 13.09; \chi^2_{0.05} = 9.49; df = 4; P < 0.05$

Table 5. Expenditure on medical bills among respondents according to gender

Variables	Number of respondents (percentage)		
	Male (%)	Female (%)	Total (%)
Self-sponsored	43(21.5)	43(21.5)	86(43.0)
Spouse	5(2.5)	11(5.5)	16(8.0)
Children	27 (13.5)	37(18.5)	64(32.0)
Relatives/in-laws	13(6.5)	15(7.5)	28(14.0)
Friend (s)	2(1.0)	4(2.0)	6(3.0)
Total	90(45.0)	110(55.0)	200(100)

$\chi^2_{Cal} = 11.761; \chi^2_{0.05} = 9.49; df = 4; P < 0.05$

Table 6.Level of satisfaction with treatment outcome among respondents according to gender (n=200)

Variables	Number of respondents (percentage)		
	Male (%)	Female (%)	Total (%)
Very satisfied	12(6.0)	26(13.0)	38(19.0)
Satisfied	39(19.5)	67(33.5)	106(53.0)
Very satisfied	9(4.5)	3(1.5)	12(6.0)
Dissatisfied	30(15.0)	14(7.0)	44(22.0)
Total	90(45.0)	110(55.0)	200(100)

$\chi^2_{Cal} = 9.33; \chi^2_{0.05} = 7.81; df = 3; P < 0.05$

More than half of the respondents (53.0%) sought for treatment in health facilities. This result corroborates with that of Odaman et al. [8] where 73.7% of the elderly patronized the hospital/health centers whenever they fall sick, although the percentage of hospital utilization is higher than that reported in this study. On the other hand, this report disagrees with that of Okumagba [25] where respondents were least likely to seek for treatment in hospitals or clinics. Rather, their ultimate source of health care was the chemist/pharmacist's shop. Confidence in the efficacy of treatment and availability of health services sought for may be attributed to increase patronage of health services at the health facility. Rare users of health care facilities (especially elderly males) even when they suffer from acute or chronic illness need to be reached. It was found out that low income level and low educational status was associated with low use of health care facilities. This clearly suggests that income and educational status are key demographic determinants of health services utilization among the aged population.

Nearly half of the respondents (43.0%) reported that expenditure on health services received was largely out-of-pocket expenditure whereas others received financial support from their children (32.0%), relatives/in-laws (14.0%), spouse (8.0%) and friend(s) (3.0%). This report disagrees with that of Lutala et al. [26] where relatives and friends were their major source of financial support for health care. Despite the fact that most respondents pay for health services from their pockets, supportive care either from the government or private organizations is highly imperative if optimal utilization of health services

among the elderly is to be achieved. Most respondents who could afford to pay for health services received were the employed and those that had higher income level.

Among those who visited the health facility for health care, most respondents were just satisfied with the quality of care received. A lesser proportion of the respondents were dissatisfied with the quality of health care received. Satisfaction with quality of care is discretional and is largely dependent on the type of health services received, competence of health care providers in geriatric care and efficacy of treatment outcome. Improvement in the quality of geriatric care is pivotal to optimal use of available health services in the study area.

6. CONCLUSION

The high burden of diseases among the geriatric population has led to increase morbidity and mortality and is a major threat to public health around the world. Notably, data generated in this study showed that nearly all respondents suffered from one chronic medical condition or the other, but about one-third of the respondents subscribed to self-medication for treatment using either herbal or orthodox medicine. Hence, health planners and policy makers should originate policies that would improve access to geriatric health care services, reduce out-of-pocket health expenditure thereby reducing the burden of disease morbidity. Older adults should be encouraged to visit the hospital for body checkup and diagnosis periodically for the purpose of primary prevention, prompt detection and treatment of disease. Provision of cost-effective specialized health services should be intensified.

CONSENT

All authors declare that verbal informed consent was obtained from the study participants (or other approved parties) for publication of this paper and accompanying images.

