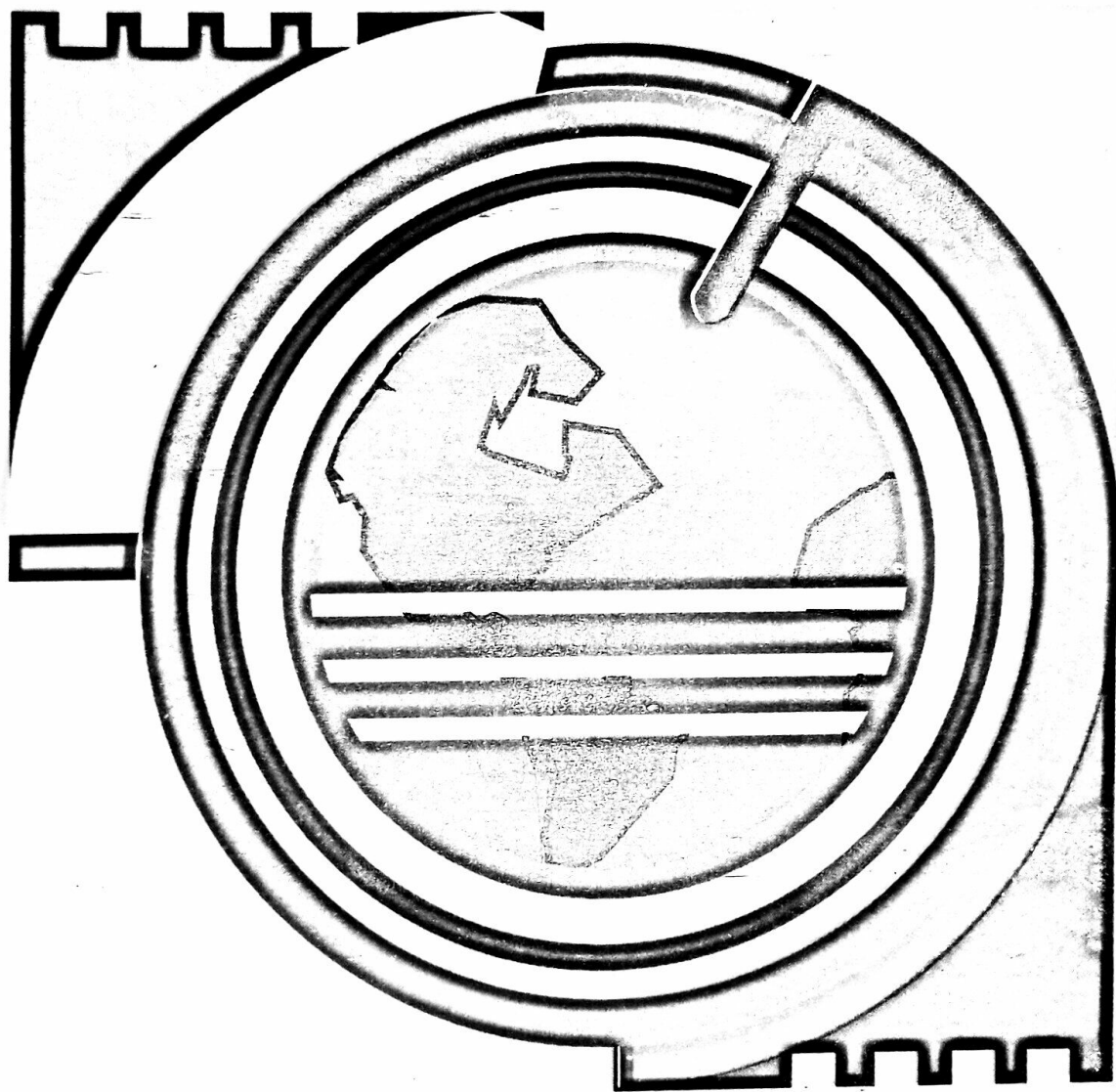




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DETERMINANTS OF AGING POPULATION IN ILORIN WEST L.G.A, KWARA STATE, NIGERIA

