

**CENTRAL UNIVERSITY  
SCHOOL OF MEDICINE AND HEALTH SCIENCES  
DEPARTMENT OF NURSING**



**KNOWLEDGE ON STROKE PATIENTS ON WARNING SIGNS AND  
RISK FACTORS ON STROKE AT THE STROKE UNIT (KORLE-BU  
TEACHING HOSPITAL)**

**BY**

**FOSTER OSEI YEBOAH**

**AND**

**IRENE ASANTE**

**AUGUST, 2019**

**CENTRAL UNIVERSITY  
SCHOOL OF MEDICINE AND HEALTH SCIENCES  
DEPARTMENT OF NURSING**



**KNOWLEDGE ON STROKE PATIENTS ON WARNING SIGNS AND  
RISK FACTORS ON STROKE AT THE STROKE UNIT (KORLE-BU  
TEACHING HOSPITAL)**

**BY**

**FOSTER OSEI YEBOAH  
(201703697)**

**AND**

**IRENE ASANTE  
(201800341)**

**A PROJECT WORK SUBMITTED TO THE CENTRAL UNIVERSITY,  
NURSING DEPARTMENT, IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE AWARD OF A BACHELOR  
OF SCIENCE DEGREE IN NURSING**

**AUGUST, 2019**

## DECLARATION

### Candidates' Declaration

We, the under-signed do hereby declare that except for other people's investigations which have been duly acknowledged, this work is the result of our own original research and that this research study, either in whole or part has not been presented elsewhere for another degree.

Candidate's Signature ..... Date: .....

Name:

Candidate's Signature ..... Date: .....

Name:

### Supervisor's Declaration

I declare that the preparation and presentation of this research work were done by the above mentioned candidates under my supervision.

Supervisor's Signature ..... Date .....

Name: **Mr. Frederick Anafi**

## **DEDICATION**

To our families.

## **ACKNOWLEDGEMENTS**

We are ever grateful to God Almighty in whom we derived my strength, grace, knowledge and constant protection throughout the project.

Our sincere appreciation would go to our participants, for their time, cooperation and participation in this study.

Our unreserved gratitude also goes to our tireless Mr. Frederick Anafi. Your time, encouragement and qualitative insight was amazing. Thank you very much.

We would also like to thank the entire staff of stroke unit of Korle-Bu Teaching Hospital for their valuable corrections and suggestions towards this project.

## TABLE OF CONTENTS

<b>Content</b>	<b>Page</b>
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABSTRACT	x
<b>CHAPTER ONE: INTRODUCTION</b>	<b>1</b>
1.0 Introduction	1
1.1 Background	1
1.2 Statement of the Problem	4
1.3 Purpose of Study	5
1.4 Specific objectives	5
1.5 Significance of the Research	5
1.6 Research Questions	6
1.7 Definitions of Terms:	6
1.8 Literature Review	7
1.8.1 Introduction	7
1. 8.2 General Knowlegde on Stroke and Risk Factors of Stoke	7
1.83. Sources of information	12
<b>CHAPTER TWO: RESEARCH METHODOLOGY</b>	<b>14</b>
2.0 Introduction	14

2.1 Research Design	15
2.2 Research Setting	15
2.3 Sampling Size and Sample Method	17
2.3.1 Inclusion Criteria	19
2.3.2 Exclusion Criteria	19
2.4 Sampling Method and Size	19
2.5 Data Collection Tools	19
2.6 Data Collection Technique	20
2.7 Validity and Reliability of the Study	20
2.7.1 Pilot Study	20
2.8 Ethical Considerations	21
2.9 Limitations of the Study	21
<b>CHAPTER THREE: STUDY FINDINGS AND DISCUSSIONS</b>	<b>22</b>
3.0 Introduction	22
3.1 Section A: Demographic Data	22
3.2 Section B: The Knowledge of Stroke Patient on Stroke and Risk Factors	26
3.3 Section C: The Knowledge of Stroke Patient on Risk Factors of Stroke	31
3.4 Section D: Knowledge of Stroke Patient on Warning Signs of Stroke	32
3.5 Discussion	34
3.5.1 Socio-demographic characteristics	34
3.5.2 Knowledge of Stroke Patient on Stroke and Risk Factors	35
3.5.3 Knowledge of Stroke Patient on Warning Signs of Stroke	36
3.5.4 Source of Information	38
3.6 Conclusion	38
3.7 Recommendation	39

<b>REFERENCES</b>	40
<b>APPENDICES</b>	42
APPENDIX A: QUESTIONNAIRE FOR RESPONDENTS	42
APPENDIX B: INTRODUCTORY LETTER	46



## LIST OF TABLES

Table 1: Respondents to duration of illness	26
Table 2: What is Stroke	26
Table 3: Response to which of the following best describe how preventable stroke is	31

## **LIST OF FIGURES**

Figure 1: Gender of Respondents	22
Figure 2: Age of respondents	23
Figure 3: Educational qualification of respondents	23
Figure 4: Marital Status of Respondents	24
Figure 5: Occupation of respondents	25
Figure 6: Response to those stroke occur in the brain	27
Figure 7: Response on which other organs does stroke affect	28
Figure 8: Response to those stroke occur in the heart	29
Figure 9: Responds to, is stroke the same as heart attack	30
Figure 10: Warning signs of stroke	32
Figure 11: Source of Information	33

## **ABSTRACT**

The main purpose is to assess the knowledge level of stroke patients on risk factors and warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital). The specific objectives are; to find out the knowledge of stroke patients on risk factors at the stroke unit, assess the knowledge of stroke patients warning signs of stroke at the stroke unit and to assess the sources of information of stroke patients on warning signs of stroke. A quantitative approach using a cross-sectional design was used for this study. Cross-sectional studies involve data collected at a defined time. A purposive sampling technique was used to select the eighty (80) respondents out of the population for the study. Conclusion drawn from the study and recommendations based on the findings. The results of the research indicates that most of the respondents had low to moderate knowledge on risk factors and warning signs of stroke and most of them obtained their information from the media and internet other than health workers. Healthcare provider are supposed to be at the pioneering wheel of stroke education of the public and providing correct information, but mass media was identified as the source of information on the stroke risk factors which of course influenced the information received. Based on the findings of the study, it is recommended that management of our healthcare system such as Ministry of Health and Ghana Health Service should provide courses and training to encourage health workers to educate patients who are at risk of stroke, provide adequate public health staffing to give ample time for them to educate patient with stroke on warning signs and risk factors. Finally, health personnel should be encouraged to be given the mandate to educate the public on stroke in the media, churches and social gathering.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.0 Introduction**

This chapter constitutes and gives details of the background of the study, which identifies and describes the history and nature of the research problem, which is the knowledge level of stroke patients on risk factors and warning signs of stroke with reference to other existing literature on the same problem. The statement of the problem gives a clear and concise description of the issues or problems: why the problem matters and a direct or suggested solutions to it; the purpose of the study which explains why this research is important; what is expected to be achieved by doing this research or what problem gave rise to the research in the first place is also discussed.

Included again in this chapter are, the objectives of the study which elaborates what the researcher will be able to achieve at the end of the study and how this study will add to the existing body of knowledge, the research questions which are the clear and precise questions that this research seeks to answer and the significance of the study that states why it is necessary to carry out the research.

### **1.1 Background**

Stroke is a major public health issue as it is third most common cause of death and leaves a lot of residual disability. Globally, 6.15 million deaths (10.8% of all deaths) (Cubriilo-Turek, 2004; Banerjee, & Das 2006) are caused by cerebrovascular diseases, thereby becoming the second most common reason

of mortality; 87% of stroke deaths occur in low- or middle-income countries (Pandian, J. D., & Sudhan, P.,2015).

Stroke is one of the leading causes of adult disability worldwide (D. Mozaffarian, E. J. Benjamin, A. S. Go et al., 2016). Stroke causes disability, but this may not be the only effect of stroke:stroke recurrence, which has the cumulative risk of 25% in 5 years, increases the risk of severe disability and death (Cappellari &Moretto,2014). Annually, 15 million people worldwide suffer from a stroke. Out of these, 5 million attain optimal recovery, 5 million die, and 5 million suffer from a long lasting disability, placing a huge burden on families and communities (World Health Organization, 2004a). Walker, Rolfe, and Kelly et al. (2003), suggest that cases of fatality in those who develop a stroke are more in Sub-Saharan Africa than in developed countries.

A candidate for recurrent stroke must arrive at the hospital without delay. Delayed arrival may be due to a lack of patient and public awareness of stroke symptoms, a decision to take a wait-and see attitude, and a lack of proper immediate action (Jones, Jenkinson at el,2010; Faiz, Sundseth at el,2014). More knowledge of stroke risk factors and stroke warning signs amongst patients is associated with an increased probability of correctly calling emergency services (Caruso, Perez Akly et al, 2015).

After haemorrhagic stroke, it would be expected that patients would have more knowledge of stroke risk factors and symptoms. However, studies showed that this is not the case (Ellis & Egede, 2008). Most stroke patients and their carers had inadequate understanding of stroke, such as the causes of stroke or preventive measures (Saengsuwan, J., Suangpho, P., & Tiamkao, S.

