MOBILITY AS DETERMINANT OF QUALITY OF LIFE OF THE ELDERLY IN THE RURAL SOUTH - WESTERN, NIGERIA

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Abstract: Over the years, researchers have provided evidences of varying degrees on mobility as a determinant factor of quality of life of the elderly in the rural areas in different parts of world. In Nigeria, mobility of the elderly in rural areas as one determinant of their life remains under researched. This study therefore examined mobility as a determinant of quality of life of the elderly in the rural areas of Ondo State, Nigeria. Data were collected through multistage procedures in 27 randomly selected rural settlements while a total of 795 questionnaires were administered on elderly in the study area. Nigeria. Data collected were analyzed, using descriptive statistics and Chi square techniques. The results indicated that there exists varying degree of socio- economic and mobility characteristics of the respondents - mobility and quality of life of the elderly, total trip and quality of life as well as rating of waiting time for means of transport and quality of life of the rural elderly. Findings showed that a larger percentage (83.8%) of the sampled respondents did not own any personal means of movement or transport both male and female from the rural area of Ondo State. However, there were general poor ratings of quality of life in relation to their mobility, 24.34% and 25.45% of the sampled elderly in both the hinterland and at the coastal region rated their quality of life very bad, and 42.91% (hinterland) and 53.13% (coastal areas) rated it bad. Similarly, no significant difference was found in the seven categories of waiting time among the hinterland communities ($\chi2= 27.08$, $p > 0.05$) and coastal communities ($\chi2 = 20.84$, $p > 0.05$). However, the general view was that the waiting time at road sides or stops for vehicles was considered as having negative impact on the quality of life of the elderly.

Key words: mobility, determinant, quality of life, elderly, rural,

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INTRODUCTION

Mobility or movement from one place to another is an inherent characteristic of any human society. Basically, mobility is an indispensable component of the economy and it plays a major role in spatial relation between locations (Ogunsanya, 2000). Mobility, according to Olawole and

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Aloba (2014), is a means of interaction between people and their immediate environment (urban or rural) to meet diverse fundamental needs. As people get older, the ability to move from place to place reduces, and becomes difficult, due to some factors, such as; poor vision and poor economic power to finance their movement among others (Ipingbemi, 2010).

Mobility in urban areas may be quite different from that which takes place in rural areas with agrarian economy. In both economies, movement of the elderly people (senior citizens) may be similar in some characteristics. However, aging is a significant limiting factor of mobility of the elderly to places both in urban and rural areas. Mobility, therefore, involves the need to reach and satisfy individual socio-economic, cultural and political activities, as well as the need to conduct daily activities, which include among others; visit to workplace, market, visiting friends and families (Aloba, 1985). In general, mobility is a critical condition for socio-economic developments and an important catalyst for rural transportation. In other words, mobility should be geared towards ensuring a good level of accessibility and safety for all categories of the elderly people whose mobility is being slowed down by their ages.

In Nigeria, the elderly travel is important because such elderly are connected to their respective social needs, goods and services (Olawole and Aloba, 2014). Enhancing older people's mobility capacity, has been considered as an integral part of efforts to promote overall societal development (Cobb and Coughlin, 2000; Glasgow, 2000; Rosenbloom, 2004; Kerschner, 2006; Gullette, 2006; Mattson, 2011; Olawole and Aloba, 2014). Furthermore, studies have shown that mobility of the elderly people has constituted major constraint to their quality of life in many developing countries of the world (Odufuwa, 2006). Hence this study aimed at examined the mobility as determinant of quality of life of the elderly in the rural areas of Odo State, Nigeria with a view to provide a framework that can improve on the mobility and quality of life of the elderly in the rural areas of Ondo State. To achieve this aim, the following objectives were explored; to examine the mobility characteristic of the elderly in the study area, to analyse the impact of mobility on quality of life of the elderly and finally to determine the total trips generated on quality of life of the elderly in the study area.

