

## Assessment of Level of Right Beliefs about Stroke and Associated Factors among Private School Teachers in Faith Standard Primary School, Ile Ife, Nigeria

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### Abstract

**Background:** There are many misconceptions or wrong belief about stroke. These wrong beliefs are held by non-health care professionals due to their little understanding and awareness about stroke. The aim of this study is to assess the level of right beliefs about stroke and its associated factors among private primary school teachers from Faith Standard Primary School, Ile Ife, Nigeria.

**Methods:** A descriptive cross-sectional study design using 27-item, self-administered questionnaires to collect information on level of right beliefs about stroke among the respondents. Data were analyzed and presented using descriptive statistics.

**Results:** A total of 29 private primary school teachers from Faith Standard School, Ile Ife, Osun State, Nigeria with 13.8% males and 86.2% females took part in this study. The overall stroke belief score obtained was  $68.28 \pm 18.09$ . Among all the sociodemographic variables considered in this study, statistical significant relationship was found only between marital status and the mean stroke belief scores ( $F(2, 26) = 7.655$ ;  $P = 0.02$ ). Also, 25.58%, 65.52% and 6.90% of the respondents have high, moderate and low level of right beliefs about stroke respectively.

**Conclusions:** There is moderate level of right beliefs about stroke among the private primary school teachers from Faith standard primary school, Ile Ife. Therefore, there is still need for public health education on right beliefs about stroke to correct some misconceptions (wrong notions) held about stroke beliefs among them.

**Keywords:** Stroke, right beliefs, misconceptions, teachers.

### Introduction

Stroke is a leading cause of disability and avoidable death worldwide, with mortality and case fatality in some countries of the Sub-Saharan Africa exceeding those in the developed world (Lemogoum et al, 2005). It is ranked as the second leading cause of death worldwide with an annual mortality rate of 5.5 million (Lopez, 2001). The burden of stroke does not only lie in the high mortality but the high morbidity also leads to up to 50% of survivors being chronically disabled (Murray and Lopez, 1997).

The burden of stroke to individuals, families and societies is thus considerable. Stroke claims hundreds of thousands of lives, disrupts families and exerts significant impact on socio-economic activities of the people in general. Therefore, stroke is a disease of immense public health importance with economic and social consequences (Young, 2001). Not until recently, stroke has ever remains a disease of the developed world. In the developed world, the burden of stroke has reduced drastically in many developed countries. But now the problem of stroke seems to be shifting to the developing world and presently two-thirds of stroke mortality cases occur in Sub-Saharan Africa with malnutrition, poverty and communicable diseases such as HIV/AIDS also exerting greatest effect (Bravata et al, 2005)

People who have suffered a stroke claim that many misunderstand their symptoms and stigmatise them as a result of these symptoms. There are many misconceptions or wrong belief about stroke. These wrong

beliefs are held by non-health care professionals due to their little understanding and awareness about stroke. Most of the times, when people think about stroke, they think it only affects older adult population. They also think stroke cannot be prevented. The fact still remain, stroke can affect anyone at any age irrespective of gender or race. Stroke can also be prevented in 80% of people by effective management of modifiable risk factors of stroke. A report released by the Heart and Stroke Foundation of Canada (HSFC) suggests that Canadians have plenty of misconceptions about stroke, and what it takes to recover from one. The poll conducted by the HSFC found that half of all Canadians have a close family member or a friend who has had a stroke and that many of these people do not realize that it may take weeks or months to recover from one (Heart and Stroke Foundation, 2013). Misconceptions may sometimes be instilled or reinforced by family, society and/or health professionals. What people believe about their illness may affect how they will be able to cope with it. Suggestion has been made that such beliefs may be commonly held within society (Leventhal and Cameron, 1987)

To the best of my knowledge, through literature search, little is known in the world, about how people in society hold beliefs about stroke. Also, in Nigeria, no study has been conducted to assess the level of right beliefs or misconceptions about stroke among teachers who can also be a victim of stroke attack. This study is, therefore, undertaken to assess the level of right beliefs about stroke and to determine the factors responsible for stroke beliefs among teachers working in Faith Standard Primary School, Ile Ife, Nigeria, as a case study.