(2017). Studies demonstrated that previous stroke had no impact on knowledge of stroke. Moreover, knowledge of stroke in patients after stroke or TIA was as low as in randomly selected healthy individuals (Riechel, C., Alegiani, A. C., Köpke, S., Kasper, J., Rosenkranz, M., Thomalla, G., & Heesen, C. (2016). As a consequence of limited knowledge, stroke patients may not change their unhealthy pre-stroke lifestyles to reduce their risk of recurrent stroke (Ellis, J. Barley et al,2013) and may not be able to recognize stroke warning signs if it happens a second time. This leads to the same problem of delayed hospital arrival and loss of another chance of having proper standard treatment. Most studies on the knowledge of stroke risk factors and warning signs were done in patients after first-ever stroke or transient ischaemic attack (TIA), but there are limited data on patients with recurrent episodes of stroke or TIA. Thus, the aim of this study was to assess the knowledge of stroke risk factors and stroke warning signs in this high-risk population.

Definite risk factors for stroke are hypertension, diabetes mellitus, cigarette smoking, hyperlipidemia, heart diseases and obesity. The main warning signs of stroke are numbness; weakness or paralysis of the body, sudden blurred or decreased vision in both eyes, difficulty in speaking, swallowing or understanding. A sudden severe headache, dizziness or loss of balance.

Stroke can be divided into many subtypes; they are cardiogenic embolic stroke, Ischemic stroke, atherosclerotic cerebrovascular disease stroke, hemorrhagic stroke, small penetrating artery stroke or lacunar stroke, cryptogenic stroke (Hickey, 2003).

Patients with acute stroke often have striking lack of knowledge of causes, warning signs, and risk factors. Lack of knowledge may lead to inappropriate secondary prevention behavior (Maasland, 2007).

There are no studies from Ghana as far as the researcher is concerned regarding stroke patients' knowledge about warning symptoms and risk factors hence the need to conduct the research that aims at assessing the knowledge of stroke among stroke patients and their relatives.

## **1.2 Statement of the Problem**

Stroke is one of the most common neurological disorders in clinical practice. It is the leading cause of adult disability. According to WHO, it is the second commonest cause of death worldwide.(Bonita R, Mendis S, Truelsen T, Bogousslavsky J, Toole J, Yatsu F,2004).

According to the Ghana Statistical Service, in 2011, Stroke was ranked as the 3<sup>rd</sup> leading cause of death in Ghana accounting for 7.34% of all deaths in the country(Ghana Statistical Service,2012) which is very alarming. A one year review of in-patient records at Ghana's second largest tertiary hospital also identified stroke as constituting 9.1% of total medical adult admissions and 13.2% of all medical adult deaths within the period under review. The stroke case fatality rate was 5.7% at 24 hours, 32.7% at 7 days, and 43.2% at 28 days (Agyemang, C., Attah-Adjepong, G., Owusu-Dabo, E., De-Graft Aikins, A., Addo, J., Edusei, A. K., Ogedegbe, G. (2012) which is also very alarming.

Reduction in the risk of stroke and early admission to the hospital after the onset of stroke

both depends on the knowledge of warning symptoms and risk factors of stroke in patients with history of stroke.

To our knowledge, studies evaluating the knowledge level of stroke patients on risk factors and warning signs of stroke at the stroke unit of KBTH does not exist hence the need to conduct the research to find out the knowledge level of stroke patients on risk factors and warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital) where a lot of patients with stroke visit.

### **1.3 Purpose of Study**

The main purpose is to assess the knowledge level of stroke patients on risk factors and warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital).

### **1.4 Specific objectives**

- 1) To find out the knowledge of stroke patients on risk factors at the stroke unit (Korle-Bu Teaching Hospital)
- 2) To assess the knowledge of stroke patients warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital).
- 3) To assess the sources of information of stroke patients on warning signs of stroke?

### **1.5 Significance of the Research**

The findings of this study can contribute to education practice and development of further research in the knowledge level of stroke patients on risk factors and warning signs of stroke at the as follows:



1. For educational practice, the research findings will help develop and organize training programmes to educate stroke patients on risk factors and warning signs of stroke.

2. For nursing research, the research findings can be used as baseline reference for future experimental research, such as the knowledge level of nurses at stroke unit on risk factors and warning signs of stroke at the stroke unit.

### **1.6 Research Questions**

- 1) What is the general knowledge of stroke patient on stroke and risk factors of stroke at the stroke unit (Korle-Bu Teaching Hospital) ?
- 2) What is the knowledge of stroke patients warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital) ?
- 3) What is the source of information on warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital) ?

### **1.7 Definitions of Terms:**

#### **Knowledge:**

Facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject.(Oxford dictionary,2016).

#### **Stroke**

#### **Risk Factors:**

According to W.H.O (2009) *risk factor* is any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury.

**Warning Signs:**

An *early* signal that something bad or dangerous might happen.

**1.8 Literature Review****1.8.1 Introduction**

This section reviews literature and published studies around the phenomenon of interest. It reviewed empirical studies relative to general knowledge, risk factors and warning signs of stroke by stroke patients at the stroke unit of the KBTH towards. Sources for the literature review include journal articles and search engines such as PubMed, CINAHL, and Google Scholar etc.

The literature has been written in line with the specific objectives of the study under the following headings:

1. General Knowledge on Stroke and Risk Factors of Stroke
2. Warning signs of Stroke
3. Source of information

**1.8.2 General Knowledge on Stroke and Risk Factors of Stroke**

Knowledge of stroke warning signs/symptoms and risk factors in the general population is associated with improved early presentation to hospital following occurrence of stroke for effective acute management, and enhancing success of primary prevention of stroke initiatives (Stroebele et al., 2011). Stroke warning signs and symptoms which tend to occur suddenly include any of the following; painless weakness on one side of the body, numbness or dead feeling on one side of the body, painless loss of vision in one or both eyes, loss of one half of vision, loss of the ability to understand what people are saying

and loss of the ability to express oneself verbally or in writing. Multiple studies including systematic reviews done in developed countries mainly among Caucasians, and few studies done in Africa to assess the knowledge of stroke among the general population, health workers, stroke patients and carers of stroke patients, generally reported poor levels of knowledge about recognizing and preventing stroke (Borhani et al.,2010). Regarding the knowledge of warning signs and associated factors, an integrative review of 39 studies out of 169 on stroke knowledge and awareness done in North America, Europe, Asia, UK and Australia, with few studies done in North America including only African Americans that were originally English speaking showed that the ability to name one symptom of stroke varied significantly between studies from 25 to 100%. When asked open ended questions, the ability to name one symptom of stroke was 25 to 72% and it was 95 to 100% when asked closed ended questions. Older members of the population, ethnic minority groups (African Americans and Hispanics) and those with lower levels of education had consistently poor levels of stroke knowledge. For example, 47% of participants less than 65years knew a symptom/sign of stroke compared to only 28% of participants more than 65 years (Jones, et al., 2010). A systematic review from a gender perspective showed that better knowledge of stroke was observed among women compared to men in majority of the studies although there was a general lack of knowledge in both genders (Stroebele, et al., 2011). Why these particular groups have poorer levels of health knowledge is not fully understood (Jones, et al., 2010).

Regarding the knowledge of risk factors for stroke and associated factors, Jones et.al, in an integrative review of 39 studies on stroke knowledge and

awareness showed that the ability to name one risk factor for stroke ranged between 18% to 94% when asked open ended questions and 42% to 97% when asked closed ended questions. Only 36% identified high BP as a main risk factor for stroke when asked open ended questions.

Admission delay remains the main cause for stroke patients' exclusion from urgent therapeutic protocols. Public's lack of knowledge about stroke symptoms may result in delay in seeking medical care and late presentation at hospital. Lack of knowledge of risk factors for stroke may also hamper compliance with stroke prevention practices. Derex (2004) conducted a study to assess knowledge about stroke in patients admitted in French stroke unit. They concluded in their studies that educational public programs are needed in France. Educational campaigns must stress the risk factors and symptoms of stroke and appropriate response in the hopes of reducing admission delay and improving stroke prevention.

Revees et al. (2002) conducted a study to assess the knowledge of stroke risk factors and assess the knowledge of stroke risk factors and warning signs in a representative statewide sample of Michigan adults. They concluded that knowledge of stroke risk factors and warning signs was moderate at best. One in five respondents was not aware of any stroke risk factors, and almost one in three was not aware of any stroke warning signs. Stroke knowledge was poorest among groups that have highest risk of stroke.

### **Knowledge on Warning Signs of Stroke**

Knowledge on the warning signs and symptoms are found to be poor among most study population especially in developing countries of which Ghana is

not an exception. Poor recognition of these signs and symptoms contributed towards delay in seeking emergency treatment. Most common warning symptoms being recognized were sudden confusion or trouble speaking ranges from 93.5% in USA to 22.0% in India (Lutfiyya et al., 2008; Pandian et al., 2006). This followed by sudden dizziness or trouble walking ranges between 92.4% to 5.0% similarly in USA and India (Lutfiyya et al., 2008; Pandian et al., 2006). From these findings, it shows there is a wide gap in the level of knowledge between the developed (e.g. USA) and developing (e.g. India) countries. Other than that, sudden vision trouble, sudden numbness or weakness and severe headache are among warning signs and symptoms of stroke being recognized by the population (Table 3). Furthermore, there are also wrong recognition of other warning signs and symptoms of stroke such as chest pain range from 39.4% to 88.7% in Iran, USA and Oman respectively (Borhani Haghighi et al., 2010; Lutfiyya et al., 2008) as well as urine and fecal incontinence range from 1.0% to 39.5% in Iran and Oman (Al Shafae et al., 2006; Borhani Haghighi et al., 2010). Nevertheless, about 59.0% of the Vietnamese American able to recognize chest pain as a symptom for heart attack (Nguyen et al., 2009). No response rates are also quite alarming which range between 13.0% to 29.0% in respective studies in Ireland and India (Hickey et al., 2009; Pandian et al., 2006).

