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Beliefs and Perception of Stroke among Adult Inhabitants of Calabar South Local Government Area, Cross River State-Nigeria

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Abstract

This study was conducted to determine beliefs and perception of stroke among adults in Calabar South Local Government Area of Cross River State. Four research questions were raised and one hypothesis formulated to direct the course of the study. A descriptive cross-sectional design was adopted and participants selected from five wards in the LGA using multi-stage sampling technique. The instrument for data collection was structured questionnaire with high reliability coefficient. Data collected were presented and analyzed using frequency table, charts and simple percentages. Weighted mean scores were computed and used to decide whether or not item is significant based on cut-off weighted score of 3.0. Research hypothesis was tested using chi-square statistical analysis significant at 0.05. Findings revealed that people in the area significantly belief stroke is caused by witchcraft (3.94±1.16), and cause could be revealed by consulting traditional oracle (3.74±1.36). Significant belief exist that treatment is best offered by traditional healers (3.94±1.16); and cause is from curse from the gods and/or ancestors (3.15±1.28). Regarding religious beliefs, that lack of faith and trust in God is why people become sick with stroke (3.96±1.04); and that patients with stroke are possessed by the devil (3.05±1.34). Findings further revealed that there's poor perception regarding stroke as influenced by individual characteristics like sex, age, ethnicity, religion and educational status. It was recommended that Government through Public Health Department should embark on enlightenment of public on clinical causes of stroke, need for regular blood pressure check, avoidance of stress and stress provoking situations.

Keywords: Stroke: *A sudden clinical manifestation challenging cerebral functioning for a period more than 24 hours arising from interference in client's normal vascular system.*

Beliefs: *This is an acceptance that something is true and real even without evidence and proof.*

Perception*: A way of regarding, understanding or interpreting something.*

Adult*: In the context of this study, adults refer to humans who are more but not less than 18 years of age.*

Introduction

Stroke is a deprivation of brain cells rich in oxygen and nutrient also referred to as brain attack and hence it ceases functioning. Resulting condition leads to paralysis; insensitivity of affected muscle, memory lost and in severe cases death. It is the most devastating condition among all neurological condition with high mortality rate, disability and physical impairments challenging nation's economic status (Mukhelee & Patil, 2011). Stroke is reported as a major cause of sudden death in Calabar South and entire Nigeria in recent time to the extent that death by infection and communicable diseases is rarely mentioned. World Health Organization (WHO) says stroke causes most sudden death happening within 24 hours after disrupting victim's physiological status with its prevalence in Nigeria among other Sub-Saharan African countries. Heart and Stroke foundation, (2013) reports that stroke which follows slump is the third major cause of premature death and long-term disability is Canada at the cost of $3.6 billion per annum and a cardinal mortality cause in China with 1.3 million annually. National Stroke Association, (2018), categorized stroke into ischemic, hemorrhagic and transient ischemic attack. These 10 factors are medically blamed of predisposition to stroke: hypertension, cardiac disease, tobacco consumption, diabetes, increased body weight, medications, family lineage, age, sex and race (Pathak, 2017).

Even with these medical proofs on causation of stroke, societal beliefs in tradition and religion abound regarding its cause, risk factors, course, management and prognosis. This accounts for their support or objection of medical directives while client is undergoing treatment in a healthcare

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institution (Giaguinto, Sarno, Dall' Armi, & Spiridigliozzi, 2010). In a study conducted by Erinosho, (1998), it disclosed that stroke originates from witches and wizards, as they manipulate the victim into unconsciousness from the spiritual world so as to kill.

Provisions of Human Rights and Health (2017), posits that right for health and care is for everybody irrespective of tribe, race, religion, habit and customs. These rights are expected to be at the highest standard to attain mental and physical health through nourishing food, sanitation, safe environment and access to medical service. Due to the fact that stroke is a clinical manifestation of cardiac or nervous deprivation of oxygen and nutrient, there is a demonstrable factor responsible for the condition which could be traced, identified and resolved. Nevertheless, when the condition is believed to be associated with patient's wrong doing, attack by the ghosts, witches and wizards' attendants count it unnecessary, waste of time and money to accomplish orthodox medical directives, and revert to traditional and spiritual care for wonders and miracles.

In this study, the researcher unraveled people's belief about the cause, course and remission of stroke as perceived by adults in Calabar South Local Government Area of Cross River State with a view to providing useful recommendations that can shape individual's perception regarding stroke and foster high acceptance of orthodox medicare for stroke patients in the area.

Statement of the problem

Stroke is recorded as a major cause of mortality and morbidity all over the world. Works of Wahab, (2008) revealed that it is most prevalence in Nigeria at 1.14 per 1000 with fatality rate of 40% in 30-day. Komolafe, Olaogu, Adebiyi, Obembe, Fawale & Adebowale (2015), found that 15 million stroke occurs every year in the whole world with two-third of it affecting Nigeria. It is one of the major cause of emergency admission in hospital medical wards with high death rate. It goes undiagnosed until patient slump into it with unconsciousness and disability due to unawareness of its risk factors and preventive measures. Every year about 800,000 people slump into stroke. It occurs every 40 seconds, killing victim every 4 minutes. WHO (2012), disclosed that 16 million victims died before 70 years of age due to stroke in developing countries especially Nigeria. And it is observed that most of the deaths are our politicians: members of house of senate, party state men and governors, lecturers, consultants and sport coaches.

