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Research Article

Stroke Knowledge, Attitude and Practice among Enugu North Populace

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Abstract

Background: Stroke is a neurological condition prevalently causing mortality in Nigeria. A thorough understanding of stroke is essential for effective treatment and the reduction of its aftereffects. This study assesses the fundamental knowledge of stroke and its symptoms, the common practices in relation to stroke risk factors, treatment option and the validity of the information sources as regards stroke amongst the population of Enugu North.

Methods: This study was conducted at Enugu North local government area, Enugu state, Nigeria. A community-based physical questionnaire survey was deployed as the primary source of data. Statistical analysis was done on SPSS software version 22.

Results: 463 met inclusion criteria, 232 were male, most of the respondents had tertiary education, age range of the participants were between 11-80 years. The most common risk factors for stroke identified by respondents were hypertension (71.1%) than spirituality (14.0%), most respondents (48.2%) still believed that traditional medicinal healers could treat stroke. There were no statistically significant differences between respondents' knowledge, attitude and practice with their sources of information.

Conclusion: It is possible to promote the level of the population's knowledge, attitude and practice towards stroke by the use of public media, school education, and a campaign on stroke. Therefore, this health educational programs and behavior-changing strategies to urban and rural areas is essential to increase stroke patients and general public awareness about stroke prevention and other health-related concerns.

Keywords: Stroke, neurology, knowledge, attitude, practice, disability

Abbreviations

CVA: Cerebrovascular Accident; KAP: Knowledge Attitude Practice

Introduction

Stroke is a significant health problem that causes mortality and permanent disability worldwide [1,2]. It is known that cerebrovascular accident (CVA) and neurologic disorder are originating from the blockage or rupture of cerebral blood vessels with ischemic or hemorrhage etiologies [3,4]. Stroke or CVA leads to death and is the third leading cause of disability worldwide [5].

Annually, there are 15 million reported stroke cases, with 5.8 million reported stroke deaths globally and it is likely to worsen in developing countries over the next two decades based on the projections by the World Health Organization (WHO) [6,7]. Developing countries are exposed to unhealthy lifestyle patterns such as poor food habits, lack of exercise, and poor emotional management

as they move toward globalization and modernity. The Nigerian populace are not immune to this sort of harmful phenomenon that raises the risk of stroke as risk of death from stroke is reportedly very high [8,10]. In Nigeria, stroke accounts for 0.9%-4% of all hospital admissions and 2.8%-4.5% of total deaths [11] while in South-eastern part of Nigeria accounts for 29.63% of the total hospital admissions[12]. The increased prevalence of stroke in developing nations is mostly attributed to inadequate information and risk factor management.

The main clinical manifestations are paralysis, dysarthria, aphasia, vision alterations, headaches, numbness, dizziness or weakness [13,14]. Stroke is one of the most common neurological crises in tertiary care hospitals. High blood pressure has been reported to be a main contributor [15]. In addition to modifiable risk factors like hypertension, cardiac disease, diabetes mellitus, hyperlipidemia, smoking, and excessive alcohol use are contributors as well, non-modifiable risk factors for stroke include age and sex [16].

It is possible that gaining more general knowledge (K) about stroke will help people recognize the signs and symptoms of a stroke correctly and contribute to other technical information about the condition and how to treat it. By encouraging those at high risk to seek out information on stroke via various media, an increase in knowledge (K) will subsequently influence people's attitudes (A) towards stroke. Then, by adopting a healthy lifestyle, they will assist in changing the practice (P) of orthodox treatment especially in Nigeria [17,18]. In addition, understanding what a stroke is would help young patients and their parents assess the causative factors and how to prevent it. It will also assist in the implementation of suitable health education policies, the prevention of stroke, early identification, and the improvement of timely medical care using suitable means. The aim of the study is to evaluate the population's baseline knowledge, attitude, and practice towards strokes as well as their information sources and the validity of those sources using a structured questionnaire.

Materials and Methods

Study population

This study was carried out in Enugu North local government area, Enugu state, Nigeria. Enugu North is one of the three main local government areas that made up the Enugu metropolis. Its population according to the 2006 national population census was 244,852 people with a growth rate of 3.05% [19]. Its inhabitants are mainly of Igbo ethnic nationality and are predominantly Christians. The occupation of the people includes civil service, trading, artisanship and farming[20]. For this study's sample size, locations in Enugu north, including tertiary institutions, tertiary hospitals, shopping mall and various offices, were utilized.

Study design

This cross-sectional study surveyed Enugu North populace using a questionnaire, who fit the inclusion (the participants who correctly completed the surveys) and exclusion criteria (incomplete questionnaires).