Parahoo et al. (2003) conducted a population - based survey to determine baseline knowledge regarding the signs, symptoms and risk factors of stroke. Data were collected in Northern Ireland from 892 adults using a self completed questionnaire. They concluded that respondents appeared

knowledgeable about risk factors of stroke but their recognition of warning signs was poor.

Also Maasland et al. (2007) studied about patients with minor stroke or TIA who participated in controlled trial of effect of health education by an individual multimedia computer program. He concluded that vast majority of patients with TIA or stroke lack specific knowledge about their disease, but they do have a reasonable knowledge of general vascular risk factors and treatment. This suggests that counseling by neurologist of patient with TIA or stroke can be improved.

Aynniyi (2006) investigated knowledge and perception of stroke among adults living in Osogbo, Nigeria. They concluded that knowledge of stroke warning signs and risk factors was good among the respondents. However, their baseline knowledge about stroke was poor. Stroke survivors were perceived as being unable to return to pre-stroke's quality of social life. Development of educational strategies to enlighten the public about stroke is therefore recommended.

Das K (2007) conducted a study to assess the awareness among the general population and stroke survivors of the risk factors and warning signs of stroke in West Bengal, India. 4000 people from the general population who accompanied the patients were interviewed, using three sets of questionnaire on risk factors and warning symptoms of stroke. Poor knowledge or the awareness of risk factors and warning symptoms of stroke was found in both the groups. Both groups suggested educational programs for stroke using printed information, audiovisual programs and community survey programs

using simple and understandable information for the prevention and immediate effective treatment of stroke.

### **1.83. Sources of information**

Healthcare provider are supposed to be at the pioneering wheel of stroke education of the public and providing correct information, but mass media was identified as the source of information on the stroke risk factors which of course influenced the information received (Muller-Nordhorn et al., 2006). In the study of public awareness of stroke in Korea, Kim et al. 2012 noted that the most common source of stroke information was from mass media and least from physicians even though patients viewed physician information as the most reliable. Also, in the study by Morren and Efrain (2013), only one third of the respondents said they received stroke information from healthcare providers. Knowledge or awareness of stroke risk factors is limited in African Americans and yet the burden of stroke is greater in this population (Sallar et al., 2010). Beal's explorative descriptive study of 2014 on the stroke education needs of African American women discovered that knowledge of stroke in this group was from family members and not from any organized stroke educational campaigns which coincides with the results from Muller-Nordhorn et al., (2006) that much of the information received was from mass media and not an organized stroke education campaign.

Several studies on stroke knowledge in developing countries especially among Caucasians, have also studied the main ways in which participants gained information about stroke (Jones et al, 2010). Sources varied according to population characteristics and for any given source there was often a big

difference between studies in terms of the number of participants who had gained information from that source. People generally obtained information about stroke from family and friends and this was in agreement with majority of studies in the developed countries

(Parahoo et al, 2003). In Osogbo, Nigeria however, the most common source of information was doctors and hospital personnel. Less than a tenth of the respondents listed family members as their source of information (Ayanniyi et al, 2006). Other sources of information from studies included, personal experience through knowing a stroke survivor or their family and a variety of media (television, radio) (Jones et al, 2010). Methods of mass media were the most commonly cited sources of stroke information in a study in Ohio in the USA with television identified as the most common source followed by newspaper and magazines. From multiple studies, literature as a source of information included books, magazines, pamphlets and newspapers. Stroke campaigns from schools, internet and public libraries were also cited(Parahoo et al,2003), though internet and libraries were the least accessed sources of information, cited in only three studies by 1 to 3% of participants. In Ghana, the sources of stroke information among stroke patient is not known.



## **CHAPTER TWO**

### **RESEARCH METHODOLOGY**

#### **2.0 Introduction**

This chapter describes the main procedures that would be used for this research. It consists of the research design which gives a detail outline of how the research will be conducted. It includes how data would be collected and what instrument will be used in analyzing the data collected. The chapter also talks about the research setting which describes the environment in which the research carried out, the target population which is the particular group of people that were studied and the sampling method which refers to the way that participants would be selected from the population to be studied. The data collection tools which talks about the statistical tools that would be used to collect data and the data collection technique which describes the way the data would be collected are also described in this chapter. Other important topics covered in this chapter includes the pilot study which would carried out to test the appropriateness and reliability of the questionnaire, the validity and reliability of the study that talked about all the steps and measures that would be taken to ensure that the results would be credible and reliable as well as the inclusion and exclusion criteria which described those who could or could not take part in the research are elaborated as well. Ethical considerations that sort permission for the study to be conducted, the purpose for the study and assured the respondents of privacy and confidentiality is discussed. The limitation of the study is the last topic under this chapter and it describes all the occurrences and matters that can arose in the study which would be out of the control of the researchers. These included money, time etc.

## **2.1 Research Design**

Research design refers to the plan which a researcher follows to obtain research respondents, whether individuals or groups and collect relevant data from them with a view of reaching conclusions about the research problem (Welman, Kruger & Mitchell, 2005). A quantitative approach using a cross-sectional design would be used for this study. Cross-sectional studies involve data collected at a defined time. This design centers on collecting and describing important characteristics, practices, opinions, and attitudes as they occur. It helps to draw a meaningful conclusion on the research topic and also enable the researchers to explore the phenomenon under study and aid in generalization of findings.

## **2.2 Research Setting**

This research would be conducted at the Stroke Unit of the Korle Bu Teaching Hospital. The Korle Bu Teaching Hospital is located in the Ablekuma District of the Greater Accra Region. It was established on the 9<sup>th</sup> October, 1923 by the then Governor of the Gold Coast, Sir Frederick Gordon Guggisberg. The Hospital first started with an initial bed capacity of about 192, meeting the health needs of the people of the then Gold Coast.

Today, not only has the Hospital become the leading referral center in the country, it has also become the third (3rd) largest Hospital in Africa. The current bed capacity of the Hospital is over 2400 with 21 clinical and diagnostic departments and three (3) center of excellence namely;

- The National Cardiothoracic Centre.
- The Radiotherapy and Nuclear Medicine Department.

- The Reconstructive, Plastics surgery and Burns Unit.

The clinical and diagnostic departments of the hospital include; Medicine, Child health, Obstetrics and Gynaecology, Surgery, Pathology, Laboratories, Radiology, Anaesthesia, Polyclinic, Accident Centre and Surgical and Medical Emergency, Pharmacy.

The Hospital also provide specialized and sophisticated procedures in areas of Oncology, Orthopaedics, Neurosurgery, Dentistry, ENT, Eye, Renal, Dermatology, Paediatric surgery in addition to the three (3) centers of excellence mentioned above. The Korle Bu Teaching Hospital continues to lead the way in specialized services. The Hospital was the first in West Africa sub- region to carry out Kidney Transplantation and Ureteroscopy and Brachytherapy intervention for the treatment of Prostate Cancer and keyhole surgery. It is one of the few Hospitals where DNA investigations are carried out. The Hospital has more than 4000 medical and paramedical staffs, with about 1500 daily attendance to the various departments. Korle Bu attained a Teaching Hospital status in the year 1962 when the University of Ghana Medical School was established. Currently, inhabiting the Korle Bu land aside the University of Ghana Medical School are the following institutions;

- University of Ghana Dental School
- University of Ghana School of Allied Health Sciences
- Nurses and Midwifery Training School
- Public and Community Health Training School
- Critical Care and Peri-operative Nursing Training School
- Ophthalmic Nursing Training School.

All these schools were established to promote and improve the quality of healthcare delivery by the hospital. The clientele of the Hospital goes beyond the shores of Ghana to counties like Togo, Liberia, Sierra Leone, Benin, Cote D'ivore, Burkina Faso etc.

Due to the numerous departments in the Hospital, administrative power has been decentralized into what is called Sub- Budget Management Centers (Sub-BMC's). They are in charge of the day to day administration of the hospital at the departmental level and report to the main administration. These Sub-BMC's are located at the various departments. Almost all the departments in Korle-Bu ran 24 hour services therefore the Hospital is constantly busy and working to save lives.

The Stroke unit of the Korle-bu Teaching hospital was started on the 23rd January,2014 as part of the Medical and Therapeutic department of the Korle-bu Teaching Hospital. It consist of 20 beds of which 10 are males and 10 are females. There are over 150 patients who attends the stroke unit at the Korlebu Teaching Hospital monthly for review.

### **2.3 Sampling Size and Sample Method**

The study sampled eighty (80) stroke patients on review out of targeted total population of 150 stroke patients. The decision to have a sample size of eighty (80) was taken using the formula (Zamboni 2018). Per calculations, a sample size of eighty (80) participants out of 150 stroke patient coming for review produced a result with 95% confidence level and a margin error of 5%, a confidence level of 95% shows how certain the researchers were about the

results. While the margin level of 5% depicts random sampling error possible in the study.