Conceptual clarification and literature review

Mobility is one of the fundamental components of the economic benefits of transportation. Its variation over time and space are likely to have substantial impacts on the opportunities of individuals in any country or region. The term 'Mobility' has been widely used to mean different things. In the literature it means different things to different people. Sometimes, mobility and travel are used inter-changeably, because mobility has often been defined as the ability to travel.

According to Giuliano, Hu and Lee (2003) and Suen and Sen (2004), mobility has been broadly defined *"as being able to move where and when a person wants, knowing how to use them, being able to use them and having the means to pay for them"*. Reduced mobility impedes development while greater mobility is a catalyst for development. Thus mobility is a reliable indicator of development. This implies that the concept of mobility involves travels that allow individuals to gain access to desired goods in form and places, including benefits that are incidental to such movement (Suen and Sen, 2004).

Pillemer and Glasgow (2000), in their studies concluded that elderly ability to travel promotes their social integration, and which in turn leads to their physical and psychological well-being. However, travel does not decrease with age until later in life when vision and hearing problems, physical strength among others lower or limit the rate at which elderly people over the age of 75 years could no longer travel over a long distance (Hu and Lee, 2003).

A review of literature relating to the elderly people in rural areas and transportation suggests there is a disconnect between the transportation needs of the elderly residing in the rural areas and the transportation available or provided for the vulnerable groups, especially in the context of those who have no access to vehicle or no longer licensed. However, available and type of services relative to the transportation needs of rural elderly characterized the nature of the rural

areas. For example, the dispersed nature of the rural areas makes provision of public transport more difficult for the elderly people compared to that obtained in urban areas (Mohan, 2005). Hence, mobility plays a vital role in the life and the well-being of the elderly all over the world (Weir and McCabe, 2008). In many rural areas most especially the sub-Sahara Africa countries, immobility perpetuates social inequities by offering a limited range of transport choices to the elderly (Satariano et al., 2012; Giuliano et al, 2003).

Elderly mobility and their quality of life in rural areas

Mobility is a crucial factor in improving socio- political activities as well as improving on the quality of life of people of any society. It creates market for agricultural produce, facilitates interaction among geographical areas and economic regions and opens up new areas to economic forces mostly in the rural environment (Ajiboye and Afolayan, 2009). Numerous factors contribute to the quality of life of the elderly people; one of the factors is mobility.

As noted by Robson (1982) and Burns (1999), a person's ability to travel or the freedom, independence, and convenience of movement over space to participate in one activity or the other is known as mobility. Mobility of the elderly has become an important public policy issue both in the developed and developing countries of the World (Burns, 1999). According to Rosenbloom (2004), elderly people nowadays are healthier compared to that of the past years. This is because they have a greater ability to be engaged in community activities throughout their lives. Since the elderly are living longer, to sustain an active life and remain independent, the elderly are more likely in need of some effective mobility assistance at some point in their life (Rosenbloom, 2004).

An individual elderly living in a rural community who loses the ability to drive might suffer from isolation and a lower quality of life. Resultant issues that come with living in a rural area are the limited access to health services, shopping, and social activities which can be exacerbated when one can no longer drive. Most existing rural public transportation options, however, do not promote an independent lifestyle if used as the primary form of transportation for their daily activities (Foster et al., 1996; Glasgow and Blakely, 2000; Mattson, 2010; Rosenbloom, 2004). Public transportation that supports elderly individuals may be an important issue for rural communities to consider in creating an aging-friendly community and maintaining quality of life for residents who are no longer able to drive.

Improvement in transportation system for the elderly will encourage them to engage and work harder in the rural areas for increased production, add value to their products, reduce spoilage and wastage, empower the farmers as well as having positive impact on their productivity, income, employment and reduce poverty level in the rural areas. This is because, it will be easier to move inputs and workers to farm as well as products to markets and agro-allied industry. The transport sector is therefore the basic service sector to the other sectors of a nation's economy; hence, it is usually referred to as the actor and connector sector.