The survey used items were separated into three main sections (all of which were multiple choice questions): participant demographic information (nationality, state of origin, local government area, age, marital status, education, and career); knowledge, practice and attitude towards stroke (symptoms, prevalence, mortality, and whether a family history of stroke exists, refers of stroke patients, best option for stroke treatment); sources of information (health worker, television, radio, friends, family members, social media and newspapers).

Statistical analysis

Accurate descriptive and comparative statistical measurements were made using the statistical software SPSS version 22. Using logistic regression analysis, chi-squared tests were conducted to ascertain the correlations between survey elements and stroke knowledge among the Enugu north populace. The significance of the predictor variables was assessed using *P*-values from Wald statistics. Statistical significance was defined as a two-tailed probability value of less than 0.05.

Ethical consideration

Verbal explanations of the study's objectives, as well as the impact of this study were told to the participants. The collected data was kept private, secure, and only used for research under the supervision of the principal investigator.

Results

Sample description

In our study, there was a total number of 1012 participants, of which 463 respondents met the inclusion criteria. The majority of respondents 128 (27.6%) were between the ages of 31 and 40years, 232 (50.1%) of the participants were male, 303 (65.4%)

were married, had completed tertiary education 203 (43.8%). Over half of the respondents were skilled 418 (90.3%), professionals 223 (50.1%), and were mostly Christians (Table 1).

Variables	Frequency (n = 463)	Percent (% = 100)
Age Range		
11 – 20	13	2.8
21 – 30	125	27.0
31 – 40	128	27.6
41 – 50	120	25.9
51 – 60	57	12.3
61 – 70	15	3.2
71 – 80	5	1.1
Sex		
Male	232	50.1
Female	231	49.9
Marital Status		
Single	156	33.7
Married	303	65.4
Widow/Widower	4	0.9
Religion		
Christianity	436	94.8
Traditional Religion	27	5.2
Educational Background		
Informal Education	29	6.3
Formal Education	64	13.8
Secondary Educational	77	16.6
Tertiary Education	203	43.8
Postgraduate Degree	90	19.4
Occupation		
Skilled	418	90.3
Unskilled	45	9.7
Profession		
Professional	233	50.3
Clerical workers	43	9.3
Service and sales workers	101	21.8
Agricultural, forestry and fishery occupations	6	1.3
Craft and related trades workers	9	1.9
Plant and machine operators and assemblers	10	2.2
Elementary occupations	11	2.4
Armed forces occupations	2	0.4
Students	38	8.2
Managers	2	0.4
Retired	8	1.7

Table 1: Distribution of Socio-Demographic of response of participants.

Assessment of knowledge level towards stroke

The result showed that most of the participants had adequate knowledge about stroke, 48.5% of the respondents correctly answered that stroke is a brain disease. Regarding the causes of stroke, 71.1% believe that the cause of stroke is hypertension, followed by spiritual 14.0% and charm 9.5%. Furthermore, 87.5% of the respondents correctly answered that stroke is treatable and their sources of information are health workers 31.1% followed by friends 25%. However, majority of the participants 68.7% disagree that stroke is hereditary or runs in the family (Table 2).

Variables		Frequency (n = 463)	Percent (% = 100)
What do you understand by stroke?	Brain Disease	225	48.6
	Entire Body	136	29.4
	Spiritual Attack	50	10.8
	No Idea	52	11.2
What is your source of information	Television	1	0.2
	Radio	56	12.1
	Friends	116	25.1
	Health worker	144	31.1
	Family/Relations	89	19.2
	Social Media	57	12.3
What is the cause of stroke?	Spiritual	65	14.0
	Hypertension	329	71.1
	Charms	44	9.5
	Stress	5	1.1
	Diabetes	2	1.4
	No Idea	18	3.9
Are you aware it is hereditary or runs in the family?	Yes	145	31.3
	No	318	68.7
Do you think stroke is treatable?	Yes	405	87.5
	No	57	12.3
	No Idea	1	0.2

Table 2: Distribution of respondents' Knowledge level towards stroke.

Assessment of attitude and practice level towards stroke

The findings for practices and attitude towards stroke showed that most respondents (61.1%) strongly agreed that stroke is treated in the spiritual churches, followed by traditional medicine healers 48.2%, and disagreed that food supplements sold through network marketing 45.4%, and chemist shops 79.7% are not the best practice. However, more than half of the respondents 64.8% would choose the hospital as the referral option for stroke patients. The

most useful method for the treatment of stroke was physiotherapy alone 65.2%, followed by orthodoxy (4.3%) (Table 3).