Sample size of an infinite population

$$(S) = Z^2 P(1-P) / E^2$$

n= sample size of infinite population

p= population proportion (as 50%)

E= margin error of 0.05

Z-score is based on confidence level of 95% which is 1.960

Hence based on the above formula,

$$\begin{aligned} \text{Sample size of an infinite population} &= (1.960)^2 \times 0.5(1-0.5)/0.05^2 \\ &= 3.8416 \times 0.25/0.0025 \\ &= 0.9604 / 0.0025 \\ S &= 384.16 \end{aligned}$$

Hence the sample size for infinite population = 384.16

Based on the above an adjustable sample size can be determined from a required population (P) 100 stroke patient attending review using the formula:

$$\begin{aligned} \text{Adjustable Sample size (N)} &= S / ( 1 + [(S-1)/P] ) \\ &= 384.16 / ( 1 + [(384.16-1)/100] ) \\ &= 384.16 / 1 + ( 383.16/100) \\ &= 384.16 / (1 + 3.832) \\ &= 384.16 / 4.832 \\ &= 79.50 \end{aligned}$$

Hence the sample size for the population of this research was 80 stroke patients.

The target population for the study would be stroke patients on review at the stroke unit at the KBTH. However a total of fifty (50) stroke patients attending review was used for the study due to financial constraint.

### **2.3.1 Inclusion Criteria**

The study included all stroke patients who have come for review

### **2.3.2 Exclusion Criteria**

The study excluded all stroke patients on admission.

## **2.4 Sampling Method and Size**

In this research a purposive sampling technique will be used to select the eighty (80) respondents out of the population for the study. It is a non – probability sampling method because the respondents would be selected in a process that did not give all the individuals in the population equal chance of being selected and would be done based on the purpose of the research. A total of eighty (80) stroke patients would be recruited as the sample to represent the target population.

## **2.5 Data Collection Tools**

Based on the objectives of the study, a structured questionnaire will be prepared to assess respondents regarding Knowledge Of Stroke Patients On Risk Factors And Warning Signs Of Stroke at the Stroke Unit. Questions will be in a form of close ended.

It would be constructed in simple English and would be self-explanatory.

## **2.6 Data Collection Technique**

The questionnaires would be administered to the respondents during different working shifts for five (5) days. They would be given a day to fill the questionnaires and the researchers collected the data after the stipulated time.

## **2.7 Validity and Reliability of the Study**

To ensure validity and reliability, the study would follow a step by step approach in arriving at its findings. given to the supervisor for validation, wrong wordings and unnecessary questions would be removed. Validity is a measure of the strength of the data collection instrument which in this situation is the data capturing sheet. This instrument after its design will be assessed by the researchers and the research supervisor to ascertain if it is fit to measure the required information accurately. To ensure validity the questionnaires would be based on the objectives of the research in consultation with the supervisor.

### **2.7.1 Pilot Study**

To ensure reliability of the study a pilot study would be conducted at Accra Regional Hospital which is within the same region as KBTH, which has similar characteristics. Questionnaires would be given to 10 patients with stroke who had come for review.

## **2.8 Ethical Considerations**

An introductory letter from the Central University (Department of Nursing) and signed by the Head of Department as well as the research topic would be sent to the main Administration of Korle Bu to seek permission to conduct the study. Copies of the endorsement letter from the KBTH research unit would be sent to the Stroke unit for permission to conduct the research. Respondents would be made to understand the purpose of the study; they would be assured of confidentiality and the right to withdraw from the study at any time.

## **2.9 Limitations of the Study**

It is important to state that although this study can be generalised based on its validity and further studies conducted to the findings; certain limitations are likely to be encountered. These limitations are likely to be finance and time constraints. The study would also be limited to eighty (80) stroke patients because of funding to support a larger number of respondents.



## CHAPTER THREE

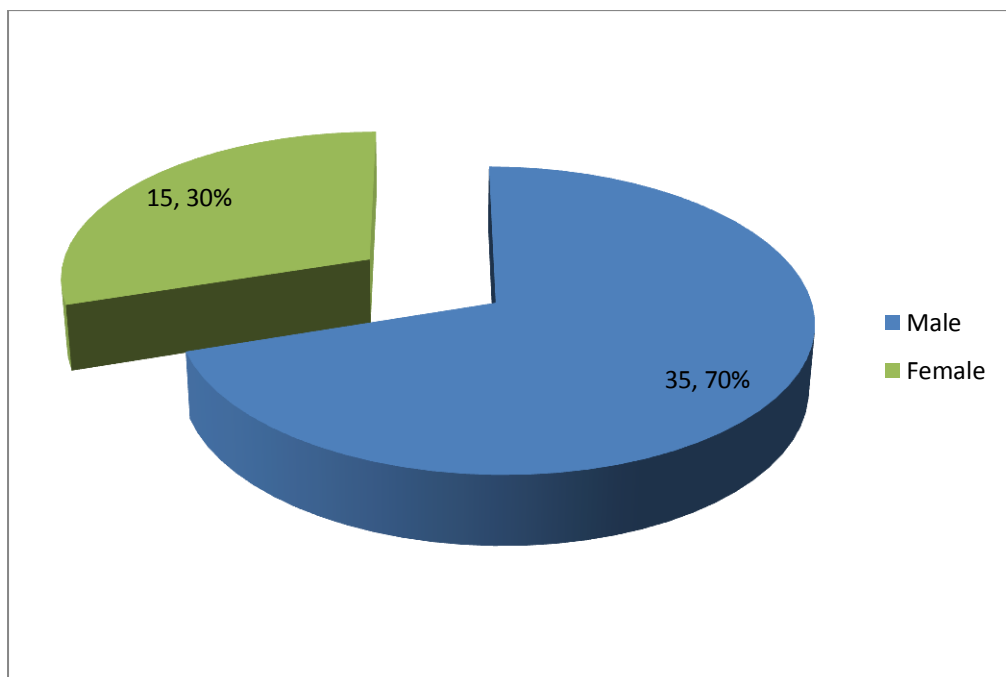
### STUDY FINDINGS AND DISCUSSIONS

#### 3.0 Introduction

Information gathered from the field is collated and analyzed in this chapter. The analysis portrays the characteristics of the study area which relates to the effectiveness of knowledge on stroke patients on warning signs and risk factors on stroke.

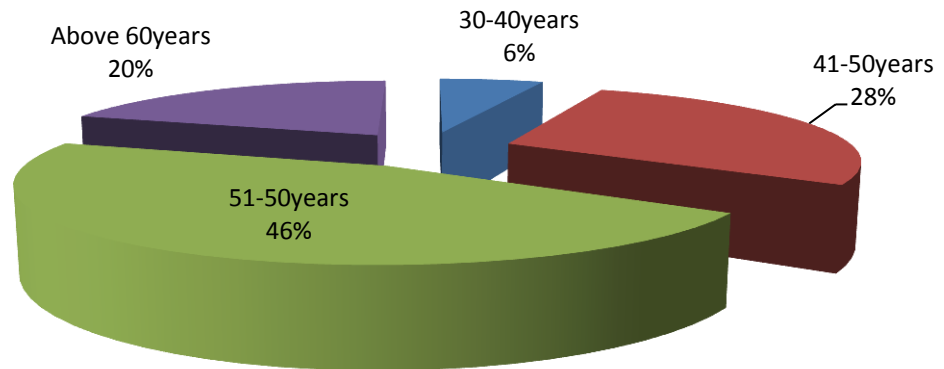
#### 3.1 Section A: Demographic Data

**Figure 1: Gender of Respondents**



The figure 1 above shows that majority of the respondents 35(70%) were male whilst only 15(30%) were female.

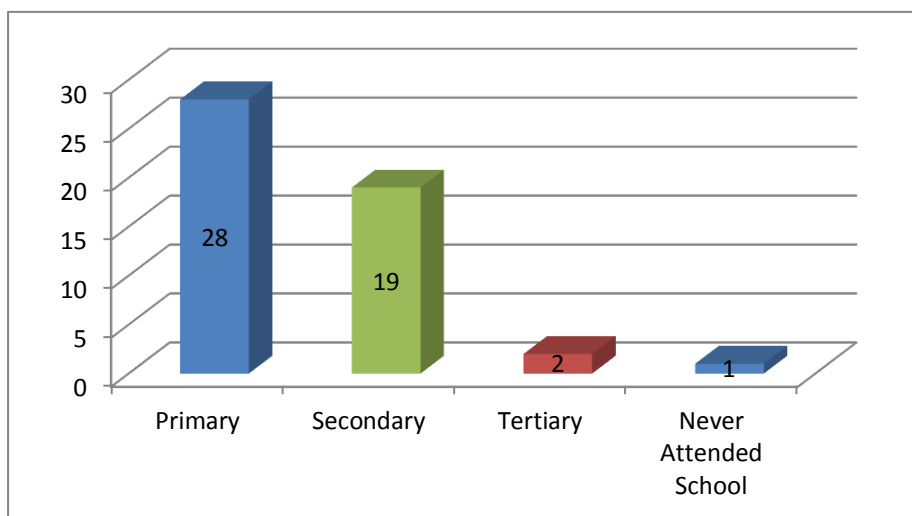
**Figure 2: Age of respondents**



**Source: Field Data, 2019**

It can be observed from figure 2 above that majority of the respondents 46% fell within 51-60 years, followed by 28% between 41-50 years while 20% of the respondents were above 60 years. The least age group was between 30-40 years representing 6% of the sampled population.