Although Federal and Cross River State Ministry of Health has warn citizen over necessity of medical checkup, a habit whereby if imbibed would reveal early any impending physiological disorders and a resolution approach designed to tackle and evade the condition before getting out of hand. Most people in Calabar due to their upbringing and belief system objects adherence that slumping unto stroke is never their portion. Some directs the omen to certain families with history of hypertension, diabetes and senescence.

Hitherto, Stroke had been considered a sickness of the affluent with high body weight and cholesterol. In recent times it challenges the low and high class, fat and slime, sedentary and hustlers. On this regard loss of myths arise that stroke is due to extreme thinking, stress, Nigerian economic hardship and diabolic powers.

Low knowledge and misconceptions about risk factors resulting in stroke within Calabar South, Cross River State and entire Nigeria accounts for its high incidence with increased death rate. Most individual never consider that their ignorance to regular blood pressure check, uncontrolled weight, high alcohol and smoking would predispose them to stroke like any other victim.

Victims of stroke face serious family problems regarding managements, socio-economic incapacitation, sexual dysfunction and divorce (Korpelainen, Nieminen & Myllylä 1999). Among these, the worse derogative approach on stroke patients are attached stigma that they are facing their nemesis in life. Others say the soul of death inflicted and blows them to slump. It is observed that most church goer's belief stroke is placed on victim's seat in a diabolic means so that when they seat there're paralyzed to slum—resulting in stroke. With this conception, they consider it irrelevant following up Physician's orders in investigations, tests and prescribed drugs.

In some health facilities, stroke patients are abandoned unconscious till death by relatives who went to sorcerers and prophets to reveal the cause and treatment of their relatives on hospital admission. Others decide signing against medical advice to take their stroke relative to prayer house, native doctor or secrete diviners that it is not a hospital sickness.

It is observed that despite Government's effort through Millennium Development Goals, Sustainable Development and Primary Health Programs to get healthcare close to people at their door steps, they still have no need of letting down their beliefs and concept to accept services provided in the modern healthcare institutions by government certified care providers. On this regard, the researcher is poised to investigate the societal beliefs and perception about stroke among adult inhabitants of Calabar South Local Government Area, Cross River State, Nigeria

General aims of the study

The main aim of this study was to find out the beliefs and perception of stroke among adult inhabitants of Calabar South Local Government, Area of cross River State, in Nigeria.

Specific objectives

The specific objectives of the study were to:

1. Identify the traditional beliefs about stroke among adults in Calabar South LGA
2. Identify the religious beliefs about stroke among adults in Calabar South LGA
3. Examine the individual perception of stroke among adults in Calabar South LGA
4. Determine the influence of individual characteristics on perception of stroke among adults in Calabar South LGA

Research questions

1. What are the traditional beliefs about stroke among adult inhabitants of Calabar South?
2. What are the religious beliefs about stroke among adult inhabitants of Calabar South?
3. What is the individual perception regarding stroke among adults in Calabar South?
4. What is the influence of individual characteristics on perception of stroke among adults in Calabar South?

Hypothesis

There is no significant association between individual characteristics and perception regarding stroke among adults in Calabar South LGA, Cross River State.

Scope of the study

This study is focused on the beliefs and perception of stroke among adult inhabitants of Calabar South Local Government Area of Cross River State, Nigeria. It covers the traditional and religious beliefs about stroke, individual perception regarding stroke and individual characteristics that influence perception of stroke among adult's populace of the study area. The study was restricted to all adults living in Calabar South LGA who are greater but not less than 18 years of age.

Significance of the study

This study will generate data on beliefs about stroke among adult inhabitants of Calabar South Local Government Area. This data will be helpful in further research into the subject matter. This will further be useful in policy formulation to guide health professional in enlightening adult inhabitants, Religious Leaders and Churches, families and communities within and without Calabar South about the true state and nature of stroke.

Limitation

The researcher met series of constrain in course of undergoing this study. This ranges from:

- Poor financial support
- Poor network facilities
- Unavailable power supply
- Poor health state
- Compressed work commitments
- Poor response by the respondents
- Delayed consent from ethical committee of Calabar South Local Government Council

With joint effort of my beloved wife and cooperate friends all these barriers were tactfully overcome one after the other as they emerged.

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Methods

Research Setting

The setting of this study is Calabar South Local Government Area of Cross River State in Nigeria. It was created from Calabar Municipality on the year 2000. It is in the southern senatorial district of Cross River State with it headquarter at Anantigha. It measures 264 km^2 with a population of 191,630 from 2006 census and a postal code of 540 (Ering, 2010). Inhabitant of Calabar south are always referred to as Calabar people which constitutes Calabar South, Calabar Municipality, Bakassi, Biase, Akamkpa and Odukpani. For their hospitality and reception, they are very welcoming and accommodative of strangers like Ibibios, Anang, Oron, Igbo and Yorubas. It is politically divided into 11 Wards all headed by electoral Counselors. The widely practiced religion in Calabar South is Christianity while the Efik and English languages are widely spoken within the LGA. Crop cultivation is an important feature of the economic life of Calabar South LGA with a number of crops grown in the area. Also, commerce booms in the area with the area hosting a number of markets such as the popular Watt Market.

Research design

A descriptive cross-sectional survey design was adopted for this study. It is a non-experimental research design that allows one to describe conditions as they exist in their natural setting. It also allows orderly collation of data. Therefore, it is considered suitable for the phenomenon under study.

Population of study

The study population consisted of adults (18 years & above) residing the Calabar South LGA. According to the 2006 National Population Census, this group of residents is estimated to be 127,327 comprising of both male and female.

