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Characteristics of stroke attendants at Bebe Herbal Centre

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Abstract

Background Stroke is a very troubling illness as it not only disables its victim, but also kills most of them outright. Its rate is increasing in the developing countries and this drains their finances. As a result many seek management of their condition in herbal homes. But of recent there is a preference to herbal medicine by most stroke survivors, irrespective of social status. This is a new phenomenon.

Objective The main objective of this study was to assess the characteristics of the survivors that received care at an herbal centre in Nigeria.

Method It was a cross-sectional study that involved direct interview of 149 stroke survivors that attended Bebe herbal centre in Umunomo Ihitteafoukwu in Ahiazu Mbaise local government area of Imo state, Nigeria. The two interviewers obtained Ethical clearance and informed consent and required the respondents to provide answers to questions regarding age, marital status, number of children, occupation, highest educational level, local government of domicile, and side affected. Data obtained were subjected to descriptive analysis of frequency and percentage and inferential statistics of chi square and regression analysis using the SPSS statistical package version 23.

Results Those within the age bracket of 70-74 years were the most common of the survivors. Those with left-sided stroke were more than those with right-sided stroke. Traders were the most frequent of the occupations investigated, and those with primary education only were the highest in number. Those who had between 5 and 8 children were highest in number. The male survivors were more than the female. Occupation predicted very significantly with cases of stroke amongst male and female sexes.

Conclusion The stroke survivors, who were all Nigerians, belonged to different age groups, occupation, educational level, and came from far and near; thus suggesting that something common attracted them to the Bebe centre.

Key words Stroke, Bebe Herbal centre, Occupation, Number of Children, Educational level

Introduction

Stroke is a very debilitating and disabling disease and of great concern to the public. It has high mortality and morbidity rate (Klijn and Hankey 2003). It leaves its victim and family in a situation of great economic concern, particularly in the developing countries of the world, where poverty and malnutrition also coexist (Donkar et al., 2014; Birabi et al., 2012). It used to be regarded as the disease of the affluent countries, but it is now increasing in alarming rate in the poor countries (Lopez et al., 2001; Bravata et al., 2005). Paradoxically, while the incidence of stroke is going down in the developed countries, it is increasing in the developing countries. Considering the heavy economic burden, many afflicted by the illness seek treatment in both the orthodox and unorthodox settings (Wang, 1986). In Nigeria, as well as in some other countries of the world, where poverty reigns, there is increasing drift in the management of stroke from hospitals to the herbal homes/traditional medicine centres. The drift does not seem to result from poverty or rural dwelling or poor educational level of the afflicted. Neither does it seem to be as a result of the mainly farming occupation of the population where these herbal centres are located. It may not also be age or sex-related. Unfortunately, nothing is known about the characteristics of stroke patients that patronise these herbal centres. Reckoning with the prediction of WHO that by 2030, approximately 80% of all strokes will occur in people residing in low and middle income countries (Mathias, 2002), and with such certainty that 85% of global deaths from stroke were in developing countries (Feigin et al., 2003; Dalal et al., 2007) it becomes very important that we pay due attention to management of stroke by herbal medicine. Such knowledge will be very important in appreciating the contribution of

traditional medicine in the management of stroke. It will also call for more investment of government and the public towards the development of alternative medicine in the management of stroke. Unfortunately, this work seems to be the only reported study of characteristics of stroke survivors being managed in a herbal centre. Previous studies about stroke had been in community (Osuntokun et al., 1979; Danesi et al., 2007; Donkar et al., 2014) or hospital (Bwala, 1989; Ogun, 2000; Ojini and Danes, 2003) settings. The present study investigated the characteristics of stroke survivors who attended Bebe Herbal centre for treatment. We wondered the nature of people who trooped to the centre for their stroke management. Could they be rural people who live close by and attended because of distance; could they be the uninformed and the less educated who were unaware of the advantages of going to hospital; could they be those bugged down by family pressures as a result of many children to be catered for; could they be the aged because of frailty of going far to seek medical care? Could they be mostly farmers because of the rural location of the centre and so close to them? This study was undertaken to address these questions.

Method

Study setting

This study was carried out in Bebe Herbal centre located in Umunomo Iwhiteafoukwu in Ahiazu Mbaise local government area (LGA) of Imo state, Nigeria. From the 2015 Population Census, the local government had a population of 227,400. It is dominated by Igbos of Nigeria. Ahiazu LGA is one of the 27LGAs of Imo state and is surrounded by seven other local governments as shown in Table 1. People in the local government and the surrounding ones are predominantly rural farmers.