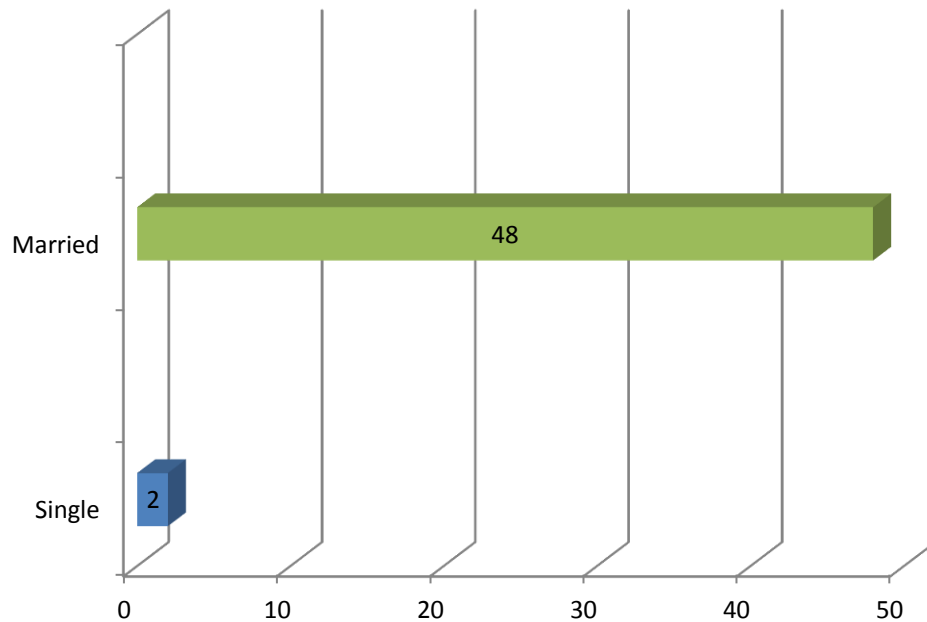
**Figure 3: Educational qualification of respondents**



**Source: Field Data, 2019**

In figure 3, the respondents were further asked to indicate their educational qualification. The study found out that most of the respondents 28(56%) were having qualification in Primary level, followed by 19(38%) who were also having Secondary level as their educational qualification while 2(4%) have tertiary level of education. The least was 1(2%) who have never attended school.

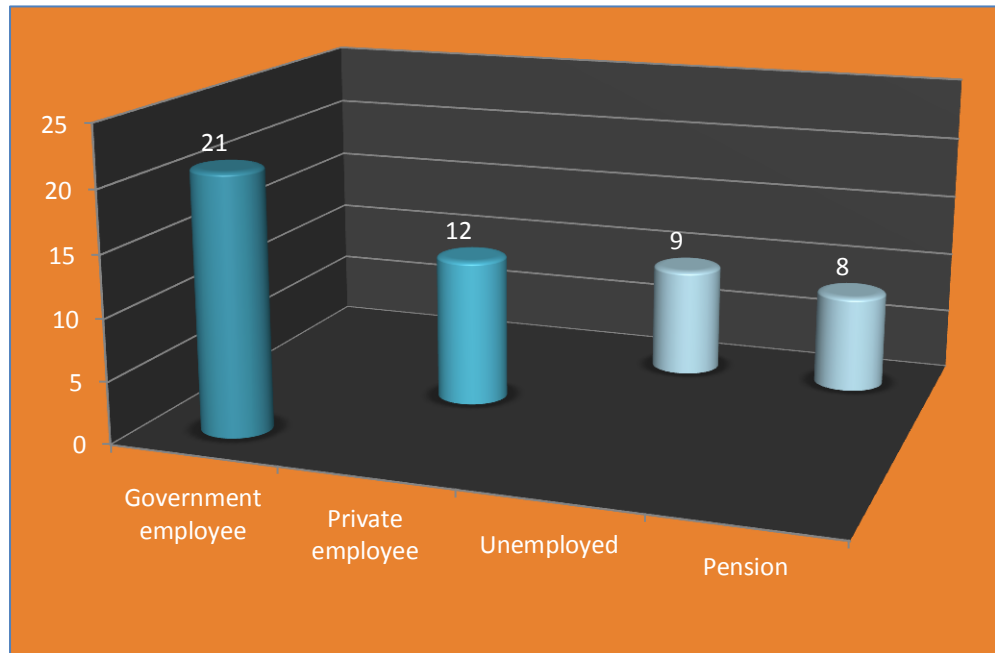
**Figure 4: Marital Status of Respondents**



**Source: Field Data, 2019**

The figure above indicated that majority 48(96%) of the respondents were married while the remaining 2(4%) were not married.

**Figure 5: Occupation of respondents**



**Source: Field Data, 2019**

It can be observed from figure 4 above that majority of the respondents 21(42%) were government employees, followed by 12(24%) of the respondents were private employees whiles 9(18%) of the respondents were unemployed. However the least number of respondents 8(16%) were pensioners.

**Table 1: Respondents to duration of illness**

<b>Response</b>	<b>Frequency(n)</b>	<b>Percentage (%)</b>
<1 year	4	8
1-2 years	19	38
2-3 years	11	22
>3 years	16	32
<b>Total</b>	<b>50</b>	<b>100</b>

**Source: Field Data, 2019**

Analysis from the table 1 above indicate that majority of the respondents 19(38%) duration of illness for 1-2 years, followed by 16(32%) of respondents whose duration of illness was greater than 3years whiles 11(22%) of the respondents duration of illness was 2-3 years. The least was 4(8%) whose duration of illness was less than 1 year.

### **3.2 Section B: The Knowledge of Stroke Patient on Stroke and Risk Factors**

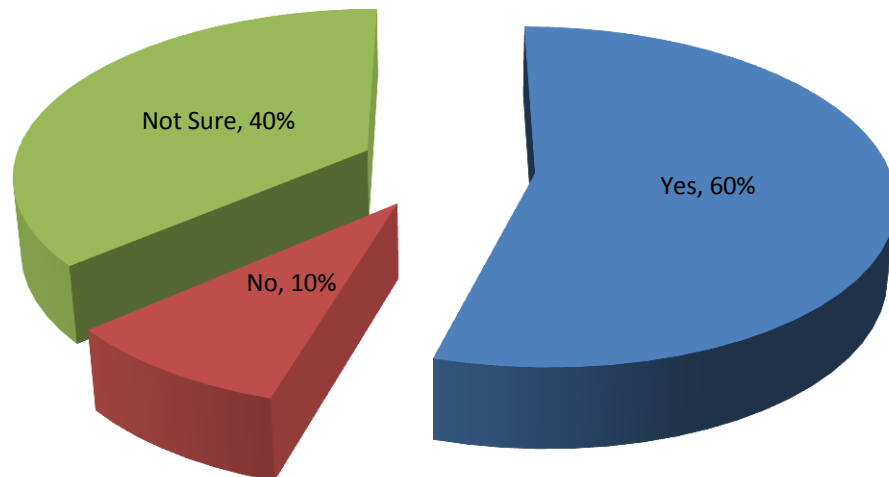
**Table 2: What s Stroke**

<b>Variables</b>	<b>Frequency(n)</b>	<b>Percentage(%)</b>
Blood vessels disease	5	10
Paralysis of one side of the body	7	14
Paralysis of the whole body	10	20
Arm, leg and facial paralysis	11	22
Beliefs	2	4
Problems due to high blood pressure	8	16
Heart disease	0	0
Brain damage	7	14
<b>Total</b>	<b>50</b>	<b>100</b>

**Source: Field Data,2019**

The above table indicate that majority of the respondents 22% said that stoke is when there is arm, leg and facial paralysis, followed by 20% who indicated that stroke is paralysis of the whole body. Also 16% indicated that stroke is problems due to high blood pressure, followed by 14% who indicated that stroke is a brain disease, same as stroke is paralysis of one side of the body. This was followed by 10% of the respondents who indicated that stroke is a blood vessel disease. The remaining 4% belief that stroke is a spiritual disease.

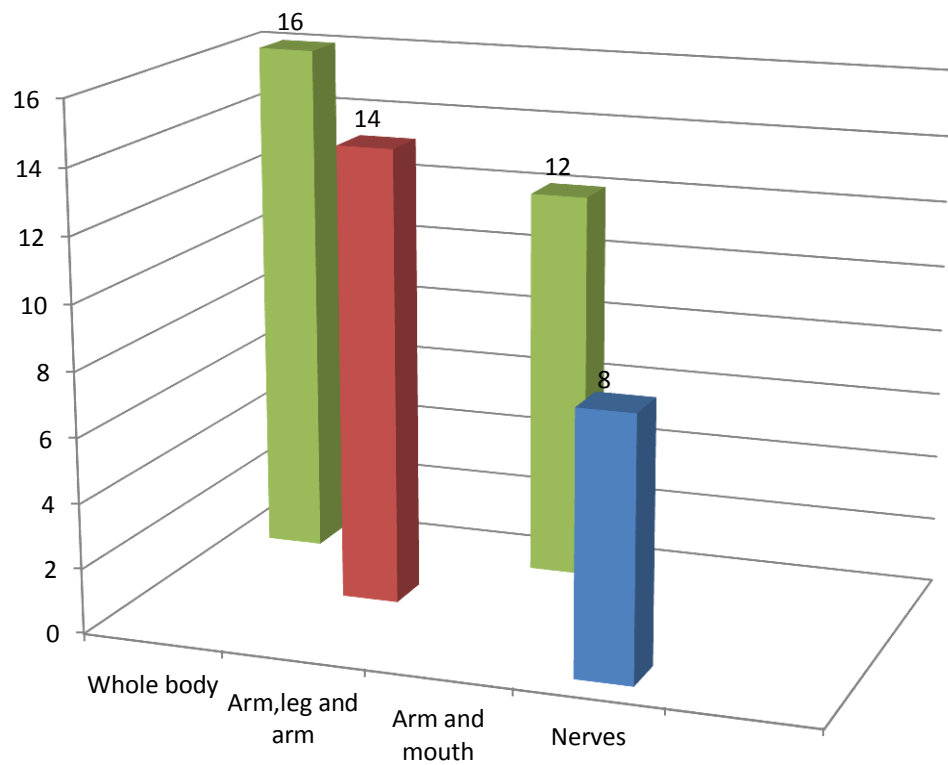
**Figure 6: Response to does stroke occur in the brain**



**Source: Field Data, 2019**

The analysis above show that most of the respondents 60% of the respondents indicated that stroke occurs in the brain, however 40% indicated that they are not sure whilst 10% indicated that stroke does not occur in the brain.