Sample

The sampling size for this study was 400 male and female (18 years & above) residents of Calabar South LGA. This sample size was derived using Taro Yemane's formula for sample size determination as follows:

$$n = \frac{N}{1+N\,(e)^2}$$

Where n = sample size

N = population size = 127,327

e = level of precision = 0.05

$$n = \frac{127{,}327}{1+127{,}327\,(0.05)^2}$$

= approx. 399

Hence, the sample size was taken as 400 to the nearest hundreds.

Sample technique

A multi-stage sampling technique was adopted for this study. First, Calabar South LGA was purposively selected by the researcher who resides in the LGA as the setting for this study. Secondly, five (5) out of the eleven (11) wards that makes up Calabar South LGA were randomly selected using the hats and draw method. These wards were wards 3, 5, 6, 9, and 10. Lastly, the 400 participants were conveniently drawn from vital places in the five (5) wards including schools, relaxation centers, markets, churches, and healthcare centers. A total of 80 participants were selected from each of the 5 wards used for the study.

Instrument for data collection

The instrument used for data collection was a structured questionnaire. This questionnaire was constructed in line with variables under study. It consisted of two sections, sections A and B. Section A collected data on the respondent's demographic characteristics, while section B were further divided into three (3) sub-sections. The first sub-section elicits data on the traditional beliefs about stroke; the second was on the religious beliefs, while the third elicits data on individual perceptions

regarding stroke. Items in section B were constructed using five (5) points likert scale of strongly agree (SA), agree (A), undecided (U), disagree (D), and strongly disagree (SD).

Validity of instrument

Validity of a research instrument refers to the extent to which the instrument measures what it is designed to measure. In this study, face and content validity was established. Hence, the questionnaire was presented an expert in measurement and evaluation to evaluate the relevance of the content and clarity of the statements. The necessary suggestions from the validator were affected by the researcher before using the instrument for data collection.

Reliability of the instrument

Reliability of the instrument was established through a pre-test in Calabar Municipality Local Government Area of Cross River State. Using a test-rest method, the researcher administered thirty (30) questions to thirty adults (18 years above) residents in Calabar Municipality who filled and returned them to the researcher on the spot. After two (2) weeks same procedure was carried out using these thirty adults. The questionnaires obtained in the test and retest processes were separately sorted, coded, and results of the test process were correlated with the results of the retest process using Pearson product moment correlation analysis. A reliability coefficient of 0.87 was obtained indicating that the instrument is reliable.

Ethical consideration

For the success of this research work, some ethical issues were considered. An ethical approval was sought and collected from the Ethical Committee of Calabar South Local Government Area. The respondents were assured of respect of their freedom of choice and were advised that they will not be prejudiced in any way if they choose not to participate in the study. Also, the Authors of books and journals used for the study were properly referenced according to the recommended standard for this research work.

Method of data collection

Data was collected through face to face administration of questionnaires to the respondents. The administration took a period of 2 week and completed questionnaire were retrieved on the spot.

Procedure for data analysis

Data collected were presented and analyzed using frequency table, charts and simple percentages. Weighted mean scores were also computed and used to decide whether or not an item is significant based on a cut-off weighted score of 3.0. Hence, items with weighted scores of 3.0 and above were regarded as significant. The research hypothesis was tested using Chi-square statistical analysis significant at 0.05.

Results

A total of 400 questionnaires were distributed to the respondents; same were retrieved by the researcher with the aid of four (4) research assistants using on-the-spot collection of filled questionnaires. However, 46 of the 400 retrieved questionnaires were improperly filled and so were not used for the analysis in this section of the study. The remaining 354 questionnaires were sorted, and data obtained were presented using frequency tables, charts, and simple percentages. Weighted mean scores were also computed and used to decide whether or not an item is significant based on a cut-off weighted score of 3.0. Hence, items with weighted scores of 3.0 and above were regarded as significant. Also, individual perception was categorized into two (2) groups representing good and poor perception respectively, based on the perception score of each of the respondents. Therefore, for all respondent whose scores falls between the range (15 – 25) indicated good perception regarding stroke, while those whose scores falls between 1 – 14 marks indicated poor perception regarding stroke. Finally, the association between variables were achieved using chi-square statistical analysis significant at 0.05.

Presentation of respondents' personal data

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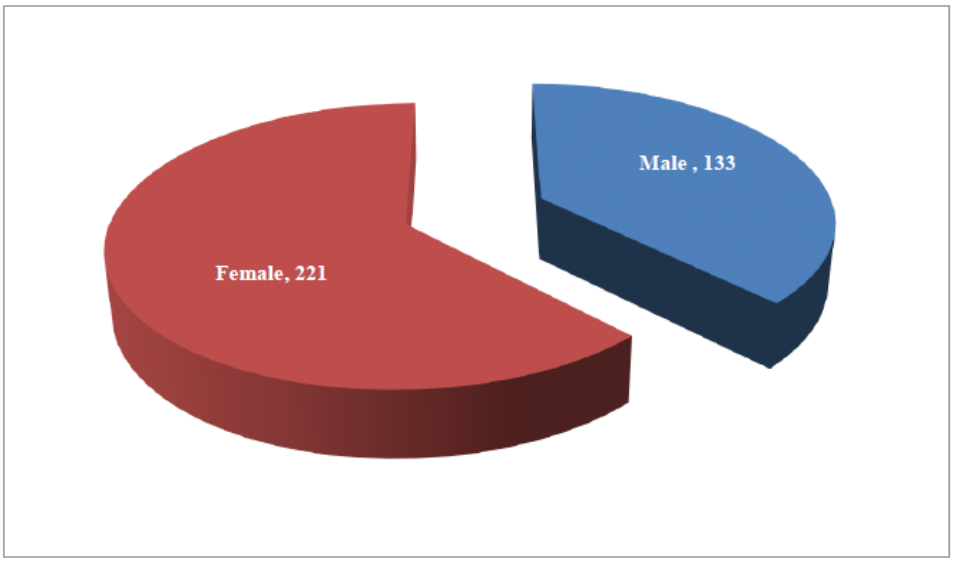

Figure 1. Pie chart showing the respondents by sex

Figure 1 shows that 133 (37.6%) out of the 354 respondents were male; while the remaining 221 (62.4%) were female.

