A STUDY TO ASSESS NEURO NURSES' KNOWLEDGE ABOUT RISK FACTORS AND WARNING SIGNS OF STROKE

Project Report

Submitted in partial fulfillment of the requirements

For the DIPLOMA IN NEURO NURSING

Submitted by

MAHESH SHARMILA.T
Roll No: 5897

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY
TRIVANDRUM

NOVEMBER 2009.

CERTIFICATE FROM SUPERVISORY GUIDE

This is to certify that Miss. MAHESH SHARMILA. T has completed the project work on **"KNOWLEDGE ASSESSMENT OF NEURO NURSES' ABOUT RISK FACTORS AND WARNING SIGNS OF STROKE"** under my direct supervision and guidance for the partial fulfillment for the Diploma in "Neuro Nursing" in the University of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.

It is also certified that no part of this report has been included in any other thesis for procuring any other degree by the candidate.

Dr. Saramma.P.P.

Lecturer in Nursing

SCTIMST,

Trivandrum – 695 011.

Trivandrum

November 2009.

CERTIFICATE FROM CANDIDATE

This is to certify that the project report on **"A STUDY TO ASSESS THE KNOWLEDGE OF NEURO NURSES' ABOUT RISK FACTORS AND WARNING SIGNS OF STROKE"** is a genuine work done by me at the Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum under the guidance of Dr. Saramma. P.P. It is also certified that this work has not been presented previously to any university for award of degree, diploma, fellowship or other recognition.

Mahesh Sharmila. T.

Roll No: 5897

SCTIMST,

Trivandrum – 695 011.

Trivandrum

November 2009.

APPROVAL SHEET

This is to certify that Miss. MAHESH SHARMILA. T. Bearing Roll No: 5897 has been admitted to the Diploma in Neuro Nursing in January 2009 and she has undertaken the project entitled **"A STUDY TO ASSESS THE KNOWLEDGE OF NEURO NURSES' ABOUT RISK FACTORS AND WARNING SIGNS OF STROKE"** which is approved for the Diploma in Neuro Nursing awarded by the Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, as it is found satisfactory.

Examiners

1. _____

2. _____

Guide(s)

1. _____

2. _____

Date: _____

Place: _____

ACKNOWLEDGEMENT

First of all let me thank God All mighty for the unending love, care and blessing especially during the tenure of this study.

I take this opportunity to express my sincere gratitude to Dr. Saramma. P.P. Lecturer in Nursing, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, for the guidance. She provided for executing this study. Her advises regarding the concept, basic guidelines and analyses of data were very much encouraging. With profound sentiments and gratitude the investigator acknowledge the encouragement and help received from the following persons for the successful completion of this study.

I am thankful to Mrs. Thresiamma, Ward sister, Neuro medical Intensive Care unit, and other ward sisters for their constant support and encouragement.

Special thanks to library staff of SCTIMST for granting permission to utilized the library facility.

All the staffs and colleagues in the department have helped for completion of study at some time for which I am indebted to them.

Mahesh Sharmila. T.

ABSTRACT

A study to assess the knowledge of Neuro nurses' about risk factors and warning signs of stroke.

Stroke is a major cause for the neurological admission in hospital all over the world. Stroke occurs when a part of the brain is deprived of oxygen and patients will have deficits corresponding to that area of brain. The study was conducted in Neuro Medical ward, Neuro Medical ICU, Neuro surgical ward and Neuro surgical ICU of SCTIMST, Trivandrum. A convenient sampling technique was used for selecting the sample. The sample size was 50 Neuro Nurses. The investigator used a standardized questionnaire regarding risk factors and warning signs of stroke. The major findings of the study were Neuro Nurses had more knowledge of stroke risk factors than warning signs.

CONTENTS

Chapter 1

Introduction

Chapter - 2

Review of Literature

Chapter - 3

Methodology

Chapter - 4

Analysis and interpretation of data

LIST OF TABLES

LIST OF FIGURES

CHAPTER – 1

INTRODUCTION

1.1. INTRODUCTION

A stroke or brain attack occurs when a blood clot blocks an artery or blood vessel breaks, interrupting blood flow to an area of brain. When either of these things happens, brain cells begin to die and brain damage occurs. When brain cells die during a stroke, abilities controlled by that area of the brain are lost. How a stroke patient is affected depends on where stroke occurs in the brain and how much brain is damaged [Ayanniyi, 2006]

Stroke is an acute neurological deficit lasting more than twenty-four hours. Cerebral infarction accounts for 80 to 85% of cases of stroke. (Warlow, et al., 2000) Stroke kills about five million people each year making this the second major cause of death worldwide. At least fifteen million others have non-fatal stroke annually, and about a third are disabled as a consequence. (Fayyaz, 1999) Non-modifiable risk factors for cerebral infarction include age, sex, family history, race and ethnicity. Modifiable risk factors for cerebral infarction include hypertension, diabetes mellitus, cardiac disease (particularly atrial fibrillation), hyperlipidaemia, smoking, transient ischemic attacks, a symptomatic carotid artery stenosis, alcohol abuse and physical inactivity. (Schneider 2003).Stroke can happen to anyone at any time, regardless of race, sex or age. In US, stroke is the third leading case of death, killing

160,000 people each year and leading cause of adult disability. Two million brain cells die every minute during stroke, increasing the risk of permanent brain damage, disability or death. Recognizing symptoms and acting fast to get medical attention can save a life and limit disabilities.