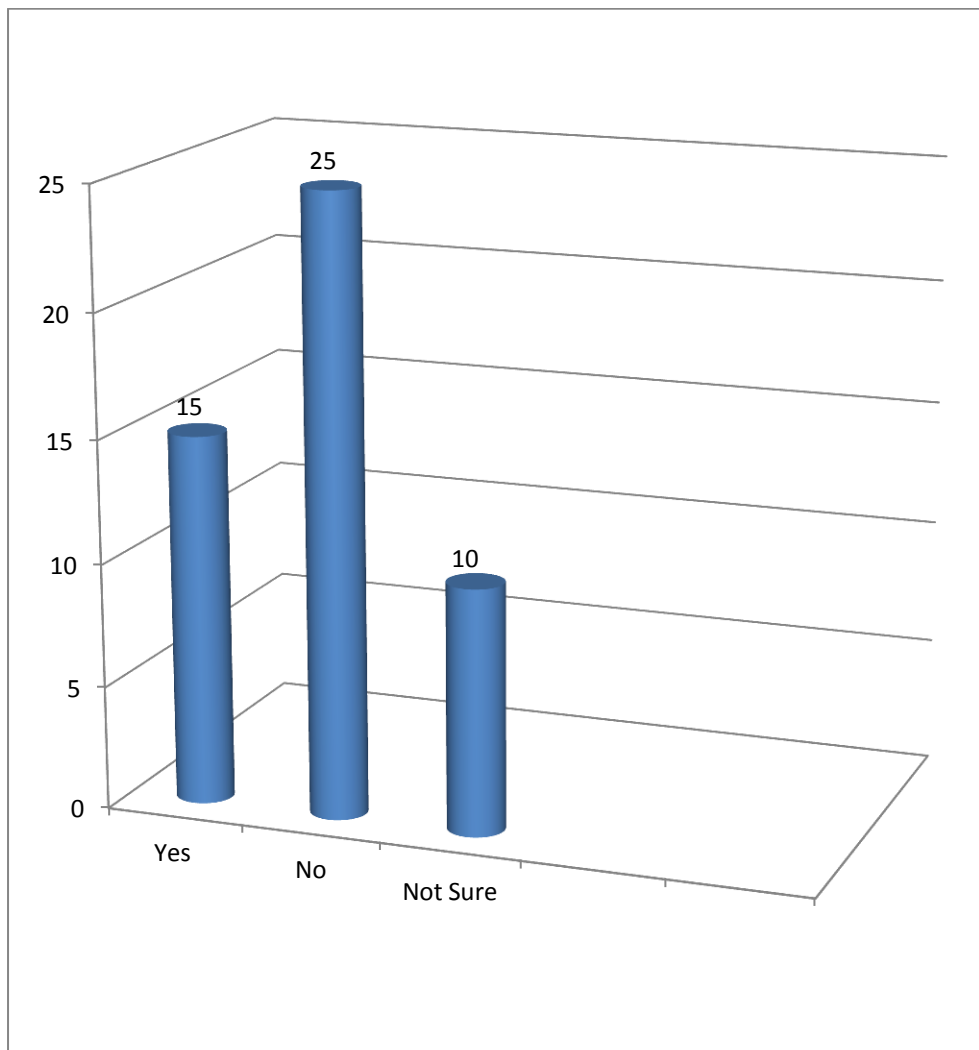
**Figure 7: Response on which other organs does stroke affect**



**Source: Field Data, 2019**

The figure above indicated that out of 50 respondents, majority 16(32%) of them showed that the whole body is affected, followed by 14(28%) who indicated that arm. Also 12(24%) of the respondents indicated that arms and mouth are other organs affected and the least was 8(16%) who indicated that the nerves are affected apart from the brain.

**Figure 8: Response to Does stroke occur in the heart**

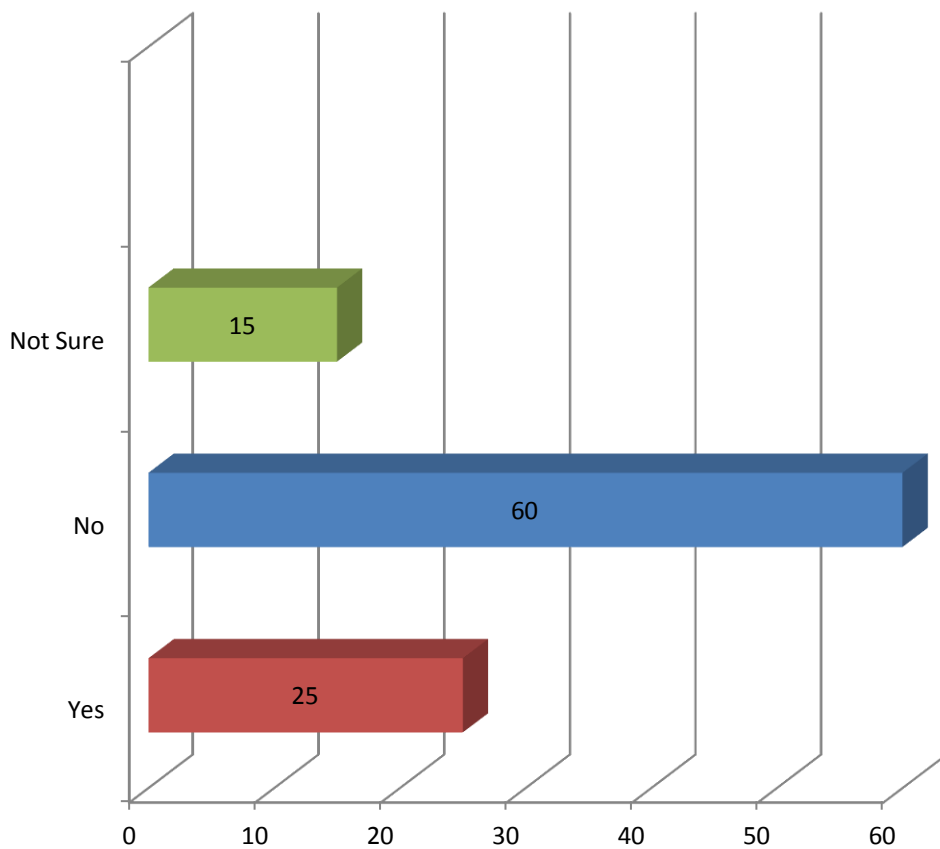


**Source: Field Data, 2019**

Figure 10 above shows that half of the respondents indicated that stroke does not occur in the heart, followed by 15(30%) of the respondents who indicated that stroke occur in the heart whiles 10(20%) of the respondents indicated that they are not sure if it occurs in the heart or not.



**Figure 9: Responds to is stroke the same as heart attack**



**Source: Field Data, 2019**

Figure 11 above shows that majority of the respondents indicated that majority of the respondents said stroke is not the same as heart attack, followed by 25% of the respondents who indicated that stroke is the same as heart attack. The remaining 15% indicated that they are not sure.