Data and analysis

The study was a cross-sectional one carried out from November 2015 to July 2016 and it involved direct interview of stroke survivors or their caregivers. Two well-trained staff interviewed the survivors or their close relations. Only those who attended Bebe centre for more than once were interviewed. First timers were excluded. Bebe centre also catered for people with other health conditions including diabetes, kidney problem and fertility issues. Only those who self-reported stroke or diagnosed by a medical doctor were interviewed. Those with paralysis from other sources other than sudden cardiovascular accident were excluded. Before the interview began, purposes and benefits of the study were explained and consent obtained from Bebe centre. Ethical Clearance was obtained from the Centre for Scientific Investigations and Training, Owerri, Nigeria. Informed consent was obtained from the survivor and the care-giver before being interviewed. Bebe centre is an out-patient centre that opens three days in a week – Mondays, Wednesdays and Fridays. Each patient is expected to attend the centre once every two weeks for follow-up. According to the practitioner, he uses herbs and roots for treatment. The interviewers asked direct

questions that required the survivor to respond in any way he could, and deductions were made from the response. In this way, the respondent was not under pressure to answer any question and as a result, a lot of information was gathered there from. They were asked their age, marital status, number of children, local government area of domicile, highest educational level attained, occupation, activity when stroke happened, side of body affected, season of year when stroke happened, and handedness. From their response the following categories were drawn: age was scaled into 10 groups; marital status into married or not married. No person admitted being divorced; number of children into 1-4; 5-8; above 8; highest educational level attained into illiterate, primary, secondary, and tertiary; activity during stroke into sleeping, resting (lying or sitting), and working; season of year into two seasons in Nigeria namely: dry season which coincides with the months of November to April and rainy or wet season which coincides with the months of May to October. Data obtained were subjected to descriptive statistics of frequency and percentage and inferential statistics using Pearson's Chi-square tests and binary logistic regression. IBM SPSS Statistical package version 23 was used and graphs were plotted using GraphPad Prism 5.

Table 1. Projected population of some local government areas in Imo state, Nigeria

LGA	Population census 2006	Projected population 2015
Ahiazu Mbaise	170,824	227,400
Aboh Mbaise	194,779	259,900
Ehime Mbano	130,575	173,800
Ezinihitte Mbaise	168,767	224,600
Ihitte/Uboma	119,419	159,000
Ikeduru	149,737	199,300
Isiala Mbano	197,921	263,400
Obowo	117,432	156,300

Results

One hundred and forty-nine survivors participated in this study. Their ages ranged from 28 years to 87 years with a mean of 63.41±11.53years. Eighty eight (59.1%) respondents were males with mean age of 64.81±11.64 years and 61 (40.9%) were females with mean age of 39±11.15 years. Using Independent T-test to compare the two means, there was no significant difference between them (P>0.05). The percentage of those 50 years and above (92.6%) was far greater than those below 50 years (7.4%). Respondents within the age bracket of 70 – 74 years were the most common (n=36, 24.2%)(Figure I) and there were more males amongst them than females

(Table 2). The ratio of men to women is 1.44: 1. Linear-by-Linear Association showed significant difference amongst the age groups between the male and female sexes (f=3042; P =0.001). In the older age groups of 60 and above years, the number of males was generally more than females. At the earlier ages, the age distribution was virtually the same but at later years there were more males than females. Stroke survivors of age 65 years and above were 77 (51.7%) while those below 65 years were 72 (48.3%). At 80 years and above, and 40 years and below, there were fewer stroke survivors, 8 (5.5%) and 6 (4.0%) respectively (Table 3).

Fig. I. Percentage frequency of age distribution among stroke survivors (n=149)

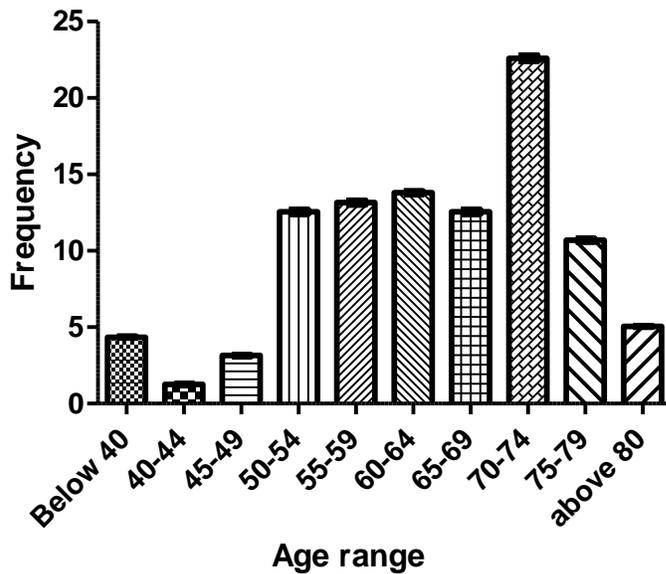


Table 2. Distribution of parameters amongst male and female stroke survivors (n = 149)