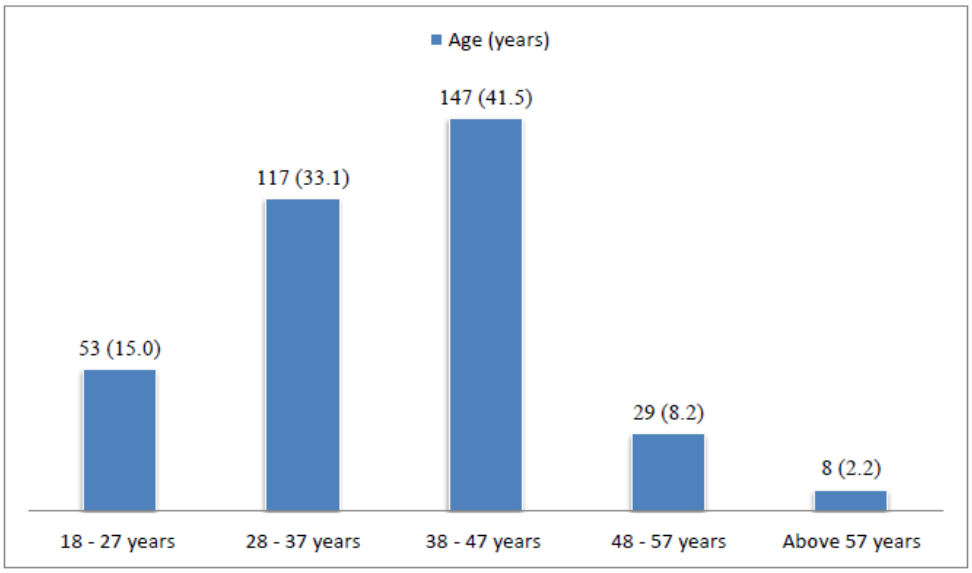

Figure 2. Bar chart showing the respondents by age

From figure 2 it observed that out of the 354 respondents used for the study, 53 (15.0%) were of the age category 18 – 27 years, while 117 (33.1%) were between 28 – 37 years of age, 147 (41.5%) were between 38 – 47 years, 29 (8.2%) were between 48 – 57 years, and 8 (2.2%) were above 57 years of age.

Table 1. Percentage distribution of respondents by marital status (n = 354)

Marital status	No. of respondents	Percentage (%)
Single	94	26.6
Married	127	35.9
Divorced	26	7.3
Separated	69	19.5
Widow/widower	38	10.7
Total	354	100

Source: Fieldwork, 2018.

According to table 1, 94 (26.6%) of the 354 respondents were single, 127 (35.9%) were married, while 26 (7.3%) were divorced, 69 (19.5%) were separated, and 38 (10.7%) were widow and/or widower.

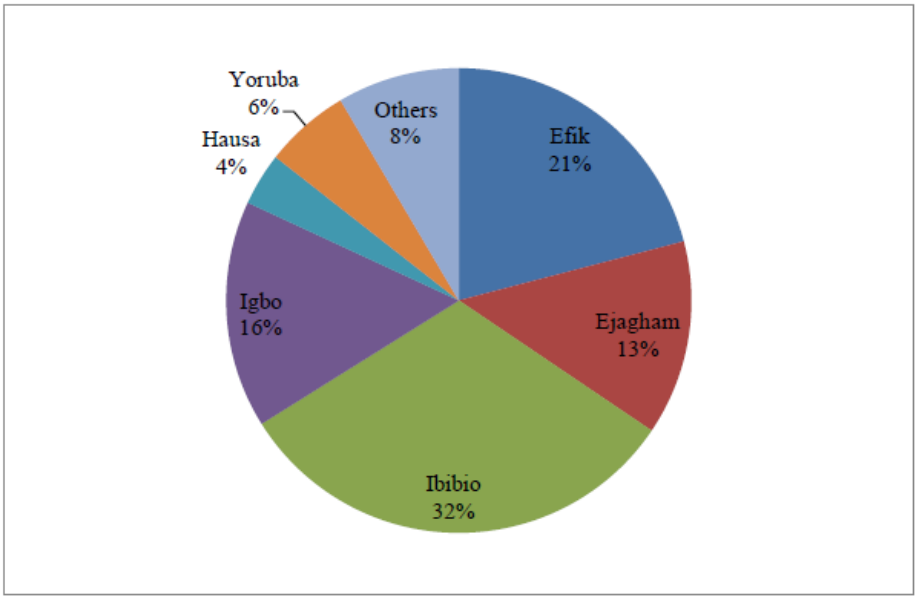

Figure 3. Pie chart showing the respondents by ethnicity

Figure 3 indicates that 74 (20.9%) out of the 354 respondents used for the study were Efiks, 48 (13.6%) were Ejagham speaking people, 112 (31.6%) were Ibibios, while 56 (15.8%) were Igbos, 13 (3.7%) were Hausas, 21 (5.9%) were Yorubas, and 30 (8.5%) were from other ethnic background.