**Table 3: Response to which of the following best describe how preventable stroke is**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Not preventable at all	4	8
Slightly preventable	12	24
Moderately preventable	13	26
Totally preventable	2	4
Not Sure	19	38
<b>Total</b>	<b>50</b>	<b>100</b>

### 3.3 Section C: The Knowledge of Stroke Patient on Risk Factors of Stroke

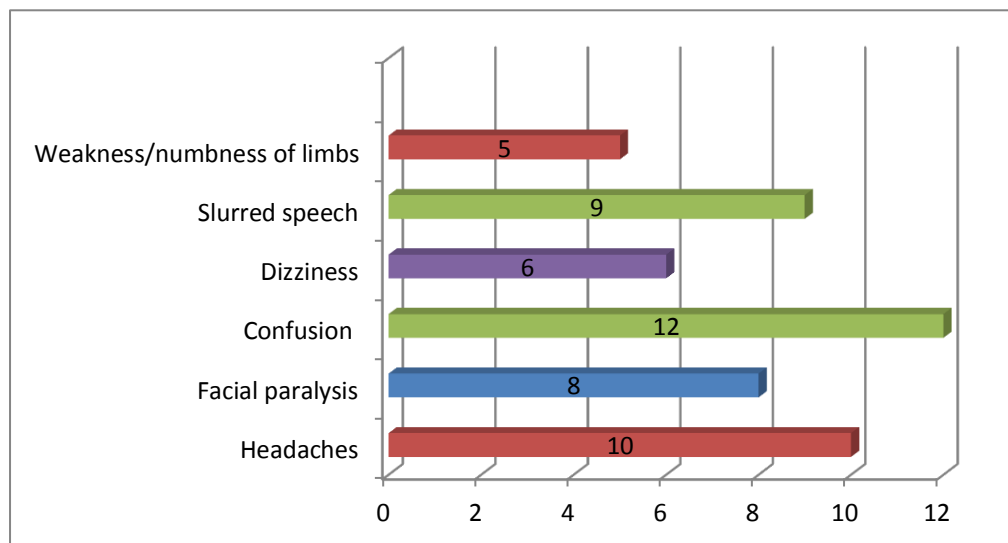
<b>Variable</b>	<b>Frequency(n)</b>	<b>Percentage</b>
Poor diet	Yes= 35	Yes= 70
	No = 15	No = 30
	Not Sure=0	Not Sure=0
Smoking	Yes= 45	Yes= 90
	No = 5	No = 10
	Not Sure=0	Not Sure=0
Stress	Yes= 40	Yes= 45
	No = 10	No = 15
	Not Sure=0	Not Sure=
Heart disease	Yes= 47	Yes= 84
	No = 3	No = 6
	Not Sure=0	Not Sure=0
Viral infections	Yes= 45	Yes= 90
	No = 5	No = 10
	Not Sure=0	Not Sure=0
Diabetes	Yes= 38	Yes= 76
	No = 12	No = 24

	Not Sure=	Not Sure=
Excessive Alcohol Intake	Yes= 42	Yes= 84
	No = 8	No = 16
	Not Sure=	Not Sure=
High blood pressure	Yes= 45	Yes= 45
	No = 5	No = 5
	Not Sure=0	Not Sure=0
Heart disease	Yes= 35	Yes= 70
	No = 10	No = 20
	Not Sure=5	Not Sure=10
Family history of stroke	Yes= 47	Yes= 94
	No = 3	No = 6
	Not Sure=0	Not Sure=0
<b>Total</b>	<b>50</b>	<b>100</b>

Source: Field Data, 2019

### 3.4 Section D: Knowledge of Stroke Patient on Warning Signs of Stroke

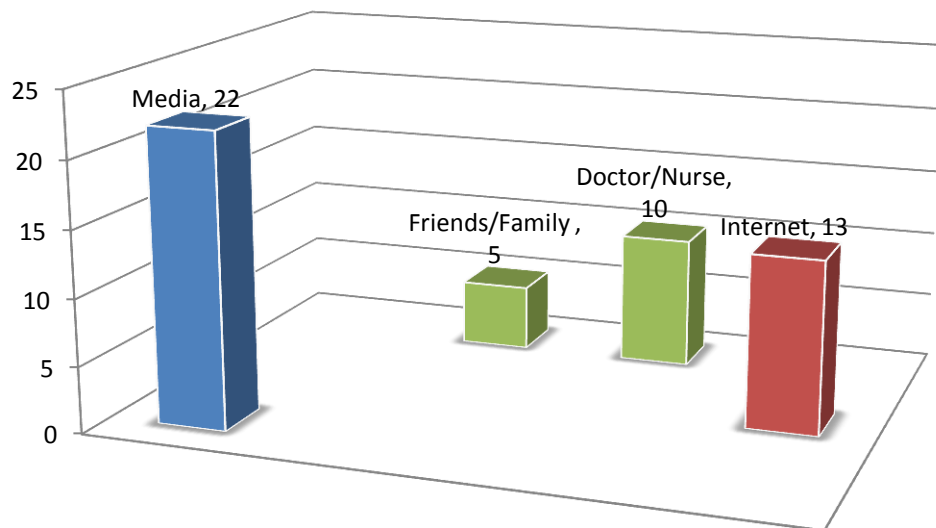
Figure 101: Warning signs of stroke



Source: Field Data, 2019

Majority of the respondents 12(24%) indicated that confusion is the main warning signs of stroke, followed by 10(20%) of respondents who also indicated that headache is the main warning signs of stroke, also 9(18%) of the respondents indicated that slurred speech is the main warning signs of stroke. Also 8(16%) of the respondents indicated that facial paralysis is the main warning signs of stroke, however 6(12%) and 5(10%) showed that dizziness and weakness/numbness of the limbs are warning signs of stroke respectively.

**Figure 11: Source of Information**



**Source: Field Data, 2019**

The figure above shows that majority of the respondents 22(44%) indicated that they obtained their information from the media, also 13 (26%) obtained their information from the internet, followed by 10(20%) who obtained their information from Doctors/Nurses. However 5(10%) obtained their information from family and friends.

### **3.5 Discussion**

This chapter presents a discussion of the results of the study. This comprises a comparison of the findings of the study with previous studies for similarities and differences. Conclusion drawn from the study and recommendations based on the findings.

#### **3.5.1 Socio-demographic characteristics**

The study revealed that most of the respondents 35(70%) were male whilst only 15(30%) were female which confirms the incidence of stroke as stroke occurs in more males than females. Secondly majority of the respondents 46% fell within 51-60 years which is age for predisposing factor of stroke.

Also the study found out that most of the respondents 28(56%) were having qualification in primary level, which might predict a low to moderate level of knowledge of most of the respondents.

In finding out their marital status, most 48(96%) of the respondents were married while the remaining 2(4%) were not married. Also most of the respondents 21(42%) were government employees, followed by 21(24%) of the respondents were private employees while 9(18%) of the respondents were unemployed. This may lead to financial and emotional stress which may have predicted the occurrence of stroke in respondents.

Analysis from the study indicated that majority of the respondents 19(38%) duration of illness for 1-2 years, followed by 16(32%) of respondents whose duration of illness was greater than 3years while 11(22%) of the respondents

duration of illness was 2-3 years. The least was 4(8%) whose duration of illness was less than 1 year.

### **3.5.2 Knowledge of Stroke Patient on Stroke and Risk Factors**

In this study the knowledge of respondents was low to moderate. The results indicated that most of the respondents 22% said that stroke is when there is arm, leg and facial paralysis, followed by 20% who indicated that stroke is paralysis of the whole body. Also 16% indicated that stroke is problems due to high blood pressure, followed by 14% who indicated that stroke is a brain disease, same as stroke is paralysis of one side of the body. This is supported by a study done by Jones et al, 2010 in which an integrative review of 39 studies on stroke knowledge and awareness showed that the ability to name one risk factor for stroke ranged between 18% to 94% when asked open ended questions and 42% to 97% when asked closed ended questions. Only 36% identified high BP as a main risk factor for stroke when asked open ended questions (Jones et al, 2010).

However the result was not supported by Revees et al. (2002) who concluded in their study that knowledge of stroke risk factors and warning signs was slightly moderate at best. One in five respondents was not aware of any stroke risk factors, and almost are in three was not aware of any stroke warning signs that knowledge of stroke risk factors and warning signs was moderate at best. Stroke knowledge was poorest among groups that have highest risk of stroke.

The result of the study also indicated that 10% of the respondents showed that stroke is a blood vessel disease. The remaining 4% belief that stroke is a

spiritual disease. Also most of the respondents 60% of the respondents indicated that stroke occurs in the brain, however 40% indicated that they are not sure whilst 10% indicated that stroke does not occur in the brain. Majority 16(32%) of them showed that the whole body is affected, followed by 14(28%) who indicated that arm. Also 12(24%) of the respondents indicated that arms and mouth are other organs affected and the least was 8(16%) who indicated that the nerves are affected apart from the brain. Also half of the respondents indicated that stroke does not occur in the heart, followed by 15(30%) of the respondents who indicated that stroke occur in the heart while 10(20%) of the respondents indicated that they are not sure if it occurs in the heart or not.

The results also shows that most of the respondents indicated that majority of the respondents said stroke is not the same as heart attack, followed by 25% of the respondents who indicated that stroke is the same as heart attack. The remaining 15% indicated that they were not sure. The above is supported by Revees et al. (2002) who concluded in their study that knowledge of stroke risk factors and warning signs was slightly moderate at best. One in five respondents was not aware of any stroke risk factors, and almost are in three was not aware of any stroke warning signs that knowledge of stroke risk factors and warning signs was moderate at best. Stroke knowledge was poorest among groups that have highest risk of stroke.

### **3.5.3 Knowledge of Stroke Patient on Warning Signs of Stroke**

The results of the research indicated that most of the respondents 12(24%) indicated that confusion is the main warning signs of stroke, followed by

10(20%) of respondents who also indicated that headache is the main warning signs of stroke, also 9(18%) of the respondents indicated that slurred speech is the main warning signs of stroke. Also 8(16%) of the respondents indicated that facial paralysis is the main warning signs of stroke, however 6(12%) and 5(10%) showed that dizziness and weakness/numbness of the limbs are warning signs of stroke respectively. This indicated that most of the respondents have moderate knowledge on warning signs of stroke.