The objectives were

1. To assess level of right (appropriate/correct) beliefs about stroke among the teachers in Faith Standard Primary School.
2. To evaluate factors associated with these beliefs among the teachers in Faith Standard Primary School.

## **Methodology**

### **Study location**

This study was conducted as a case study in a very popular private school, Faith Standard Primary School, which has the highest population of private school teachers in the whole of Ile Ife. The school is located in Ward two, Ifedapo area, in Ife East Local Government, Ile Ife, Osun State, Nigeria.

### **Study design**

A descriptive cross sectional design to assess level of right beliefs about stroke among teachers in Faith Standard Primary School was used for this study.

### **Sampling technique**

A sample of convenience was employed for the study.

### **Sample size determination**

All the 29 teachers that were available at the time of the study were recruited, through convenient sampling technique, as sample size for the study.

### **Questionnaire design**

Majority of the questions in this study have already been used in previous studies (Hamzat et al, 2010; Donkor et al, 2014). The questionnaire was divided into two sections: the first section contained information about the demographic characteristics of the participants and the second section was about the respondents' beliefs about stroke.

### **Survey instrument and study procedures**

Information on beliefs about stroke was collected from respondents by means of a pre-tested 27- item, purpose designed, self- administered, and anonymous questionnaire containing closed ended questions.

The respondents are to fill the first section of the questionnaire which contained items focusing on demographic characteristics of the respondents. The second section of the questionnaire contained 20 items focusing on various questions to reveal the respondents' beliefs about stroke. The participants were to respond to the 20 items with 'yes' (if they believe), 'no' (if they do not believe) and 'not sure'. The items are: 1. Stroke is a spiritual illness caused by witches, wizard, wicked people, 2. Stroke is a communicable disease, 3. Stroke can be sexually transmitted, 4. An individual can have stroke more than once, 5. Stroke can be prevented, 6. Only the aged suffered stroke, 7. Stroke is not preventable in the aged, 8. Only prayer can cure stroke, 9. Stroke can have effects on daily activities, 10. Stroke requires emergency treatment, 11. Stroke can be healed by the use of herbs, 12. Stroke can be healed by incision marks on the body, 13. There is need to isolate individual with stroke, 14. A stroke person may not necessarily be taken to the hospital, 15. Stroke cannot occur in children, 16. Stroke is a mysterious illness, 17. Stroke attack occurs mainly during sleep, 18. Stroke can go away on its own, 19. Thunderstorm is a major cause of stroke and 20. Full recovery from stroke is not possible.

Four of these questions reveal correct belief about stroke (items 4, 5, 9 and 10) while the rest are questions on incorrect belief. The scores obtained out of 20 from each respondent are marked for right and wrong answer and then converted to a percentage score of 100. For easy rating of the level of right beliefs about stroke among the respondents, the overall scores are then graded as: 0 to 49, low level of right beliefs (high misconceptions) about stroke; 50 to 79, moderate level of right beliefs (moderate misconceptions) and 80 to 100, high level of right beliefs (low misconceptions). Therefore, the higher the overall beliefs score for the respondents, the higher the level of right beliefs held by them and vice versa. (Table 1).

### **Inclusion criteria**

This study was delimited to private school teachers from Faith Standard Primary School, Ifedapo area, Ife East Local Government, Ile Ife, Osun State, Nigeria.

### **Exclusion criteria**

Respondents who have previous history of stroke were not made to be part of this study so as to prevent their initial experience about stroke from having effects on the study.

### **Data analysis**

The results of the completed questionnaires were collated and data processing was performed on them using Microsoft Excel 2010. Statistical Package for the Social Sciences, (IBM SPSS software version 22.0) was used for all the statistical analyses. Data analysis for this study involved the use of both descriptive and inferential statistics. Analysis of socio-demographic variables such as age groups, marital status, ethnicity, gender, years of teaching experiences and level of education were presented using frequency distributions and percentages. The outcome variables which are stroke belief scores were presented using means and standard deviation. One-way ANOVA tests were used to test the significant relationship between age groups, marital status, ethnicity, gender, years of teaching experiences and level of education and mean stroke belief scores. The level of significance was set at  $p < 0.05$ .