Table 2. Percentage distribution of respondents by religion (n = 354)

Religion	No. of respondents	Percentage (%)
Catholic	39	11.0
Non-catholic	201	56.8
Muslim	29	8.2
Traditional	52	14.7
Others	33	9.3
Total	354	100

Source: Fieldwork, 2018.

Table 2 indicates that 39 (11.0%) of the 354 respondents were Catholic, while 201 (56.8%) were non-Catholic, 29 (8.2%) were Muslims, 52 (14.7%) were traditionalists, and 33 (9.3%) had other forms of worship.

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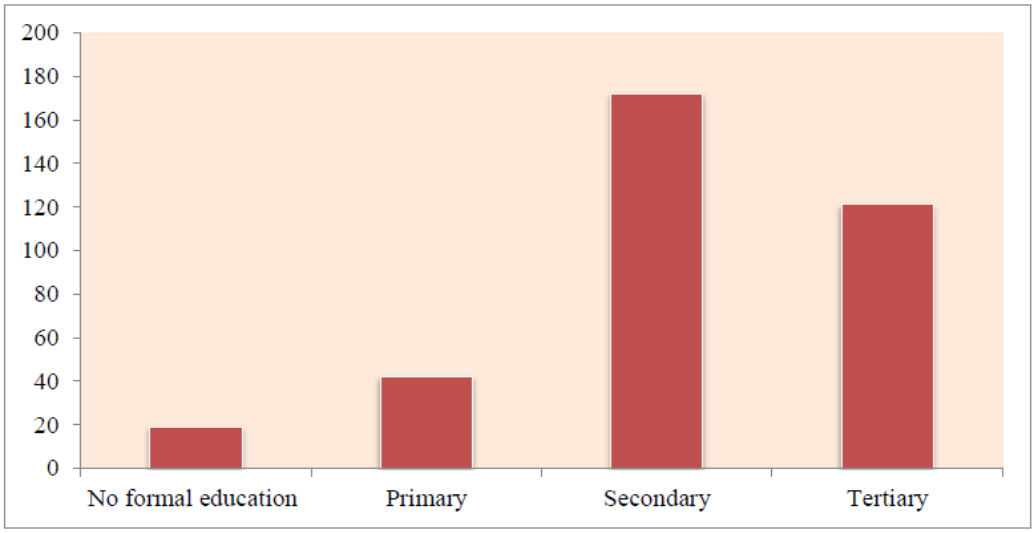

Figure 4. Bar chart showing the respondents by educational status

According to Figure 4 among the 354 respondents, 19 (5.4%) had no formal education, 42 (11.9%) had only primary education, while 172 (48.6%) secondary education as their highest academic attainment, and 121 (34.2%) had been through tertiary institution.

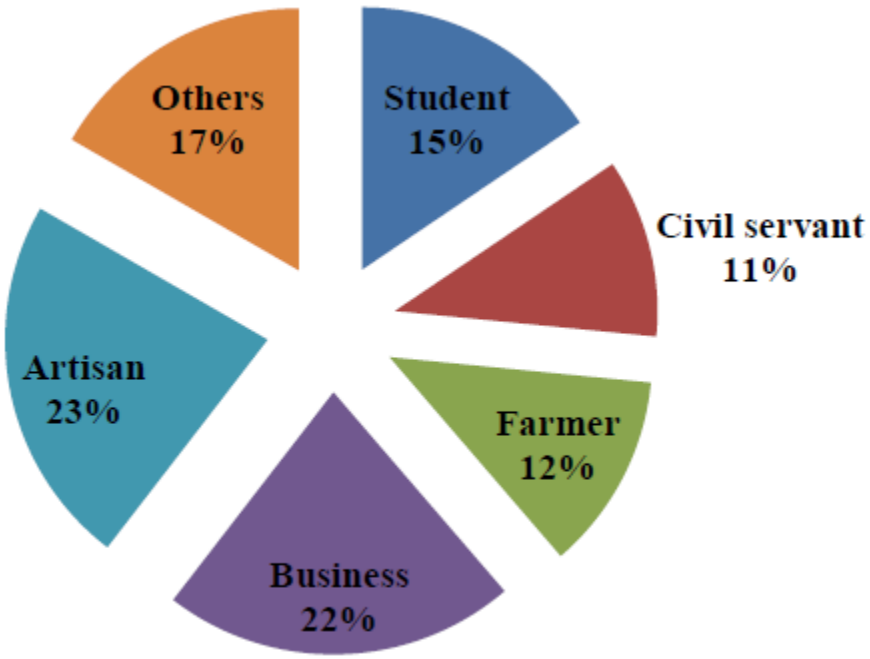

Figure 5. Pie chart showing the respondents by occupation

Figure 5 shows that approximately 15% of the 354 respondents were students, 11% were civil servants, 12% were farmers, 22% were business men and/or women, while 23% were artisans, and 17% had other forms of occupation.