Study area

Ondo State of Nigeria is the study area. It is located in South Western part of Nigeria, purely of Yoruba aborigine. It is located in the south-western part of Nigeria. It lies between Latitudes 50 45'N and 7°52'N of the Equator and Longitudes 4°20' E and 6° 05' E of the Greenwich Meridian. The State has land area of about 15,500 square kilometres with population census, put the total population of Ondo State at 3, 460, 877. Ondo State is bounded in the East by Edo and Delta States, in the West by Ogun and Osun States, in the North by Ekiti and Kogi States and in the South by the Bight of Benin and the Atlantic Ocean.

Agriculture is therefore, the basic occupation of the people. Ondo State falls within the tropical region with a tropical climate of double maxima of rainy seasons (April-October) and dry season (November-March). Temperature throughout the year ranges between 21°C and 29°C with high relative humidity. The annual rainfall varies from 2,000 mm in the southern part of the State to 1,500 mm in the northern part. The landscape around Idanre, Akure and the whole of Akoko

region is hilly, and has ridges with large granite formation of different heights range between 250 and 500 metres above sea level respectively. This gave rise to drainage basins, rivers and creeks such as Oni, Ofosu, Ogbese, Ose, Owena, Oluwa, Ala among others.

METHODOLOGY

The study adopted an empirical research approach to analyze mobility as determinant of the elderly quality of life in rural areas of Ondo State of Nigeria. Multistage sampling procedure was adopted to select three Local Government Areas (LGAs) from the three Senatorial District in Ondo State using balloting method a sub-type of random sampling method, which translated into nine (9) Local Government Areas.

For effective data collection, houses in the sampled communities were numbered, thereafter, systematic sampling method was used continuously to select houses at an interval of three houses from which respondents were to be drawn or sampled until the specified copies of questionnaire for each community is exhausted.   In so doing, a total of seven hundred and ninety five (795) copies of the structured questionnaire designed for this study were administered on the sampled elderly people (both male and female) in the study area. Data were analyzed using both descriptive and inferential statistics methods. Descriptive statistics were used to analyze the demographic characteristics of the respondents by using table of percentages, charts, and graphs among others.

RESULT AND DISCUSSION
Socio-economic characteristics of the respondents

The socio–economic and demographic characteristics of the respondent analyzed in this section included age, sex, marital status, educational qualification, occupation and income (table 1).

The sex structure of the respondents as shown in table 1 revealed a total of 53.3% being males while the remaining 46.7% of the respondents were females. From the break - down, it showed that larger percentage of the respondents in the study area were male.

The age structure of respondents is one of the socio - economic characteristics that determine mobility pattern and mode of transport used to different points of activities in any space economy most importantly the elderly population. The age share of the respondents were grouped into five, 60 - 64 years, 65 - 69 years, 70 - 74 years, 75 - 79 years and 80 years old and above respectively. Analysis from table 1 revealed total ages structure of the respondents in study area. Also, 29.2% of the respondents were within the age group of 60 and 64 years, 19.6% fell between the age group of 65 and 69 years while 18.5% were within the age grade of 70 and 74 years old respectively. Age 75 to 79 years accounted for 10.2% while the remaining 22.5% of the respondents were the old elderly of 80 years old and above. However, the age of the elderly varied considering the sex structure, location, as well as from one age cohort to another. Analysis further revealed that there were variations in the age group of the male and that of the female elderly in the study area. Among the young elderly and the old elderly, the female shared increases with age, consistent with women's longer life expectancy. The implication of the analysis to transport planners was that transport demand that favour the elderly in relation to their demands should be considered.

Classification of the elderly in the study area into their occupational categories indicated that farming and trading constituted the major means of employment of the elderly people in the study area as it is with other rural areas in Nigeria as well as that of the developing countries of the world (Adeniyi, 2001). From table 1, it was indicated that farming was the main occupation of the respondents as it accounted for 45.3% while 31.8% of the respondents engaged in trading activities. This also showed that the retirees also engaged in farming activities. Other occupation apart from farming and trading in the study area includes: civil services, artisan, and the retirees which accounted for 4.5%, 5.9% and 6.5% respectively. The remaining 5.9% of the sampled elderly were the old elderly people that were having age related impairment as well as general effect of aging who can no longer move about or engage in any form of activity.