Variables		Frequency (n = 463)	Percent (% = 100)
Stroke can be treated by traditional medicine healers	Yes	223	48.2
	No	163	35.2
	Don't know	77	16.6
Stroke can be treated in spiritual churches	Yes	283	61.1
	No	111	24.0
	Don't know	69	14.9
Stroke can be treated with food supplements sold through network marketing	Yes	140	30.2
	No	210	45.4
	Don't know	113	24.4
Stroke can be treated in the chemist shops	Yes	19	4.1
	No	369	79.7
	Don't know	75	16.2
Where do you always encourage or refer stroke patients to?	Hospital	300	64.8
	Traditional/ Herbal Home	120	25.9
	Churches	43	9.3
What is the best option for stroke treatment?	Orthodox Alone	302	65.2
	Herbal Alone	95	20.5
	Prayer Alone	46	9.9
	Physiotherapist	20	4.3

Table 3: Distribution of respondents' attitude and Practice level towards stroke.

Comparison of KAP and source of information

The results showed no statistically significant differences of Knowledge frequency score with respondents' source of information. Respondents got to know stroke as brain disease through health workers 28.0%, followed by friends 27.6%, family/relations 20.4% (P = 0.905). Also, information on the awareness of whether stroke is hereditary or runs in the family were friends 29.0%, health workers 28.3% (P = 0.663). Respondents think stroke is treatable through health workers 30.9%, friends 25.4% (P = 0.899).

The results also revealed insignificantly differences of practice frequency score with sources of information of respondents. Respondents got to encourage or refer stroke patients for treatment by health workers 287%, friends 26.7% (*P = 0.563*). Also, practices regarding the best option for stroke treatment were heard through health workers 29.1%, friends 27.2% (P = 0.231) (Table 4).

Discussion

Currently, stroke poses a serious problem in public health. Stroke is the second most common cause of death worldwide and a significant cause of chronic disability[10]. Therefore, this study sought to evaluate the basic KAP towards strokes as well as their informational sources and the validity of those sources using a structured questionnaire in the Enugu metropolis population. In this current

Knowledge	What is your source of information?					
	Television	Radio	Friends	Health Worker	Family/Relations	Social Media
What do you understand by stroke?						
Brain disease	1 (0.4%)	31 (13.8%)	62 (27.6%)	63 (28.0%)	46 (20.4%)	22 (9.8%)
Entire body	0 (0.0%)	11 (8.1%)	34 (25.0%)	45 (33.1%)	27 (19.9%)	19(14.0%)
Spiritual attack	0 (0.0%)	6 (11.5%)	11 (21.2%)	17 (32.7%)	8 (15.4%)	10 (19.2%)
No idea	0 (0.0%)	8 (16.0%)	9 (18.0%)	19 (38.0%)	8 (16.0%)	6 (12.0%)
P-value	16.329					
X^2	0.905					
Are you aware is hereditary or runs in the family?						
Yes	0 (0.0%)	15 (10.3%)	42 (29.0%)	41 (28.3%)	27 (18.6%)	20 (13.8%)
No	1 (0.3%)	41 (12.9%)	74 (23.3%)	103 (32.4%)	62 (19.5%)	37 (11.6%)
P-value	3.238					
X^2	0.663					
Do you think stroke is treatable?						
Yes	1 (0.2%)	50 12.3%)	103 (25.4%)	125 (30.9%)	77 (19.0%)	49 (12.1%)
No	0 (0.0%)	6 (10.5%)	13 (22.8%)	19 (33.3%)	11 (19.3%)	8 (14.0%)
No idea	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
P-value	4.879					

X^2	0.899					
Practice						
Where do you always encourage or refer stroke patients to?						
Hospital	1 (0.3%)	34 (11.3%)	80 (26.7%)	86 (28.7%)	61 (20.3%)	38 (12.7%)
Traditional/Herbal Home	0 (0.0%)	15 (12.5%)	24 (20.0%)	43 (35.8%)	25 (20.8%)	13 (10.8%)
Churches	0 (0.0%)	7 (16.3%)	12 (27.9%)	15 (34.9%)	3 (7.0%)	6 (14.0%)
P-value	8.681					
X^2	0.563					
What is the best option for stroke treatment?						
Physiotherapist	1 (0.3%)	33 (10.9%)	82 (27.2%)	88 (29.1%)	62 (20.5%)	36 (11.9%)
Herbal alone	0 (0.0%)	10 (10.5%)	20 (21.1%)	36 (37.9%)	15 (15.8%)	14 (14.7%)
Prayer alone	0 (0.0%)	9 (19.6%)	12 (26.1%)	15 (32.6%)	4 (8.7%)	6 (13.0%)
Orthodox alone	0 (0.0%)	4 (20.0%)	2 (10.0%)	5 (25.0%)	8 (40.0%)	1 (5.0%)
P-value	18.620					
X^2	0.231					