Traditional beliefs about stroke among adults in calabar south

Table 3. Traditional beliefs about stroke

Items	Responses						Mean ($\bar{x}$)	Std. Deviation (SD)
	SA (%)	A (%)	U (%)	D (%)	SD (%)	Total (%)		
It's a common belief among people in my community that stroke is caused by unseen forces especially witchcraft.	122 (34.5)	169 (47.7)	7 (2.0)	31 (8.7)	25 (7.1)	354 (100)	3.94	1.16
Non-adherence to traditional practices such as pouring libation to the ancestors is believed to be one of the reasons why people are sick of stroke	53 (15.0)	91 (25.7)	26 (7.3)	110 (31.1)	74 (20.9)	354 (100)	2.83	1.41
To know the root cause of stroke people usually consult a traditional oracle who'll through incantation reveal 'why' and 'who' is behind the sickness	135 (38.1)	118 (33.3)	12 (3.4)	53 (15.0)	36 (10.2)	354 (100)	3.74	1.36
People in my community belief that stroke can best be treated by a traditional healer	129 (36.4)	151 (42.6)	18 (5.1)	35 (9.9)	21 (5.9)	354 (100)	3.94	1.16
There is a common belief among people in my community that stroke is a curse from the gods and/or the ancestors	61 (17.2)	112 (31.6)	22 (6.2)	136 (38.4)	23 (6.5)	354 (100)	3.15	1.28

Source: Fieldwork, 2018 $\bar{x} \geq 3.0$ = accepted $\bar{x} < 3.0$ = rejected.

According to the weighted scores presented in table, people in the area significantly belief that stroke is mostly caused by witchcraft (3.94±1.16), and that to know the root cause of stroke they consult traditional oracle who'll through incantation reveal 'why' and 'who' is responsible for the sickness (3.74±1.36). Also, there is a significant belief among adults in the area that stroke can best be treated by a traditional healer (3.94±1.16). Finally, the people belief that stroke is a curse from the gods and/or the ancestors (3.15±1.28).

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Religious beliefs about stroke among adults in calabar south

Table 4. showing Religious belief about stroke

Items	Responses						Mean ($\bar{x}$)	Std. Deviation (SD)
	SA (%)	A (%)	U (%)	D (%)	SD (%)	Total (%)		
Stroke is a punishment for one's atrocities committed against God.	23 (6.5)	79 (22.3)	14 (4.0)	155 (43.8)	83 (23.4)	354 (100)	2.45	1.25
Lack of faith and trust in God is why people become sick of stroke	109 (30.8)	181 (51.1)	23 (6.5)	23 (6.5)	18 (5.1)	354 (100)	3.96	1.04
Patients with stroke are possessed by the devil	56 (18.8)	114 (32.2)	19 (5.4)	122 (34.5)	43 (12.1)	354 (100)	3.05	1.34
Persistent fasting and prayer can set a stroke patient free of his/her ailment	119 (33.6)	198 (55.9)	5 (1.4)	19 (5.4)	13 (3.8)	354 (100)	4.10	0.94
For fast recovery from stroke, patients must be taken to a prayer house or church healing homes for the priests to anoint and lay hands on them.	75 (21.2)	116 (32.8)	21 (5.9)	90 (25.4)	52 (14.7)	354 (100)	3.20	1.41

Source: Fieldwork, 2018 $\bar{x} \geq 3.0$ = accepted $\bar{x} < 3.0$ = rejected.

Table 4 shows that the religious beliefs significant in the area include the belief that lack of faith and trust in God is why people become sick with stroke (3.96±1.04); patients with stroke are possessed by the devil (3.05±1.34); persistent fasting and prayers to God can set a stroke patient free of his/her ailment; and that for fast recovery from stroke, patients must be taken to a prayer house or church healing homes for the priest to anoint and lay hands on them.

Individual perception regarding stroke

Table 5. Individual perception regarding stroke

Items	Responses					
	SA (%)	A (%)	U (%)	D (%)	SD (%)	Total
Stroke is caused by witches and wizards	175 (49.4)	129 (36.4)	6 (1.7)	15 (4.2)	29 (8.2)	354 (100)
Stroke is as a result of unhealthy lifestyle of people such as smoking, intense alcohol drinking etc.	48 (13.6)	95 (26.8)	11 (3.1)	143 (40.4)	57 (16.1)	354 (100)
People who are sick of stroke were beaten by	91 (25.7)	98 (27.7)	24 (6.8)	72 (20.3)	69 (19.5)	354 (100)

ghost						
Poor child upbringing could result in stroke	26 (7.3)	21 (5.9)	29 (8.2)	156 (44.1)	122 (34.5)	354 (100)
Hospital is best place to treat and care for a stroke patient.	56 (15.8)	88 (24.9)	10 (2.8)	123 (34.7)	77 (21.8)	354 (100)

Source: Fieldwork, 2018.

Table 5 shows that 175 (49.4%) of the 354 respondents strongly agreed that stroke is caused by witches and wizards, while 129 (36.4%) agree, and the remaining proportion were undecided, disagreed, and strongly disagreed respectively. 48 (13.6%) respondents strongly affirmed that stroke is as a result of people's unhealthy lifestyle such as smoking, intense alcohol drinking etc., 95 (26.8%) agreed, while the rest were undecided, disagreed, and strongly disagreed. 91 (25.7%) out of the 354 respondents were of strong opinion that people who are sick with stroke were beaten by a ghost, 98 (27.7%) agreed on this item, while others were undecided, disagreed, and strongly disagreed. Similarly, the table shows that 26 (7.3%) of the 354 respondents strongly agreed that poor child upbringing could result in stroke, while rest agreed, were undecided, disagreed, and strongly disagreed. 56 (15.8%) respondents strongly affirmed that hospital is the best place to treat and care for a stroke patient, the rest either agreed, were undecided, disagreed, and/or strongly disagreed respectively.

Table 6. Summary of respondents' perception regarding stroke

Perception	Frequency	Percentage (%)	Score range (r)	Mean	Std. Deviation
Good	143	40.4	15 – 25	19.10	3.70
Poor	211	59.6	1 – 14	7.74	2.27
Total	354	100.0	1 – 25	12.33	6.30

Source: Fieldwork, 2018.