Age (years)	Frequency n (%)		Total
	Gender		
	Male	Female	
<40	3(2.0)	3(2.0)	6(4.0)
40-44	2(1.3)	0(0.0)	2(1.3)
45-49	3(2.0)	2(1.3)	5(3.4)
50-54	7(4.7)	12(8.1)	19(12.8)
55-59	10(6.7)	9(6.0)	19(12.8)
60-64	13(8.7)	8(5.4)	21(14.1)
65-69	7(4.7)	9(6.0)	16(10.7)
70-74	27(8.1)	9(6.0)	36(24.2)
75-79	10(6.7)	7(4.7)	17(11.4)
80+	6(4.0)	2(1.3)	8(5.4)
Side affected			
Left	52(34.9)	32(21.5)	84(56.4)
Right	36(24.2)	29(19.5)	65(43.6)
Educational attainment			
Illiterate	0(0)	4(2.7)	4(2.7)
Primary	42(28.2)	38(25.5)	80(53.7)
Secondary	26(17.4)	14(9.4)	40(26.8)
Tertiary	20(13.4)	5(3.4)	25(16.8)
Occupation			
Unemployed	0(0)	1(1.6)	1(1.6)
Trading	19(12.8)	23(15.4)	42(28.2)
Artisan	30(20.1)	11(7.4)	41(27.5)
Farming	12(8.1)	21(14.1)	33(22.1)
Civil servant	27(18.1)	5(3.4)	32(21.5)

Stroke survivors with 5 to 8 children were the commonest (Figure 2), accounting for 61.07% (n=97) of all stroke cases interviewed; those with 1-4 children were 38(2.5%), and those above 8 children (14, 9.3%) (Table 3). Chi square linear by linear association between stroke survivors and number of children was significant (f=239; P=0.005). Traders were most common amongst the respondents (45, 38.5%), followed by civil servants (29, 24.8%), and least

was the unemployed (4, 3.4%). All the unemployed were females (Table 2). Looking at the overall data, female farmers and traders were more than their male counterparts while male civil servants and artisans were more than their female counterparts. Chi square linear by linear association of occupation and sex showed significant difference ($X^2=27.87$; $p<001$), suggesting that the males and the females were associated differently.

Figure 2. Number of children in the family of stroke survivors

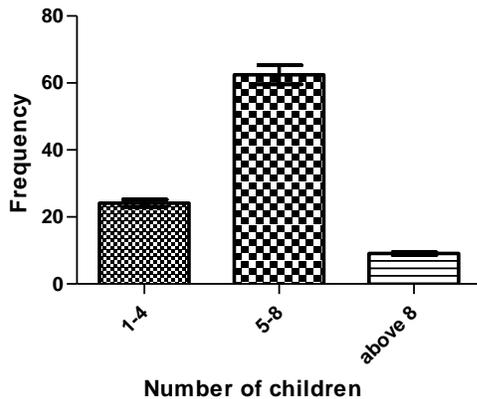


Fig. 3. Occupational distribution of stroke survivors

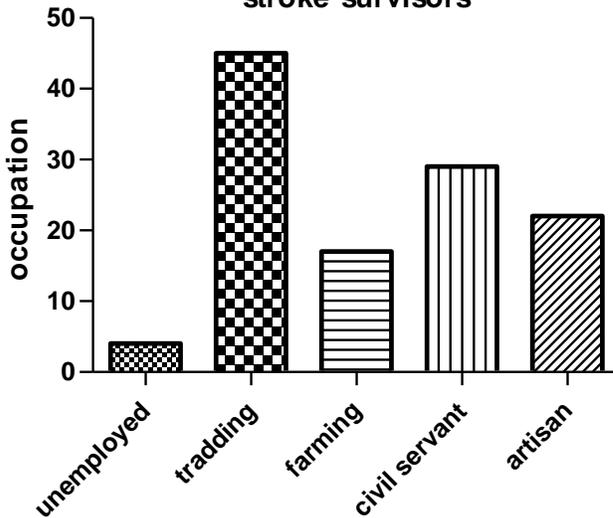


Table 3 shows the distribution of the various stroke parameters studied with regard to age classification. Majority (n=59, 37.8%) of the males were 65 years and above, while majority of the females (n=30, 19.2%) were between 45 and 64 years. The respondents affected on the left (84, 56.4%) were more than those affected on the right (65, 43.6%). Amongst those affected on the left side, 52 (34.9%) were males and 32 (21.5%) were females while on the right 36 (24.2%) were males and 29 (19.5%) were