ETHICAL APPROVAL

Ethical approval was obtained from Cross River State Ethics Research Committee (CRS-ERC) Ministry of Health, Calabar, Nigeria.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Solomons NW. Health and ageing. In: Flores R, Gillepsie S, editors. Health and nutrition: Emerging and reemerging issues in developing countries. Washington D.C.: International Food Policy Research Institute. 2001;3.
2. Gijsen R, Hoeymans N, Schellevis FG, Ruwaard D, Satariano WA, van den Bos GA. Causes and consequences of comorbidity: A review. J. Clin. Epidemiol. 2001;54:661–674.
3. Clausen F, Sandberg E, Ingstad B, Hjortdahl P. Morbidity and health care utilization among the elderly people in Mmankgodi Village, Botswana. J Epidemiol Community Health. 2000;54:58-63.
4. Abdulraheem IS. Health needs assessment and determinants of health-seeking behaviour among elderly Nigerians: A house-hold survey. Annals of African Medicine. 2007;6:58-63.
5. Exavery A, Klipstein-Grobusch K, Debpuur C. Self-rated health and health care utilization among rural elderly Ghanaians in Kassena-Nankana District; 2011. Available:uaps2011.princeton.edu/papers/1103321-30
6. Lloyd-sherlock P. Epidemiological change and health policy for older people in Developing countries: Some preliminary thoughts. AGEING HORIZON; 2005; 1(2):21-24
7. Adebusoye LA, Ladipo MM, Owoaje ET, Ogunbode AM. Morbidity pattern amongst elderly patients presenting at a primary care clinic in Nigeria. Afr J Prm Health Care Fam Med. 2011;3(1):211-217.
8. Odaman OM, Ibiezugbe MI. Health seeking behavoiur among the elderly in Edo Central Nigeria. International Review of Social Sciences and Humanities. 2014; 7(1):201-210.
9. Iloh G, Amadi AN, Awa-Madu J. Common geriatric emergencies in a rural hospital in South-Eastern Nigeria. Niger J Clin Pract. 2012;15(1):333-7
10. Agbogidi J, Azodo C. Experiences of the elderly utilizing healthcare services in Edo State. The Internet Journal of Geriatrics and Gerontology. 2009;5(2):23-77.
11. Uchendu OJ, Forae GD. Disease mortality pattern in elderly patients: A Nigerian Teaching hospital experience in Irrua, Nigeria. Niger Med. J. 2013;54:250-3.

12. Uchendu OC, Adebiyi AO, Sangowawa AO, Adebayo AM, Ige KO. Health problems of the elderly in a rural community in South western, Nigeria. Human Kinetics. 2012;1(2):22-34.
13. Abegunde KA, Owoaje ET. Health problems and associated risk factors in selected urban and rural elderly population groups of South-West, Nigeria. Ann Afri Med. 2013;12:90-7.
14. National population commission. Projected population of Calabr South Local Government Area of Cross River State, Nigeria; 2006.
[Retrieved on January 14, 2012]
Available:http//www.citypopulation.de
15. Fisher RA. On the interpretation of χ2 from contingency tables, and the calculation of P. Journal of the Royal Statistical Society. 1945;85(1):87–94.
16. Abdulraheem IS, Abdulrahman AG. Morbidity pattern among the elderly population in a Nigerian tertiary health care institution: Analysis of a retrospective study. Nigerian Medical Practitioner. 2008; 54(2):32-36.
17. Akinkugbe OO. Non-communicable diseases in Nigeria, The next epidemics: Nigeria preparedness. Third Biennial Abayomi Bamidele Memorial Lectures. Niger J Clin Pact. 2000;3:37-42.
18. Unachukwu CN, Agomuoh DI, Alasia DD. Pattern of non-communicable diseases among medical admissions in Port Harcourt, Nigeria. Nigerian Journal of Clinical Practice. 2008;11(1):14-17.
19. Iloh GU, Ofoedu JN, Njoku PU, Amadi AN. Blood pressure control among geriatric Nigerians with essential hypertension in a rural hospital in South-Eastern Nigeria. Port Harcourt Med J. 2013;7:50-58.
20. Purty AJ, Bazroy J, Kar M, Vasudevan K, Veliath A, Panda P. Morbidity pattern among the elderly population in the rural area of Tamil Nadu, India. Turk J Med Sci. 2006;36(2):45-50.
21. Sharma D, Mazta SR, Parashar A. Morbidity pattern and health-seeking behavior of aged population residing in Shimla hills of North India: A cross-sectional study. Journal of Family Medicine and Primary Care. 2013;2(2):188-193.
22. Narayan V, Chandrashekar R. Morbidity pattern among the elderly population in a South Indian tertiary care institution: Analysis of a retrospective study. Indian Journal of Research in Pharmacy and Biotechnology. 2013;1(5):744-747.
23. Srivastava MR, Sachan B, Gupta P, Bhardwaj P, Srivastava JP, Bisht A, Choudhary S. Morbidity status and its social determinants among elderly population of Lucknow District, India. Scholars Journal of Applied Medical Sciences. 2013;1(6):758-764.
24. Joshi K, Kumar R, Avasthi A. Morbidity profile and its relationship with disability and psychological distress among elderly people in Northern India. International Journal of Epidemiology. 2003;32(6):978-987.
25. Okumagba PO. Choice of health care services utilization by the elderly in Delta State in Nigeria. J Sociology Soc. Anth. 2011;2(2):131-138.
26. Lutala MP, Kwalya TM, Kasagila EK, Watongoka LH, Mupenda BW. Health care seeking and financial behaviours of the elderly during wartime in Goma, Democratic Republic of Congo. Afr J Prm Health Care Fam Med. 2010;2(1):108-114.
27. Osuchukwu NC, Inde MU, Osuchukwu EC, Eko JE, O'Neill ME, Osonwa OK, Ekpo EI. Determinants of health services utilization among the elderly in Calabar Municipality, Cross River State, Nigeria. European Journal of Preventive Medicine. 2015;3(5): 129-136.

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