Table 6 shows that out of the 354 respondents used for the study, 143 (40.4%) had good perception with a perception mean score of 19.10±3.70, while the remaining 211 (59.6%) had poor perception regarding stroke with a perception score 7.74±2.27. For all the participants, the table revealed a perception mean score of 12.33±6.30 which falls between the score range of poor perception (i.e 1 – 14 marks). Hence, there is poor perception regarding stroke among adults in Calabar South LGA.

Test of hypothesis

H_0: There is no significant association between individual characteristics and perception regarding stroke among adults in Calabar South LGA.

Table 7. Chi-square contingency analysis showing the association between sex and perception regarding stroke among the respondents (n = 354)

Sex	**Perception**		**Row total**	**Df**	**Cal χ^2**	**Crit. χ^2**
	Good	**Poor**				
Male	79	54	**133**			
Female	64	157	**221**	1	32.02	3.84
Column total	**143**	**211**	**354**			

Significant at 0.05.

Result presented in table 7, shows that there is a statistically significant association between sex and perception regarding stroke among adults in Calabar South LGA since the calculated chi-square value of 32.02 is greater than the critical chi-square value of 3.81 (tested at 0.05 level of significance and 1 degree of freedom).

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Table 8. Chi-square contingency analysis showing the association between age and perception regarding stroke among the respondents (n = 354)

Age (years)	**Perception**		**Row total**	**Df**	**Cal χ^2**	**Crit. χ^2**
	Good	**Poor**				
18 – 27	25	28	**53**			
28 – 37	39	78	**117**			
38 – 47	55	92	**147**	4	24.83	9.49
48 – 57	23	6	**29**			
Above 57	1	7	**8**			
Column total	**143**	**211**	**354**			

Significant at 0.05.

Result presented in table 8, shows that there is a statistically significant association between age and perception regarding stroke among adults in Calabar South LGA since the calculated chi-square value of 24.83 is greater than the critical chi-square value of 9.49 (tested at 0.05 level of significance and 4 degrees of freedom).

Table 9. Chi-square contingency analysis showing the association between marital status and perception regarding stroke among the respondents (n = 354)

Marital status	**Perception**		**Row total**	**Df**	**Cal χ^2**	**Crit. χ^2**
	Good	**Poor**				
Single	47	47	**94**			
Married	53	74	**127**			
Divorced	9	17	**26**	4	7.53	9.49
Separated	21	48	**69**			
Widow/widower	13	25	**38**			
Column total	**143**	**211**	**354**			

Significant at 0.05

Result presented in table 9, shows that there is no statistically significant association between marital status and perception regarding stroke among adults in Calabar South LGA since the calculated chi-square value of 7.53 is less than the critical chi-square value of 9.49 (tested at 0.05 level of significance and 4 degrees of freedom).

Table 10. Chi-square contingency analysis showing the association between ethnicity and perception regarding stroke among the respondents (n = 354)

Ethnicity	**Perception**		**Row total**	**Df**	**Cal χ^2**	**Crit. χ^2**
	Good	**Poor**				
Efik	43	31	**74**			
Ejagham	22	26	**48**			
Ibibio	31	81	**112**			
Igbo	11	45	**56**			
Hausa	5	8	**13**	6	49.51	12.59
Yoruba	19	2	**21**			
Others	12	18	**30**			
Column total	**143**	**211**	**354**			

Significant at 0.05.

Result presented in table 10, shows that there is a statistically significant association between ethnicity and perception regarding stroke among adults in Calabar South LGA since the calculated chi-square value of 49.51 is greater than the critical chi-square value of 12.59 (tested at 0.05 level of significance and 6 degrees of freedom).

Table 11. Chi-square contingency analysis showing the association between religion and perception regarding stroke among the respondents (n = 354)

Religion	Perception		Row total	Df	Cal χ^2	Crit. χ^2
	Good	Poor				
Catholic	18	21	**39**	4	13.59	9.59
Non-catholic	89	112	**201**			
Muslims	13	16	**29**			
Traditional	9	43	**52**			
Others	14	19	**33**			
Column total	**143**	**211**	**354**			

Significant at 0.05

Result presented in table 11, shows that there is a statistical significant association between religion and perception regarding stroke among adults in Calabar South LGA since the calculated chi-square value of 13.59 is greater than the critical chi-square value of 9.49 (tested at 0.05 level of significance and 4 degrees of freedom).

Table 12. Chi-square contingency analysis showing the association between educational status and perception regarding stroke among the respondents (n = 354)

Educational status	Perception		Row total	Df	Cal χ^2	Crit. χ^2
	Good	Poor				
No formal edu.	-	19	**19**	3	130.11	7.81
Primary	6	36	**42**			
Secondary	39	133	**172**			
Tertiary	98	23	**121**			
Column total	**143**	**211**	**354**			

Significant at 0.05.

Result presented in table 12, shows that there is a statistically significant association between educational status and perception regarding stroke among adults in Calabar South LGA since the calculated chi-square value of 130.22 is greater than the critical chi-square value of 7.81 (tested at 0.05 level of significance and 4 degrees of freedom).

Table 13. Chi-square contingency analysis showing the association between occupation and perception regarding stroke among the respondents (n = 354)

Occupation	Perception		Row total	Df	Cal χ^2	Crit. χ^2
	Good	Poor				
Student	16	39	**55**	5	5.85	11.07
Civil servant	17	22	**39**			
Farmer	19	24	**43**			
Business	28	49	**77**			
Artisan	39	42	**81**			
Others	24	35	**59**			
Column total	**143**	**211**	**354**			

Significant at 0.05.