Table 1. Summary of Socio - Economic Characteristics of Respondents
(Data source: Author's field survey 2015)

Bio – Data	Variables	Number	Percentage
Sex	Male	424	53.3
	Female	371	46.7
	Total	**795**	**100**
Age	60 – 64 Years	232	29.2
	65 – 69 Years	156	19.6
	70 – 74 Years	147	18.5
	75 – 80 Years	81	10.2
	Over 80 years	179	22.5
	Total	**795**	**100**
Occupation	Farming	360	45.3
	Trading	253	31.8
	Civil Service	36	4.5
	Artisanry	47	5.9
	Retiree	52	6.5
	Unemployed	47	5.9
	Total	**795**	**100**
Monthly Income	No Income	50	6.3
	Below N10,000	407	51.2
	₦ 11,000 – ₦ 20,000	169	21.3
	₦ 21,000 – ₦ 30,000	81	10.2
	₦ 31,000 – N40,000	20	2.5
	₦ 41,000 – ₦ 50,000	29	3.6
	Above ₦ 50,000	39	4.9
	Total	**795**	**100**

Considering the economic situation in the rural area of Ondo State, the rural populace had limited capacity of resources, low capital and general low standard of living, as it is in most rural area in Nigeria and other sub – Saharan African countries. Cost of living is considerably low and most of the rural dwellers in these rural areas of the World still found it difficult to feed themselves and other family members. Analysis of monthly income of the respondents were grouped as follows; non income earners, below N 10,000, N 11,000 and   N 20,000, N 21,000 and N 30,000, between N 31,000 and N 40,000 as well as between N 41,000 and N 50,000 and above N 51,000 respectively. From table 1, only 6.3% of the respondents from the sampled settlements did not have any means of income, 51.2% of the total represents accounted for the elderly that earned less than N10, 000 monthly. With this higher proportion of respondents earning less than N 10, 000 per month, it was clearly indicated that poverty level in the rural area of Ondo State was still at a very high side. Similarly, a total of 169 and 81 of the respondents accounted for 21.3% and 10.2% of those who earned between N11, 000 and N 20, 000 and between N 21, 000 and N 30, 000 per month while the remaining 2.5 %, 3.6% and 4.9 % of respondents earned between N 31, 000 to N 40, 000, N 41, 000 to N 50, 000   and above N 50, 000 respectively.

Mobility characteristics of the elderly
Mobility is basically concerned with the ability to travel or move over space, that is ability to provide unprecedented means of accessing any point be it social, economic and or political

activity (Geerling et al, 2005; Suen and Sen, 2004). According to Wachs (1979), mobility is regarded as an important factor in the physical, social and psychological health of the elderly people. Recent study of the mobility needs of the elderly in Los - Angeles confirmed that physical health of the elderly depends largely on access to medical facilities and other social services and needs (Wachs, 1979).

Ownership of means of transportation

The analysis of ownership of various means of mobility was carried out as shown in figure 1.

The figure revealed that larger percentage of the sampled respondents did not own any personal means of movement or transport. However, this accounted for 83.8% of the elderly both male and female from the rural area of Ondo State. The remaining 16.2% of the sampled elderly in the study area accounted for the elderly people who owned one means of mobility or the other.

This finding is in line with the previous studies of Adetunji (2003) and Adeniyi et al (2012) that rural areas in Nigeria are characterized with high percent of low income earners of people who cannot afford to own a personal means of transport. Therefore, access to commercial means of transport in the study area is highly important for the elderly in meeting their immediate lower order needs and for better connection to their rural and immediate urban neighborhood for some higher order services required.
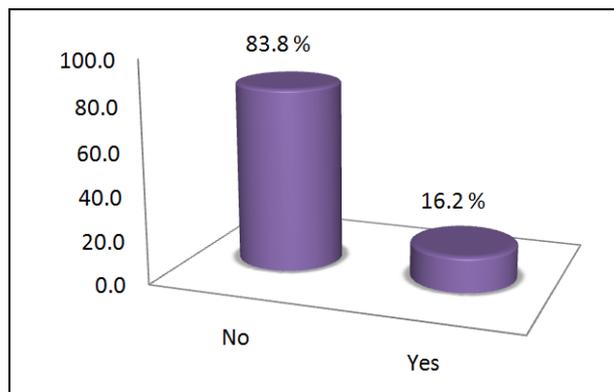