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ABSTRACT

The study examined the factors determining spatial variation in aging of population in Ilorin West Local Government Area of Kwara State. A multi-stage sampling approach was used to collect data from a survey of 210 aged respondents in Ilorin West LGA of Kwara State. Factor analysis was used to reduce the dataset as well as determine the variables accounting for spatial variability. Therefore, 14 variables were identified which altogether explained 66.29% of the variance explanation. Multiple and stepwise multiple regressions were used to rewrite the model equation with intention to arrive at the best fitted model. This revealed that only 13 variables were actually important in the explanation, and they all contributed 57.4% explanation to the pattern of aging in Ilorin West LGA. The most important aging influencing factors in the study area were Material Support (Mtsp), Health Insurance (Hein), and Marriage (Marr). They each contributes 16.3%, 8.5% and 8.0% respectively to the explanation. It is concluded that, spatial variations does exist in factors influencing aging as well as the 60+ population. It's however recommended that, to promote healthy and productive aging in later years of life, there is the need to adopt socio-welfare policies as well as, structures preserving our most cherished traditional filial relationships and obligations, whilst also seeing older people as contributors rather than burdens to society.

Key words: Aging Population, Spatial Variation, 60+ Population, Filial obligation, Ilorin West

INTRODUCTION

Population Aging as defined by the National Population Commission (2003) is the process in which older persons become a proportionally larger share of the total population. While according to the Population Reference Bureau (2004), it occurs when the median age of a country or region rises. This happens because of rising life expectancy or declining birth rates, attributed to better public health program implementation, reduction in maternal mortality, control of infectious and parasitic diseases, and disease eradication programs (Bharathi, 2012). Rahaman *et al.*, (2009), saw it as one of the most important and distinctive demographic event of the 20th, as well as the 21st centuries. Perhaps, a reason why scholars like Vierck and Hodges, 2003 and Ajomale, 2007, referred to it as a 'global phenomenon'. For instance, the total number of elderly people in the world will reach 1.2 billion by the year 2025, which indicates that by this time 15% of the total populations will reach 60 years or more (UN, 1997). United Nations also stated that, one million people reach 60 years of age every month. In 1999 there were 593 million elderly people in the world and this figure is expected to triple to nearly 2 billion by the year 2050 (UN, 1999).

Developing countries according to UNFPA (2002), were observed to be housing more than half of the global elderly population. A fact corroborated in 2006 by Velkoff and Kowal, in which nearly 63% of the 60+ population currently resides in developing countries, and this percentage will increase to about 73% in the next 25 years. For example, in Sri Lanka the proportion of the 60+ population was said to be much higher than in the rest of South Asia; and was projected to double from 1981 to 2021 (6.6% to 17.9%) (De Silva and Samarasekera, 1999). In Nigeria, with a population of about 140 million (NPC, 2006), the aged population was 6.4 million (NPC, 2006) according to the 2006 census figure. These represents a proportion of her dependent population, also made up of children below age 18 years and is expected to increase with time.

However, the need for detailed study into the effects and importance of

the aging scenario especially on a micro scale is of essence. This is because, the general lack of social security scheme, gradual disintegration of our cherished sense of traditional filial obligations, coupled with urbanization, has further worsen the predicaments of the elderly. It is against this background, that identifying factors accounting for variation in aging of population in Ilorin West L.G.A, is of importance, and with the objective of: (i) determining the factors accounting for the variation in aging in the L.G.A. (ii) explaining those factors identified as influencing the pattern of aging as well as, (iii) determining the relationship between aging and spatial Variables, essential for pro-aged planning, awareness, as well as public policy formulation.