Result presented in table 13, shows that there is no statistically significant association between occupation and perception regarding stroke among adults in Calabar South LGA since the calculated chi-square value of 5.85 is less than the critical chi-square value of 11.07 (tested at 0.05 level of significance and 5 degrees of freedom).

Discussion of findings

This study was conducted to determine the beliefs and perception regarding stroke among adults in Calabar South LGA of Cross River State. Research question one stated thus: what are the traditional

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beliefs about stroke among adults in Calabar South LGA? Findings from the analysis of this research question revealed the traditional beliefs significant among adults in the area to include beliefs that stroke is caused by unseen forces especially witchcraft; and that the root cause of this illness is known by consulting a traditional oracle. This oracle will through incantation reveal 'why' and 'who' is responsible for the sickness. Another significant traditional belief common among the people is that people who fall sick with stroke are cursed by the gods; and that it can best be treated by a traditional healer who knows how to appease the gods and set the sufferer free. These findings are in consonance with findings of Calvin et al (2016) who reported that in Africa people believe that spiritual forces contribute to causation of stroke in combination with other physical factors. Before Calvin et al (2016), Bham & Ross (2005) had earlier stated that the interaction within social institutions is said to expose most people to supernatural agents like demons and witchcraft whose attack results in stroke.

Findings from the analysis of research question two revealed the religious beliefs significant among adults in the study area to include the beliefs that lack of faith and trust in God is the reason why people become sick with stroke. The people also belief that stroke patients are possessed by a devil; and that persistent fasting and prayers to God can set a stroke patient free of his/her ailment. Similarly, for fast recovery these patients should be taken to a prayer house or church healing homes for priests to anoint and lay hands on them. However, the belief that stroke is a punishment for one's atrocities committed against God was not significant. Finding of the study as stated above agrees with Stoddard, (2007) who attested that prayers of the faithful could make a stroke patient recover. Also, Carol Maloney (2013) instructed that stroke survivors should invite ministers, rabbi and spiritual members for spiritual discussions to strengthen their faith in God. According to the author, this is done through laying of hands on the sick, praying, casting out of responsible demons and proclamation of deliverance in the name of Jesus.

Findings from the analysis of research question three revealed a poor perception regarding stroke among the participants of the study. This result from the fact that most of the participants were of strong opinion that stroke is caused by witches and wizards. The participants did not agree that unhealthy lifestyle such as smoking and intense alcohol intake could lead to stoke; and most of them belief that stroke patients were beaten by a ghost. Many respondents disagreed that poor child upbringing could result in stroke; and they did not see hospital as the best place to treat and care for stroke patients. In line with the finding of this study, the wife of one late Mr. Felix Effiong in 2017 verbalized that ghost beat her husband which resulted in stroke and he later died of the illness. Similarly, the husband of Mrs. Patricia David while presenting her clinical history to emergency outpatient nurse in General Hospital, Calabar in 2015 reported that his wife was slapped by a ghost. Contrary to these, Pathak (2017) pinpointed out 10 possible causes which might predispose individual to stroke. These according to the author include high blood pressure, tobacco use, heart disease, diabetes, weight and exercise, drugs steroid, hormones and blood expounders/anticoagulants for therapy, age, family inherited factors, gender and race.

In answering research question three, results from the test of the research hypothesis revealed that some personal characteristics significantly associated with individual perception regarding stroke. These characteristics were; sex, age, ethnicity, religion, and educational status. This indicates individual perception regarding stroke were significantly influenced by their sex, age, ethnicity, religion and educational status.

Recommendations

Based on the findings of the study the researcher recommends that:

- Prompt attention to acute patient in every healthcare facility and referral to appropriate institution with facility and personnel in line with WHO recommendations (Berkowitz, 2015).
- Provision of computed tomography (CT) scans for effective differentiation of ischemic stroke from intra-cerebral haemorrhage in all general healthcare facilities (Jauch, et. El., 2013).
- Administration of aspirin 25-48 hours on acute stoke of idiopathic aetiology to lessen risk of exacerbating to intracerebral haemorrhage and at the same time preserving the tissue at ischemic condition
- Public enlightenment on clinical cause, regular clinical check-up for early detection and avoidance of stress.

Suggestion for further studies

The researcher suggests that further study regarding stroke and slumping should be carried out in other local government of the state and Nigeria in general with different variables, to compare results and deduce findings to educate direct the public on the possible way of life to attain sustainable development goals.

Conclusion

In conclusion, the study reveals that there are various traditional and religious misconceptions regarding the causes, prognosis and management of stroke among adults in Calabar South Local Government Area of Cross River State. The significant traditional beliefs inherent in the area is that stroke is mainly caused by unseen forces especially witchcraft, and could as well be a curse from the gods. To know the root cause of stroke, the people consult traditional oracle who through incantation and other rituals will reveal 'why' and 'who' is responsible for the illness. Hence, the traditional healer is considered the best option for treatment of people with stroke. Similarly, in religious perspective, stroke was not seen as a punishment for one's atrocities but rather the people belief that it attacks only those who do not put their faith and trust in God. They belief that stroke patients are possessed by devils or evil spirits; therefore, they should be taken to prayer house or church healing homes for the priests to anoint and lay hands on them in other to drive away these evil spirits and set patients free. Apart from this, persistent fasting and prayers to God is believed to foster healing of the affected persons. Generally, the adults were found to have poor perception regarding stroke and believed that stroke is caused by witches and wizards, and that stroke patients were beaten by ghost. This was strongly influenced by individual characteristics such as sex, age, ethnicity, religious affiliation, and academic status.

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