Figure 1. Ownership of means of transport

Mobility and quality of life of the elderly

To understand the impact of transport and mobility characteristics of rural elderly in the sampled communities on their quality of life, the elderly were asked to rate their quality of life on a likert scale of: very bad, bad, and alright, good and very good. Figure 2 shows the rate assigned by elderly to their quality of life. In the two regions of Ondo State, there were general poor ratings of quality of life. For example, 24.34% and 25.45% of the sampled elderly in both the hinterland and at the coastal region rated their quality of life very bad, 42.91% (hinterland) and 53.13% (coastal areas) rated it bad. Those who rated their quality of life as alright accounted for 18.21% and 12.50% of the respondents in the two regions respectively. However, only 8.23% of the respondents from the hinterland and 7, 14% from the coastal area see themselves as having a good quality of life while 6.30% and 1.79% of the sampled elderly from the two regions agreed that they had very good quality of life. This simply showed that transportation system in the study area was at variance with the mobility characteristic of the rural elderly.

This is in line with the studied of World Bank (2002) and Mohan (2006), that there is fundamental miss - match between the type and the scale of transport provision in the rural areas and nature of its demand which has a great challenge to the quality of life of the rural dwellers.
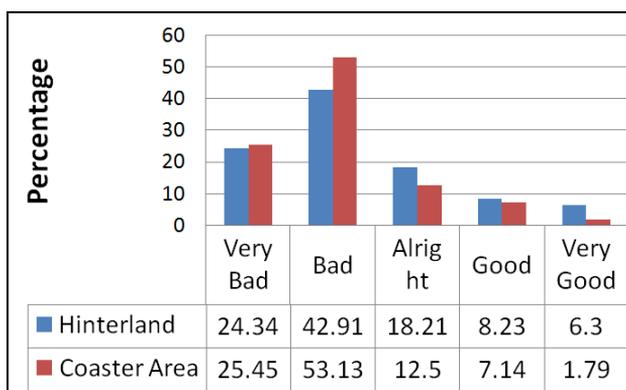
Figure 2. Mobility and rating quality of life

Total trips and quality of life of elderly

The total trip generated by the elderly in the sampled settlements was determined by grouping the number of trips made into five categories: those who were not involved in any trip at all represented by 'none'; those who made between 1 to 2 trips; those who made 3 to 4 trips; those who made 5 to 6 trips and; those who made 7 trips and above (table 2). From the table, it was discovered that the percentage of those who did not involved in any trips (None) accounted for 5.66 % in the study area while those who made 1 to 2 trips accounted for 33.46%.

Similarly, the sampled elderly who involved in 3 to 4 and 5 to 6 trips accounted for 50.82% and 9.56%   in the study area respectively (table 2). The high proportions of elderly who made between 3 to 4 trips (50.82%) indicated that the elderly had access and can afford to pay for the available means of mobility, and are likely to provide reliable rating of the impact of trip characteristics, transport services and infrastructure on their quality of life.

Table 2. Total Trip (Group) of the Elderly in Percentage
(Data source: Author's field survey 2015)

Total Trips (Group)	Total (%)
None	5.66
1 to 2 Trips	33.46
3 to 4 Trips	50.82
5 to 6 Trips	9.56
7 + Trips	0.50
Total	100.00

Rating means of mobility and quality of life of the elderly

To examine the impact of mobility on quality of life of the elderly, the rating of quality of life and waiting time at bus stop for transport to five trips destination in the sampled settlements were considered. The destinations included in the analysis were; work trips, health, religious, friends/ relatives and market.