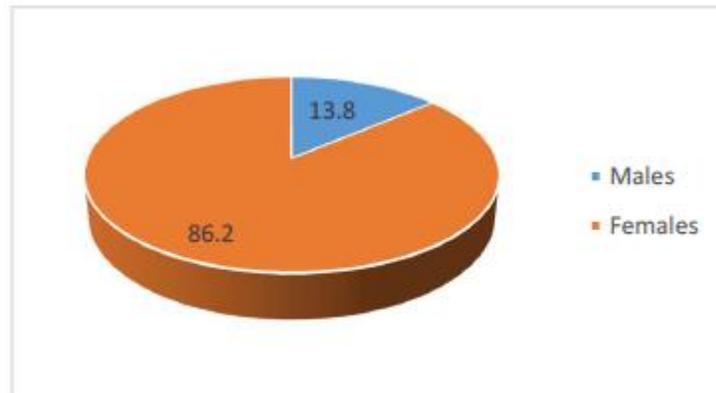
### **Ethical consideration of the study**

Permission to conduct the study was obtained from the school authority (the proprietor and Head teacher) before embarking on the study. Informed consent was also obtained from every teacher involved in the study before carrying out the study. Instruction was adequately given and the questionnaire was fully explained to the participants. Individuals who consented were chosen to participate in the study after assuring them of confidentiality of information supplied in the questionnaires.

## Results

### Demographic characteristics of the respondents

The profile of the respondents interviewed with the questionnaires is shown in Table 2. The total number of private primary school teachers from Faith Standard Primary School that participated in this study were 29 teaching staff. Majority of these private primary school teachers who participated in the survey were females (13.8% males and 86.2% females). Their sex distribution is shown in figure 1. Many of them fell within the age group of 35- 44 years (51.7%) with a very few of them belonging to age group 45- 54 (10.4%). The participants were nearly all Yoruba by tribe (89.7%) and are mostly married (82.8%). The academic qualifications of these teachers were school certificate (51.7%) and first degree (48.3%) almost at equal distribution and very few of them (20.7%) had less than 5 years of teaching experience.



**Figure 1.** Respondents' distribution according to gender

**Table 1.** Level of right beliefs about stroke

Rating	Percentage scores
Low	0 - 49
Moderate	51 - 79
High	80 - 100



**Figure 2.** Level of respondents' right beliefs about stroke

### Prevalence of right beliefs about stroke among the respondents

The prevalence of right beliefs about stroke among the teachers in Faith Standard Primary School were shown in Table 3. Right beliefs about stroke were divided into 3 levels namely low, moderate and high. Mean  $\pm$  standard deviation for overall stroke belief score obtained was  $68.28 \pm 18.09$ . The table showed that 25.58% of the respondents have high level of right beliefs about stroke, 65.52% have moderate level

of right beliefs about while 6.90% of the respondents have low level of right belief about stroke. Therefore, majority of the respondents belong to the category of moderate level of right beliefs about stroke (Figure 2).

**Table 2.** Descriptive statistics of socio-demographic factors among teachers (n = 29)

Variables	N (%)
Age:	
25- 34	11 (37.9)
35- 44	15 (51.7)
45- 54	3 (10.4)
Gender:	
Male	4 (13.8)
Female	25 (86.2)
Ethnicity:	
Yoruba	26 (89.7)
Igbo	2 (6.9)
Hausa	0 (0.0)
Others	1(3.4)
Marital Status:	
Single	4 (13.8)
Married	24 (82.8)
Separated/Divorced/Widowed	1 (3.4)
Years of Experience:	
Less than 5 years	6 (20.7)
5- 10 years	10 (34.5)
More than 10 years	13 (44.8)
Educational level:	
School certificate	15 (51.7)
NCE/Diploma	0 (0.0)
Bachelor degree	14 (48.3)