Table 4: Comparison of KAP frequency score and source of information.

study, most respondents were younger adults, male, married, Igbo and Christian, had tertiary education, skilled and professional. There is no association between gender and knowledge regarding stroke. This is similar to the results of a study on high school students in Nepal [21]; no consensus exists on a significant difference in knowledge by gender. KAP towards stroke can associate with age and level of education but not with sex and domicile. These were expected findings because, with increasing age and education level, the level of knowledge increases. These findings are consistent with previous studies [22,23].

The respondents' knowledge of stroke risk factors and warning symptoms was adequate, as they understood that stroke is a brain disease rather than a spiritual attack, and they correctly identified hypertension as a stroke risk factor and not spiritual attack. This result was highly correlated with a previous study [13,24], where 93.5% identified hypertension as a risk factor. For example, a study conducted in Cameroon among the general public, which found high knowledge about stroke risk factors and warning symptoms [25]. Almost all respondents identified hypertension as a risk factor for stroke. In contrast, this current study result is inconsistent with the study conducted in Indonesia, which found out that the majority of patients with hypertension in the study were unaware of it as a risk factor for stroke [26]. Identification of major risk factors for stroke and its clinical presentation has a direct impact on the prevention and prompt intervention of a stroke patient with potential therapeutic measures. The respondents in this study have a high level of knowledge about stroke, which is related to their educational level. This indicates that participants do receive extra knowledge regarding stroke [24]. In this study, hypertension was the risk factor most frequently identified, and diabetes was fourth. Hence, hypertension remains the most commonly identified risk factor for stroke. A smaller proportion of respondents identified stress and diabetes mellitus as stroke risk factors. This negates the finding in the study in which diabetes mellitus was at the 4th position in the risk factor ladder [27]. These results suggest that community-based stroke prevention strategies should focus on the established stroke risk factors.

The present study also showed that most of the respondents had an incorrect attitude and poor practice towards stroke in the Enugu North. They still believed that traditional medicinal healers could treat stroke, that hospitals were not suitable for stroke patients. In this study, this is a mismatch between practice and knowledge of stroke management. This result is consistent with another study conducted in a tertiary care hospital in Pakistan which indicated that stroke prevention practices were sub-optimal [24]. Traditional believe among respondents who live in rural areas is a possible explanation of our result.

This current study compared the KAP stroke with their sources of information to determine the validity within the variable. There were no statistically significant differences between the frequency score of knowledge and the sources of information of respondents. Respondents correctly answered stroke as a brain disease and it's treatable through health workers than the other sources of information. This finding means that good knowledge leads to better performance in some circumstances [28]. This shows that information on stroke can be successfully increased by using media, including television, magazines, and newspapers, as well as family, friends, and mostly by health professionals and educational campaigns. Farooq and Haider [29] studies showed that increasing stroke awareness through public and professional education resulted in a reduced time of presentation to the emergency department. All these studies indicate the need for long-term education to achieve desirable results.

There were also no significant differences between the frequency score of practices and sources of information, where health workers had a higher frequency score as a source of information as most of the respondent refers stroke patients to the hospital and also physiotherapy unit. This comparison indicates that respondents who knew more about stroke consequences had a better attitude and practice towards stroke treatment. Accordingly, any increment in knowledge and awareness regarding stroke treatment and prevention among society will motivate them to change their practice and attitude positively. Good knowledge and awareness of stroke are vital for proper treatment and prevention [30]. A quick recognition of the symptoms would make for timely and effective treatment possible and minimize the unfavorable effects of stroke. Therefore, a continuous health education and awareness is mandated for the society, stroke patients and relatives to adopt the best practice and attitude such taking stroke patients to the hospital and physiotherapy units. The use of public media and school education would change the level of the population's KAP towards stroke.

Conclusion

This study showed a gap between the KAP towards stroke among the populace of Enugu North. The findings suggest that policymakers should adopt continuous effective health education interventions that could be useful for primary stroke treatment and prevention programs as the populace still practice orthodox treatment, increase their awareness of the stroke in Enugu North.

Further research regarding stroke KAP is still required to cover other areas of Enugu. In addition, future research should focus on providing and implementing health education programs for stroke patients and the general public and measure their efficacy. This study recommends that a policy be formulated targeted at preventing the uncontrolled exposure of stroke patients to unorthodox medicine, i.e., traditional medicinal care.

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Conflict of Interest

None.

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