Waiting time and quality of life of the rural elderly

Elderly perception of average waiting time at bus stops/road sides for boarding and departure of transport mode in the sample communities was showed in table 3. A five rating scale was used (very bad, bad, aright, good and very good). With respect to the rating of waiting time, most of the elderly that waited up to 10 minutes in the hinterland settlements rated the waiting

period as having a very bad (13.65%) and bad (17.85%) influence on their quality of life. This finding was expected and not surprising as there was a negative link between long waiting and quality of life of the elderly .This was so because, standing for a longer period waiting for vehicles can be detrimental and injurious to the health of the elderly.

In aggregate, a total of 24.34% and 42.91% in the hinterland and 25.45% and 53.13% of elderly in the coastal communities rated their waiting time at bus stop or road side as very bad and bad respectively. The proportions of elderly that rated the impact of waiting time on their quality of life as alright, good, and very good varies range between 1.79% to 18.2% in both groups of communities (table 4). With respect to the impact of waiting time on quality of life, no significant difference was found in the seven categories of waiting time among the hinterland communities ($\chi 2$= 27.08, p > 0.05) and coastal communities ($\chi 2$ = 20.84, p > 0.05). The general view was that the waiting time at road sides or stops for vehicles was considered as having negative impact on the quality of life of the elderly (see table 4).

Table 4. Waiting Time and rating of Quality of Life
(Data source: Author's field survey 2015)

Hinterland	Rating of Quality of Life					
Waiting Time	Very Bad	Bad	Alright	Good	Very Good	Total
Below 10 Minutes	13.66	17.86	8.58	5.43	3.68	49.21
11 to 20 Minutes	4.38	9.63	4.55	1.23	1.05	20.84
21 to 30 Minutes	3.33	7.53	2.45	0.88	1.23	15.41
31 to 40 Minutes	0.88	1.58	0.7	0.18	0	3.33
41 to 50 Minutes	0.53	1.75	0.7	0.18	0	3.15
51 to 60 Minutes	1.58	3.33	1.23	0.35	0.35	6.83
Above 60 Minutes	0	1.23	0	0	0	1.23
Total	24.34	42.91	18.21	8.23	6.3	100
χ^2=27.08,p > 0.05						
Coastal Area						
Below 10 Minutes	9.82	17.86	4.02	4.02	0.45	36.16
11 to 20 Minutes	8.48	18.75	4.46	3.13	0.89	35.71
21 to 30 Minutes	5.8	11.61	3.13	0	0	20.54
31 to 40 Minutes	0	2.23	0.89	0	0	3.13
41 to 50 Minutes	0	0.89	0	0	0	0.89
51 to 60 Minutes	1.34	1.79	0	0	0.45	3.57
Total	25.45	53.13	12.5	7.14	1.79	100

$\chi 2$=20.84, p > 0.05

CONCLUSION

The study had succeeded in revealing that larger percentage (83.8%) of the sampled respondents did not own any personal means of movement or transport and that access to commercial means of transport in the study area is highly important for the elderly in meeting their immediate lower order needs and for better connection to their rural and immediate urban neighborhood for some higher order services required. Hence, rural elderly required adequate and better transport infrastructure so as to facilitate and further enhance their (elderly) easy movement in the study area.

Fundamentally, it was revealed in the study that larger percentage of the sampled elderly in both the hinterland and at the coastal region rated their quality of life very bad. For example, 42.91% of the elderly in the hinterland and 53.13% in the coastal areas rated their quality bad as a result of their poor mobility in relation to their quality of life. This is because most of the elderly were not adequately connected and accessible to their various points of activities. It was revealed that larger percentage of the elderly spent most of their time at bus stops/road sides for boarding and departure of transport mode in the sample communities.

Therefore, an investment in rural transport, therefore, will help a long way to solve the problem of elderly mobility in the rural of Ondo State and at the same time, improve the life style and standard of living of the rural elderly populace.

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