females. Cross-tabulation showed no significant difference. For educational attainment, those who attended primary school only were highest (80, 53.7%) and the illiterates were lowest (4, 2.7%). Illiteracy level in this group was really low as those who had no formal education accounted for just 2.7% of the 149 survivors. Generally, the males were much more in secondary and tertiary education and Chi square test showed this to be significant ($X^2=12.312, p<0.001$).

Table 3. Distribution of size of variables relative to age (year) of respondents (frequency, percentage)

Variable	<45 years	45-64 years	≥65 years	Total
Gender				
Male	5 (3.4)	32 (21.5)	58 (38.9)	95 (63.8)
Female	4 (2.6)	28 (18.8)	22 (14.8)	54 (36.2)
Marital status				
Married	6 (4.0)	60 (40.3)	79 (53.0)	145 (97.3)
Single	3 (2.0)	1 (0.7)	0 (0)	4 (2.7)
Number of children				
1 – 4	5 (3.4)	21 (14.1)	12 (8.1)	38 (2.5)
5 – 8	0 (0)	37 (24.8)	60 (40.3)	97 (65.1)
>8	1 (0.7)	4 (2.7)	9 (6.0)	14 (9.3)
Highest Educational Level				
Illiterate	0 (0)	1 (0.7)	3 (2.0)	4 (2.7)
Primary	2 (1.3)	28 (18.7)	51 (34.0)	81 (54.0)
Secondary	4 (2.7)	19 (12.7)	11 (7.3)	34 (22.7)
Tertiary	3 (2.0)	14 (9.3)	13 (8.7)	30 (20.0)
Occupation				
Unemployed	1 (0.7)	2 (1.3)	1 (0.7)	4 (2.7)
Civil servants	2 (1.3)	15 (10.1)	15 (10.1)	32 (21.5)
Artisans	1 (0.7)	6 (4.0)	14 (9.4)	21 (14.1)
Traders	5 (3.3)	31 (20.8)	22 (14.7)	58 (38.9)
Farmers	0 (0)	10 (6.7)	24 (16.1)	34 (22.8)
Season of the year				
Nov. – April (Dry)	6 (4.0)	46 (30.9)	52 (34.9)	104 (69.8)
May – October (Wet)	3 (2.0)	16 (10.7)	26 (17.4)	45 (30.2)

Fifty four percent of respondents were domiciled in eight local governments surrounding the Bebe centre while the remaining 43% were domiciled in areas and local governments far off. It is striking that those from Ehime Mbanjo and Isiala Mbanjo LGAs recorded not only the highest overall number of survivors, 11.7% and 9.1 % respectively, but also had the highest number among those aged 45-64 years (Table 4). The number of stroke survivors was classified according to the season when their event occurred. One hundred and three (69.1%) experienced their stroke within November to

April (dry season), while 45 (30.2%) had theirs within May to October (rainy season). Thirty-nine percent of the survivors encountered their stroke while resting, while 31% had theirs while sleeping and 30% while working. There was no significant relationship between event at stroke and sex ($P>0.05$). Binary Logistic regression with sex as dependent variable and occupation, age, number of children and educational level as independent variables showed a significant difference ($R=-.366$, $df 1$, $P=.028$) (occupation $P=.02$, age $P=.074$, number of children $P=.826$, educational level $P=.256$).

Table 4. Age distribution of respondents according to local government area of domicile (frequency & percentage)

Variable	<45 years	45-64 years	≥65 years	Total
Local Government				
Ahiazu Mbaise	1 (0.7)	3 (2.0)	3 (2.0)	7 (4.7)
Aboh Mbaise	0 (0)	3 (2.0)	6 (4.0)	9 (6.0)
Ehime Mbano	2 (1.3)	8 (5.4)	7 (4.7)	17 (11.4)
Ezinihitte Mbaise	0 (0)	0 (0)	8 (5.4)	8 (5.4)
Ihitte Uboma	0 (0)	3 (2.0)	1 (0.7)	4 (2.7)
Ikeduru	1 (0.6)	4 (2.7)	1 (0.7)	6 (4.0)
Isiala Mbano	0 (0)	7 (4.7)	7 (4.7)	14 (9.4)
Obowo	1 (0.7)	4 (2.7)	4 (2.7)	9 (6.0)
Others	6 (4.0)	29 (19.5)	40 (26.8)	75 (50.3)