The above results is in support with the results of the research done by Lutfiyya(2008) where most common warning symptoms being recognized were sudden confusion or trouble speaking ranges from 93.5% in USA to 22.0% in India (Lutfiyya et al., 2008; Pandian et al., 2006). This followed by sudden dizziness or trouble walking ranges between 92.4% to 5.0% similarly in USA and India (Lutfiyya et al., 2008; Pandian et al., 2006). From these findings, it shows there is a wide gap in the level of knowledge between the developed (e.g. USA) and developing (e.g. India) countries.

However the results is not similar to the results of the research done by Parahoo at el(2003) who conducted a population - based survey to determine baseline knowledge regarding the signs, symptoms and risk factors of stoke. Data were collected in Northern Ireland from 892 adults using a self completed questionnaire. They concluded that respondents appeared knowledgeable about risk factors of stroke but their recognition of warning signs was poor. Similarly , Maasland et al. (2007) also studied about patients with minor stroke or TIA who participated in controlled trial of effect of health education by an individual multimedia computer program. H~



concluded that vast majority of patients with TIA or stroke lack specific knowledge about their disease, but they do have a reasonable knowledge of general vascular risk factors and treatment.

#### **3.5.4 Source of Information**

Most of the respondents 22(44%) indicated that they obtained their information from the media, also 13 (26%) obtained their information from the internet, followed by 10(20%) who obtained their information from Doctors/Nurses. However 5(10%) obtained their information from family and friends.

The result of the research is in similarity with the research done to study public awareness of stroke in Korea, it was noted that the most common source of stroke information was from mass media and least from physicians even though patients viewed physician information as the most reliable (Kim et al. 2012).

However the results of this study oppose the results of the research done by in Osogbo, Nigeria, that indicated that the most common source of information was doctors and hospital personnel. Also less than a tenth of the respondents listed family members as their source of information (Ayanniyi et al, 2006).

#### **3.6 Conclusion**

The main objective of the study was to assess the knowlegde level of stroke patients on risk factors and warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital).

The results of the research indicates that most of the respondents had low to moderate knowledge on risk factors and warning signs of stroke and most of them obtained their information from the media and internet other than health workers. Healthcare provider are supposed to be at the pioneering wheel of stroke education of the public and providing correct information, but mass media was identified as the source of information on the stroke risk factors which of course influenced the information received (Muller-Nordhorn et al., 2006)

### **3.7 Recommendation**

- a) The management of our healthcare system such as Ministry of Health and Ghana Health Service should provide courses and training to encourage health workers to educate patients who are at risk of stroke.
- b) The management should also provide adequate public health staffing to give ample time for them to educate patient with stroke on warning signs and risk factors.
- c) A larger study aiming to provide more evidence of the factors that contribute to stroke among patients in government hospital would be a value.
- d) Finally, health personnel should be encouraged to be given the mandate to educate the public on stroke in the media, churches and social gathering.

## REFERENCES

- Agyemang C, Atta-Adjepong G, Owusu-Dabo E, et al. et al. (2012). Stroke in Ashanti Region of Ghana. *Ghana Med J*, 46, 12-7.
- Bonita R, Mendis S, Truesen, T. (2004). The global stroke initiative. *Lancet Neurol*, 391-3.
- C. Ellis, J. Barley, and A. Grubaugh, "Poststroke knowledge and symptom awareness: a global issue for secondary stroke prevention," *Cerebrovascular Diseases*, vol. 35, no. 6, pp. 572–581, 2013.
- C. Riechel, A. C. Alegiani, S. Kopke et al., (2016). Subjective and objective knowledge and decisional role preferences in cerebrovascular patients compared to controls," *Patient Preference and Adherence*, vol. 10, pp. 1453–1460.
- D. Caruso, M. Perez Akly, P. D. Costantini, S. Fridman, and M. M. Esnaola, "Do elderly patients call 911 when presented with clinical scenarios suggestive of acute stroke? A cross-sectional study," *Cerebrovascular Diseases*, vol. 39, no. 2, pp. 87–93, 2015.
- D. Mozaffarian, E. J. Benjamin, A. S. Go et al., "Heart diseasea stroke statistics—2016 update: a report from the American Heart Association," *Circulation*, vol. 133, no. 4, pp. e38–e360, 2016.
- Ellis, C., & Egede, L. E. (2008). Ethnic disparities in stroke recognition in individuals with prior stroke," *Public Health Reports*, 123(4), 514–522.

Ghana Statistical Services. Developing a Reliable and Sustainable Strategy for Measuring and Monitoring the Probability of Dying from CVDs in Ghana (Accessed in 2018).

H. D. Wang, M. Naghavi, C. Allen et al., "Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study," *Lancet*, vol. 388, no. 10053, pp. 1459–1544, 2016.

Jittima Saengsuwan, Pathitta Suangpho, and Somsak Tiamkao, "Knowledge of Stroke Risk Factors and Warning Signs in Patients with Recurrent Stroke or Recurrent Transient Ischaemic Attack in Thailand," *Neurology Research International*, vol. 2017.

K. W. Faiz, A. Sundseth, B. Thommessen, and O. M. Rønning, "Reasons for low thrombolysis rate in a Norwegian ischemic stroke population," *Neurological Sciences*, vol. 35, no. 12, pp. 1977–1982, 2014.

M. Cappellari, G. Moretto, and P. Bovi, "Repeated intravenous thrombolysis after recurrent stroke. A case series and review of the literature," *Journal of the Neurological Sciences*, vol. 345, no. 1-2, pp. 181–183, 2014.

S. P. Jones, A. J. Jenkinson, M. J. Leathley, and C. L. Watkins, "Stroke knowledge and awareness: an integrative review of the evidence," *Age and Ageing*, vol. 39, no. 1, pp. 11–22, 2010.

## APPENDICES

### APPENDIX A: QUESTIONNAIRE FOR RESPONDENTS

General Information: We are final year nursing students conducting a study on the knowledge level of stroke patients on risk factors and warning signs of stroke at the stroke unit (Korle-Bu Teaching Hospital).

. This questionnaire has been designed to solicit information from you and is purely for academic purposes. In pursuance of the award of a Degree in Nursing.

**Confidentiality:** The information and responses you provide will be treated with utmost confidentiality. Only the researchers will have access to the individual data you will provide and under no circumstances will any individual participant be identified in a publication or presentation describing this study.

**Withdrawal from Study:** Your participation in this study is entirely voluntary and you may refuse to participate in this research at any time without any penalty. You may at any time, for any reason, discontinue your participation without any negative consequences after having begun as a participant. Deciding not to be in the study or leaving the study before it is finished will not affect your relationship with the researcher.

Thank you for time and responses

## Section A: Demography

Please put the sign (x) in the proper choice

1. Gender:

- Male     Female

2. Age:

- 30-40 years     41-50 years     51-60 years     Above 61  
years

3. Educational qualification:

- Primary     Secondary     Tertiary     Never Attended School

4. Marital status:

- single     married     widow/widower

5. Occupation :

- Government employee     Private employee     Unemployed  
 Pension

6. Duration of illness

- < 1 year     1-2 years     2-3 years     >3 years

## Section B: The Knowledge of Stroke Patient on Stroke and Risk Factors

7. What is stroke?

- Blood vessels disease     Paralysis of one side of the body  
 Paralysis of the whole body  
 Arm, leg and facial paralysis     Beliefs  
 Problems due to high blood pressure  
 Heart disease     Brain damage

8. Does stroke occur in the brain?

Yes       No       Not sure

9. Which other organs does stroke affect

Body paralysis       Arm, leg and mouth       Arm and mouth  
 Nerves

10. Does stroke occur in the heart?

Yes       No       Not sure

11. Is a stroke the same as heart attack?

Yes       No       Not sure

12. Which of the following best describe how preventable stroke is?

Not preventable at all       Slightly preventable       Moderately preventable  
 Totally preventable  
 Not Sure

### Section C: The Knowledge of Stroke Patient on Risk Factors of Stroke

Tick the appropriate option

<b>Risk Factors of Stroke</b>	<b>Tick the appropriate option</b>
13. Poor Diet	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
14. Smoking	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
15. Stress	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
16. Heart Diseases	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
17. Viral Infections	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
18. Diabetes	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
19. Excessive Alcohol Intake	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
20. High Blood Pressure	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>
21. Heart Disease	Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/>

22. Family history of Stroke	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Sure <input type="checkbox"/>
------------------------------	------------------------------	-----------------------------	-----------------------------------

**Section D: The Knowledge of Stroke Patient on the Warning Signs of Stroke**

23. What are the five(5) warning signs of stroke

- a) .....
- b) .....
- c) .....
- d) .....
- e) .....
- .....

24. What was your source of information on warning signs of stroke

- Media
- Friends/Family
- Doctor/Nurse
- Internet

**THANK YOU**



## APPENDIX B: INTRODUCTORY LETTER



**CENTRAL  
UNIVERSITY**  
FAITH • INTEGRITY • EXCELLENCE

August 2, 2019

Dear Sir/Madam,

### TO WHOM IT MAY CONCERN

The bearers of this letter **Foster Osei Yeboah** and **Irene Asante** are Level 400 undergraduate students of the School of Medicine and Health Sciences, Department of Nursing, Central University.

They are conducting a research on the topic: "**Knowledge on Stroke Patients on Warning Signs and Risk Factors of Stroke**", in partial fulfilment of the requirement for the award of BSc. Nursing Degree.

I should be grateful if you could accord them the necessary support they may require.

You may contact me on phone number **0244263678/0303318596** for further verification.

Thank you.

  
f. Dr. Mary Opare  
Head, Department of Nursing