STUDY AREA

Ilorin West Local Government Area of Kwara State is located between Latitude 8° 30' and 8° 50' North and Longitude 4° 20' and 4° 35' East of Greenwich Meridian on the transitional zone between Northern and Southern part of Nigeria (Kwara State Diary, 2008) (See Figure 1). Her climate is tropical under the influence of the two trade winds prevailing over the country. Ilorin experiences two climatic seasons i.e. rainy and dry season. The rainy season is between March and November and the annual rainfall varies from 1000 mm to 1500 mm, with the peak between September and early October. Also, the mean monthly temperature is generally high throughout the year (Ajibade, 2002). She occupies an area of 105km² and a population of 365,221 (180,387 males and 184,834 females (NPC, 2006).

population of the community is mixed, which explains why the city is often described as a 'melting pot' for many Nigerian linguistic groups (Usman *et al*, 2015).

MATERIALS AND METHODS

The study utilized both Primary and Secondary data types such as demographic as well as, socio-economic attributes of respondents, derived from structured questionnaire interviews and published national enumeration documents. Multi-stage sampling technique, comprising Systematic and Purposive Sampling methods were used at different stages in the data collection process of this study. Hence, due to the special nature and revered role played as well as, availability of study respondents, 0.1 percent of the elderly population in the study area derived from the 2006 national census figures of 21,037 (NPC, 2006) was used. A total of 210 respondents of age 60 years and above were thereby sampled.

Inferential statistics such as Factor Analysis using the Statistical Package for Social Science (SPSS) 15.0 version was used in determining the variables that account for the pattern of aging over space. From these, all values with a coefficient of 0.60 were selected as factor defining variables. Stepwise Regression Analysis was used to establish the relationships between the variables, thereby assisting to model the spatial pattern of the changes in the aging population in Ilorin West LGA. The regression model was of the form:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + \dots b_{43}x_{43} - e$$

where Y = Age (60 + years)

RESULTS AND DISCUSSION

Determinants of Spatial Variation in Aging in Ilorin West L.G.A

The results of the factor analysis after varimax rotation for Ilorin West L.G.A show some underlying factors. These factors are 14, as can be seen in Tables 1 and 2. They altogether explained 66.29% of the variance in the explanation of aging in the local government.

Factor 1 is an index of Marriage Factor. The factor has the strongest loading on Number of surviving children. It is equally strongly loaded on two other variables: Number of children ever born, and Duration of marital union. This factor has the greatest contribution to the pattern of aging in Ilorin West LGA offering 6.68% explanation to the variance and an eigen value of 2.94. Factor 2 as seen in Tables 1 & 2, is a measure of Access to Health Personnel. Offered 6.18% to the explanation with an eigen value of 2.72. The factor's highest loading is on Who pays medical bills. It is equally strongly loaded on Family Doctor, and Highest Educational Qualification of respondent. Factor 3 is a measure of Medical History, contributing as much as 5.64% to the explanation and an eigen value of 2.50. Its highest loading is on Any History of Ailment. It also loaded strongly on Nature of Ailment, and Hospitalization in last 12 months. Factor 4 is an index of Health Insurance. This factor contributes 5.60% to the variance. It has an eigen value of 2.45. The highest loading is on the Duration of enrolment on the national health insurance scheme. The factor is also strongly loaded on Enrolment on the national health insurance scheme (NHIS).

Factor 5 also a measure of Personal Hygiene. Offered 4.95% to the explanation with an eigen value of 2.20. It loaded strongly on whether drinking water is boiled or not. It equally loaded strongly on reasons for not boiling drinking water. Factor 6 is an index of Purchasing Power. This factor contributes 4.80% to the variance, and an eigen value of 2.10. The highest loading is on the kind of income earning activity the elderly are involved in. Likewise, it's loaded on any present income earning activity the aged are engaged in (See Tables 1 & 2).

loads strongly on the normal social engagements the elderly attends. It also shows a high load on how an average day in the lives of the elderly is spent. Factor 13 is a Residential index. Offered 3.60% to the explanation and an eigen value of 1.60. It is loaded strongly on the present residence of the elderly. Factor 14 is an index of Material Support Factor. Contributes as much as 3.03% explanation and an eigen value of 1.34. It is also loaded on Nature of material supports to the elderly. It points to the importance of the traditional filial supports systems to the welfare of the aged in our society.