Discussion

The report here that there were more stroke cases amongst males compared to females is in agreement with most previous findings (Onwuekwe et al., 2008). Some other authors reported females were more than males (Duque et al., 2015). A look at the present work showed that males were more than the females only for ages ranging from 60 years and above. Below this age range the number of females was nearly equal to that of the males. Previous works have shown consistently that the number of stroke cases of age 65 years and above is far more than the number below (Danesi et al., 2007) and our result here is in agreement. In the present work, those below 40 years were fewer (4%) amongst the stroke cases and fewer when compared to reports by previous authors (Nwosu et al., 1992; Shriver and Prockop 1993). Mean age of 63.41 years obtained here is in agreement with the report of Duque et al. (2015) but higher than some other reports (Ogun et al., 2001; Imam and Olurunfemi 2002, Kolapo et al., 2006). This difference could be explained in terms of levels of psychosocial

responsibilities, including those of family, community and associated pressures. Stroke is also common amongst people of higher age bracket because the aging blood vessels become weaker. The integrity of the tissues weakens as one ages. The fewer number of cases seen at age 80 years and above could not be interpreted as meaning that few people suffer stroke at this age category. The most likely reason is that few people live beyond 80 years of age, particularly in low-income countries like Nigeria where life expectancy is low. This study has also revealed that the most vulnerable age category for stroke in Nigeria is 70-74 years. No previous report narrowed the age category as in this work. By this age bracket, most people would have retired from active service and faced with the burden of lower income for their numerous responsibilities. In Nigeria, civil servants retire at age 60 years. This can increase their psychosocial pressure and predispose them to stroke. This report is new.

In most reports concerning stroke, the number of children is usually not taken into account. This study has revealed that in considering the predisposing factors to stroke in low-income countries, the number of children to a family is of significance. In a depressed economy, the number of children you cater for, particularly if you are from the low income class, will impose some economic burden. Majority of those who had 5-8 children were 65 years and above in age, suggesting accumulation of pressure from age and pressure from number of children, and if a civil servant, would have retired –hence more psychosocial pressure. The more the children the more likely the psychosocial stress and this is a major risk factor for stroke. Regarding highest educational level, those with primary education were mostly 65years and above, while those with secondary and tertiary were mostly 45-64 years of age. This suggests that illiteracy level in this part of Nigeria is low with only 2.7% of survivors with no formal education. For handedness, all the respondents in this work were right handed. This is a reflection of the cultural belief of Igbos and most parts of Nigeria that it is a taboo to be left-handed. Even when one is born with left-handedness, one will be forced to acquire right-handedness. It would have been informative to study the distribution of handedness with regard to side of body affected by stroke. As there were left-sided stroke (52.2%) as well as right-sided stroke survivors (40.4%) in this work, it means that a right-handed person may be a victim of left- or

right sided stroke. It will be worthwhile to assess the association of right- and left-handedness with side of stroke. This is very important because left and right sides of the brain have predominance in some functions. Person's chi-square test shows no relationship between side affected and educational attainment. But there was significant relationship between side affected and occupation ($r=23.51$, $p<0.001$), and sex ($r= 166.44$, $p<0.001$). This finding is worthy of note, as males were more affected than females with regard to left-sided but about same with regard to right-sided stroke. Occupation, particularly trading, had significant relationship with side affected, with age and sex. This is a very important finding because traders tended to be women and mostly affected by stroke. We reported here that survivors were domiciled in local government areas around Bebe centre and far away from the centre. This suggests that the nearness of the local government to the centre was no reason why people trooped to the centre for management. That traders were the most in terms of occupation of the survivors suggests that the people that patronized the centre were not mainly farmers. All occupations were very well represented. Amongst the local governments surrounding the centre two were distinct – Ehime and Isiala Mbanjo – for recording highest number of stroke cases. It may be necessary to look closely at these two local governments which used to be one local before they were split. Something common must be happening to their younger generation.

Conclusion

Many factors seem to contribute to one having a stroke, including age, number of children, occupation, and educational level. These may have their potencies to stroke by their impact on stress. In a very depressed economy like Nigeria, having more children imposes more economic burden on the parents. This seems to increase the psychological pressure on the parents, culminating in stroke. This factor is rarely investigated or reported. Bebe Centre attracts people of all walks of life, not because of occupations, educational level, sex, nearness or age, but because of others factors of interest. This Centre deserves due attention to unravel the hidden benefits in its management of stroke.

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