**Table 3.** Prevalence of right beliefs about stroke among the respondents

Rating	N (%)
Low	2 ( 6.90)
Moderate	19 (65.52 )
High	8 (25.58 )
Mean ±	68.28 ±
Standard deviation	18.09

### **Socio-demographic factors and their association with mean stroke belief scores among the respondents**

Table 4 showed the relationships between socio- demographic factors and mean stroke belief score among the teachers in Faith Standard Primary School. No statistical significant relationship was found between age, gender, ethnicity, years of teaching experience, educational level and mean stroke belief scores among the respondents. Statistical significant relationship was found only between marital status and the mean stroke belief scores ( $F(2, 26) = 7.655; P = 0.02$ ).

**Table 4.** Socio- demographic factors and their association with stroke belief scores

Variables	N (%)	Stroke Belief scores Mean (SD)
All		
Age:		
25- 34	11 (37.9)	67.27 (17.37)
35- 44	15 (51.7)	70.00 (20.53)
45- 54	3 (10.4)	63.33 (7.64)
		F (2, 26) = 0.186; P= 0.832
Gender:		
Male	4 (13.8)	72.5 (6.45)
Female	25 (86.2)	67.6 (19.31)
		F (1, 27) = 0.246; P= 0.624
Ethnicity:	26 (89.7)	68.84 (18.94)
Yoruba	2 (6.9)	60.0 (7.07)
Igbo	0 (0.0)	--
Hausa	1 (3.4)	70.00 (0.00)
Others		F (2, 26) = 0.214; P= 0.809
Marital status:		
Single	4 (13.8)	41.25 (31.46)
Married	24 (82.8)	72.70 (11.03)
Separated/Divorced/Widowed	1 (3.4)	70.0 -
		F (2, 26) = 7.655; P= 0.02*
Years of Teaching Experience:		
Less than 5 years	6 (20.7)	61.67 (18.35)
5- 10 years	10 (34.5)	67.00 (24.86)
More than 10 years	13 (44.8)	72.31 (10.92)
		F (2, 26) = 0.734; P= 0.490
Educational level:		
School certificate	15 (51.7)	--
NCE/Diploma	0 (0.0)	65.00 (20.44)
Bachelor degree	14 (48.3)	71.79 (15.14)
		F (1, 27) = 1.020; P= 0.322

Statistical test: One-way ANOVA.

\* Significant at  $p < 0.05$ .

## Discussions

The objectives of this study were to assess the level of right (appropriate/correct) beliefs about stroke and to evaluate factors associated with these beliefs among the private teachers in Faith Standard Primary School, Ile-Ife, Nigeria.

The result of this study showed that school certificate or secondary school education was the highest academic qualification (51.7%) obtained by the participant. This outcome was in line with the result obtained by Donkor et al (2014) that secondary level education was the commonest educational level attained by the respondents (52%) in their study. Majority of the respondents in this study were married (82.8%) unlike the study by Donkor et al (2014) where participants were mostly single (41%) followed by the married (38%).

In this study, as well, the prevalence obtained for the level of right or correct beliefs about stroke was 68.28%. This shows that some teachers in this study still held on to some misconceptions and erroneous beliefs about stroke which accounted for the rest 31.72%. This result was supported by a study conducted by Karen and Debra (2015) who investigated stroke knowledge, knowledge gaps, and misconceptions about stroke among stroke survivors and non-stroke survivors and found out that there were a smaller number of issues about which participants from both groups reported they held erroneous beliefs about stroke. Misconception, which is disbelief in objective truth, has a way of exerting negative influence and impact on therapy and intervention administered by the healthcare professionals and the care provided by non-health professionals in the community to the victims of stroke attack and stroke survivors in our society. In another study by their result showed that over 70% of the respondents had the right beliefs about stroke that lifestyle alterations can be made to reduce the risk of stroke, or stroke is a preventable disease, or stroke requires emergency treatment. In addition, in a related study conducted by Hamzat et al (2010), their result showed that the caregivers had average knowledge about stroke and their beliefs were considerably positive though some caregivers had misconceptions such as “stroke is caused by witches and evil spirits”, “stroke can be sexually transmitted” and “only adults suffer from stroke”. They then concluded in their study that these important beliefs should be taken into account while planning management intervention and enlightenment programme to reduce the menace of stroke in this community.