According to the above, 14 important variables underlie the pattern of aging in Ilorin West LGA. These variables includes: Marriage, Access to health personnel, Medical history, Health insurance, Personal hygiene, Purchasing power, Disability, Demography, Recreation, Access to health facilities, Dietary regime, Quality of abode and Material supports. Therefore aging in Ilorin West can be summarized.

Relationship between Aging and Spatial Variables in Ilorin West

The results of the factor analysis were subjected to multiple and stepwise regression analysis so as to predict the relationship between age and factors determining pattern of aging across Ilorin West LGA. The result of the multiple regression analysis as shown in Table 3, shows that of all variables identified, 14 were important in the explanation and they contributed 58.0% explanation to the variation in aging in Ilorin West. The relationship can be predicted with equation 1. Also, the stepwise regression analysis (See Table 4) revealed that only 13 out of the 14 variables actually shows significant influence in the explanation, and they all contributed 57.4% explanation to the pattern of aging in the Local Government Area. This relationship can also be predicted with equation 2.

Table 3: Multiple Regression Equation of Ageing Factors in Ilorin West LGA

Variables	Unstandardized Coefficients		Standardized Coefficients	t		Sig.	% R ² Explained
	B	Std. Error	Beta	B	Std. Error		
(Constant)	1.990	.049		40.634	.000		
factr1. Marriage Factor (Marr)	.300	.049	.283	6.103	.000		
factr2. Access to Health Personnel (Ahpr)	-.155	.049	-.147	-3.161	.002		
factr3. Medical History (Medh)	.199	.049	.188	4.044	.000		
factr4. Health Insurance (Hein)	-.308	.049	-.291	-6.274	.000		
factr5. Personal Hygiene (Prhy)	.144	.049	.136	2.939	.004		
factr6. Income (Incm)	-.202	.049	-.191	-4.115	.000		
factr7. Disability Factor (Dsty)	.157	.049	.148	3.197	.002		58
factr8. Demographic Factor (Demg)	.080	.049	.076	1.628	.105		
factr9. Recreational Factor (Recr)	-.144	.049	-.136	-2.927	.004		
factr10. Access to Health Facility (Ahfc)	.220	.049	.208	4.478	.000		
factr11. Dietary Factor (Diet)	-.115	.049	-.109	-2.343	.020		
factr12. Daily Activities (Dyac)	-.133	.049	-.126	-2.711	.007		
factr13. Abode Quality (Abqu)	-.161	.049	-.152	-3.275	.001		
factr14. Material Support (Mtsn)	.427	.049	.404	8.704	.000		

$$Y = 1.990 + .300Marr - .155Ahpr + .199Medh - .308Hein + .144Prhy - .202Incm + .157Dsty + .080Demg - .144Recr + .220Ahfc - .115Diet - .133Dyac - .161Abqu + .427Mtsn \dots \dots \dots (eq. 1)$$

($R^2 = 58\%$; $SE = 0.70986$)

Table 4: Stepwise Multiple Regression Equation of Ageing Factors in Ilorin West LGA

Variables	Unstandardized Coefficients		Standardized Coefficients	t		Sig.		R Square Explained (%)	
	B	Std. Error	Beta	B	Std. Error	B	Std. Error	Individual	Cumulative
(Constant)	1.990	.049		40.634	.000				
factr14. Material Support (Mtsn)	.427	.049	.404	8.667	.000			16.3	16.3
factr4. Health Insurance (Hein)	-.308	.049	-.291	-6.248	.000			8.5	24.8
factr1. Marriage Factor (Marr)	.300	.049	.283	6.077	.000			8.0	32.8
factr10. Access to Health Facility (Ahfc)	.220	.049	.208	4.460	.000			4.3	37.1
factr6. Income (Incm)	-.202	.049	-.191	-4.098	.000			3.7	40.8
factr3. Medical History (Medh)	.199	.049	.188	4.027	.000			3.5	44.3
factr13. Abode Quality (Abqu)	-.161	.049	-.152	-3.262	.001			2.3	46.6
factr7. Disability Factor (Dsty)	.157	.049	.148	3.183	.002			2.2	48.8
factr2. Access to Health Personnel (Ahpr)	-.155	.049	-.147	-3.148	.002			2.2	51.0
factr5. Personal Hygiene (Prhy)	.144	.049	.136	2.927	.004			1.8	52.8
factr9. Recreational Factor (Recr)	-.144	.049	-.136	-2.915	.004			1.9	54.7
factr12. Daily Activities (Dyac)	-.133	.049	-.126	-2.699	.008			1.6	56.3
factr11. Dietary Factor (Diet)	-.115	.049	-.109	-2.333	.021			1.1	57.4

$$Y = 1.990 + .427Mtsp - .308Hein + .300Marr + .220Ahfc - .202Incm + .199Medh - .161Abqu + .157Dsty - .155Ahpr + .144Prhy - .144Recr - .133Dyac - .115Diet \dots\dots\dots (eq. 2)$$

$$(R^2 = 57.4\%; SE = 0.71285)$$

However, Material Support (Mtsp) or factor 14 (especially the nature of material support derived by the elderly) is the highest predictor of aging with 16.3% contribution. Najjumba and Milindwa (2003) affirmed that material support is a major coping strategy upon which most aged persons depend. These material supports are derived mostly through filial obligations. Thus growing old means continued income deprivation relative to that of young people. Moreover, according to Bittner *et al*, (2010), stress occurs when the affected person has fewer resources to overcome the challenging situation he finds himself and there is less probability of effective coping skills and resources.

This followed by Health Insurance (Hein) or factor 4 contributing 8.5%, exerts the second most influence on the aged in the study area. This is because as posited by Gavrilov and Heuveline (2003) and Levy (2012), the prevalence of disability, frailty and chronic diseases (Alzheimer's, Cancer, Diabetes, Eye problems, Hypertension, Arthritis, Cardiovascular and Cerebrovascular, Fractures, senile diseases and stroke among others) is expected to increase dramatically as the population age. This connotes high medical and sundry expenditure burdens on both the elderly patients and filial relations. This clarifies why nations with older populations according to Bloom *et al*, (2008), need to invest more in the health sector. Many of those who do utilize these services suffer financial hardships, or are even impoverished because they have to pay (WHO, 2010).

The third aging predictor identified in the study is the Marriage factor (Marr) contributing 8.0% (See Table 4). Clearly, the elderly desire to have someone beside them to provide assistance, companionship, as

well as, assist in the reduction of boredom and its associated health problems. This also mirrors the extent of the available support for the elderly from the family network (Okumagba, 2011).

CONCLUSION AND RECOMMENDATION

There is the need to study the important demographic, social and economic differences that have direct relevance to public policy and schemes for the elderly now and in the future. This is necessary because of the dearth of accurate, timely, accessible and reliable data on the elderly. Also, the need for such data is becoming more acute to policy and programme planning, as aging becomes more salient and as the various sections in the country intensifies the decentralization of development programmes. It is recommended that, positive and equitable policies must be designed to ensure that the elderly are financially and medically secure in their old age. People need to rely on social solidarity across the generations when they are old, as they do when they are young. Nigeria, as well as the world at large needs to maintain socially equitable policies (like health insurance, inclusive education and mortgage schemes), since reducing access to education, employment, housing and healthcare will only serve to produce inequalities and enhance greater dependence in later life.

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