Also, in this study, no statistical significant relationship was found between age, gender, ethnicity, years of teaching experience, educational level and mean stroke belief scores among the respondents but statistical significant relationship was only found between marital status and the mean stroke belief scores. This result was very hard and difficult to compare with any previous study as there is gap in the knowledge and dearth of relevant research works in this area. By inference, this will definitely serve as urgent need for more research works on predictive factors on stroke beliefs and misconceptions.

## Limitations of study

1. The results obtained from this study cannot be generalised on the entire population of all private primary school teachers and to societal stroke beliefs in Nigeria as a whole since the study was a case study carried out only in a single school.
2. The study was cross-sectional in design, therefore, no causal associations should be concluded between study variables.
3. The accuracy of the information supplied in the questionnaire can be influenced by imprecise self-reports and mistaken perceptions of a situation by the respondents. Therefore, to control this limitation the questionnaire was made a closed ended type.

## Conclusion

This study shows that there is moderate level of right beliefs about stroke among the private primary school teachers from Faith Standard Primary school, Ile Ife. Marital status was found to be significantly associated with right beliefs about stroke

## Recommendation

The followings are recommended:

1. Public health education and awareness programmes on right beliefs about stroke should be conducted in various schools among teachers to correct some misconceptions (wrong notions) held about stroke beliefs.
2. There is need for study to involve larger sample size of the population of school teachers on stroke beliefs.
3. More studies to be conducted in the areas of stroke beliefs and misconceptions as there are acute shortage of research works in this area in Nigeria.

## References

- [1]. Bravata DM, Wells CK, Gulanski B, Kernan WN, Brass LM, Long J, Concato J (2005). Racial disparities in stroke risk factors. *Stroke*, 36:1507–1511.
- [2]. Donkor ES, Owolabi MO, Bampoh P, Aspelund T and Gudnason V. (2014) Community awareness of stroke in Accra, Ghana *BMC Public Health* 2014, 14:196 <http://www.biomedcentral.com/1471-2458/14/196>.
- [3]. Hamzat, T. K., Arulogun, O. S., & Akindele, S. A. (2010). Family caregivers of Nigerian-African stroke survivors: their knowledge and beliefs about stroke. *Indian J Physiother Occup Ther*, 4, 43-46.
- [4]. Heart and Stroke Foundation (2013) <http://www.pacificmedical.ca/blog/2013/08/new-poll-reveals-misconceptions-about-stroke-among-canadians.shtml>.
- [5]. Karen S & Debra W (2015). Stroke knowledge and misconceptions among survivors of stroke and a non-stroke survivor sample, pages 72-81 Published online: 02 Feb 2015 <http://dx.doi.org/10.1310/TJK4-V5W9-R5T7-GLEH>.
- [6]. Lemogoum D, Degaute JP, Boret P. (2005) Stroke prevention, treatment, and rehabilitation in Sub-Saharan Africa. *Am J Epidemiol*; 29(5): 95-101.
- [7]. Leventhal, H. and Cameron, L. (1987) Behavioral theories and the problem of compliance. *Patient Education and Counseling*, 10, 117-138.
- [8]. Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJ: Global and regional burden of disease and risk factors, 2001: systematic analysis of population health data. *Lancet* 2006, 367(9524):1747–1757.
- [9]. Murray CJL, Lopez AD: Mortality by cause for eight regions of the world: global burden of disease study. *Lancet* 1997, 349:1269–1276.
- [10]. Young JB. (2001) the primary care stroke gap. *Br J Gen Pract*; 787-788.