Although CVA is one of the leading causes for death and disability, parameters for predicting long-term outcome in such patients have not been clearly identified especially in the Indian context [Panicker, 2003].

1.2. Background of the study

Stroke: Stroke is the sudden death of a brain cells due to lack of oxygen. A stroke occurs when blood flow to the brain is damaged resulting in abnormal function of brain. It is caused by blockage or rupture of an artery in the brain.

A stroke, or "brain attack," occurs when blood circulation to the brain fails. Brain cells can die from decreased blood flow and the resulting lack of oxygen. There are two broad categories of stroke: those caused by a blockage of blood flow and those caused by bleeding. While not usually fatal, a blockage of a blood vessel in the brain or neck, called an isocheim stroke, is the most frequent cause of stroke and is responsible for about 80 percent of strokes. These blockages stem from three conditions: the formation of a clot within a blood vessel of the brain or neck, called thrombosis; the movement of a clot from another part of the body such as the heart to the neck or brain, called embolism; or a severe narrowing of an artery in or leading to the brain,

called stenosis. Bleeding into the brain or the spaces surrounding the brain causes the second type of stroke, called hemorrhagic stroke.

Warning signs of stroke sudden numbness or weakness of face, arm or leg, especially on one side of the body sudden confusion, trouble speaking or understanding, sudden trouble seeing in one or both eyes, sudden trouble walking, dizziness, loss of balance or coordination, sudden severe headache with no known cause other danger signs that may occur include double vision, drowsiness, and nausea or vomiting. Sometimes the warning signs may last only a few moments and then disappear. These brief episodes, known as transient ischemic attacks or TIAs, are sometimes called "mini-strokes."

There are 2 types of risk factors for stroke: controllable and uncontrollable. Controllable risk factors generally fall into two categories: lifestyle risk factors or medical risk factors. Lifestyle risk factors can often be changed, while medical risk factors can usually be treated. Both types can be managed best by working with a doctor, who can prescribe medications and advise on how to adopt a healthy lifestyle. Uncontrollable risk factors include being over age 55, being male, being African American, Hispanic or Asian/Pacific Islander, or having a family history of stroke or transient ischemic attack (TIA).

Modifiable Risk Factors:

- High Blood Pressure
- Atrial Fibrillation

- High Cholesterol
- Diabetes
- Tobacco Use and Smoking
- Alcohol Use
- Obesity

Non-modifiable Risk Factors:

- Age
- Gender
- Race
- Family History
- Previous Stroke or TIA
- Fibromuscular Dysplasia
- Patent Foramen Ovale (PFO or Hole in the Heart)

Stroke is a leading cause of death and functional impairment. While older people are particularly vulnerable to stroke, research suggests that they have the poorest awareness of stroke warning signs and risk factors. This study examined knowledge of stroke warning signs and risk factors among community-dwelling older adults (Hickey, 2009).

Increasing the public's awareness of stroke is a public health priority. Our objective was to assess changes in the public's knowledge of stroke risk factors and warning signs in Michigan during a 5-year period characterized by a sustained statewide public education effort. (Reeves, 2008).

In other words, says National stroke Association, "Time is Brain" The more the dead cells, grater then effect of stroke on the victim. These effects can include paralysis, problems with balance and coordination, numbness, diminished memory, thinking, attention, and learning abilities, impaired mental activities, difficulty in speaking or understanding speech, incontinence and depression.

Effective stroke intervention and risk reduction depend on general public's awareness and knowledge of stroke (Park 2006). Reduction in the risk of stroke and increase in the speed of hospital presentation after onset of stroke both depend on level of knowledge of stroke in general population. The aim of present study is to assess baseline knowledge regarding stroke risk factors and warning signs identified by the caregivers.

Reduction in the risk of stroke and increase in the speed of hospital presentation after the onset of stroke both depend on the level of knowledge of stroke in the general population. The aim of the present study was to assess baseline knowledge regarding stroke risk factors, symptoms, treatment, and information resources.

1.3. Need and significance of the study

Poor awareness of stroke contributes to a delay in the arrival of patients in hospital emergency department for immediate effective treatment. Reduction in the risk of stroke and increase in the speed of hospital presentation after

onset of stroke both depend on level of knowledge of stroke in general population (Sug Yoon, 2001).

Effective implementation of early treatment strategies for stroke requires prompt admission to hospital, which could be delayed for several reasons such as poor awareness of population. (Neau, 2009). Being alert to the signs of stroke is important because the longer the stroke continues without treatment, the greater the number of brain cells that will die.

Poor public knowledge of stroke warning signs and risk factors limits effective stroke intervention and prevention (Schneider 2003). Awareness among general population about risk factors and warning signs of stroke is essential for preventive purposes and for immediate medical treatment.

Stroke and its long-term neurological disabilities can be prevented by management of risk factors and seeking medical care as early as possible following onset of stroke symptoms. There are modifiable and non-modifiable stroke risks, proper management of some of these risks could significantly reduce the risk of stroke incidence Effective stroke intervention, and risk reductions depend on general public's awareness and knowledge of stroke among nurses. The aim of present study is nursing staff represent a better education group of society & attitude of (health Practitioners) nursing staff reflect the prevailing attitude of education group of society. This research focuses on the assessment of knowledge regarding risk factors and warning signs of stroke among Neuro nurses.

1.4. Statement of the problem

A study to assess the knowledge of Neuro Nurses' about risk factors and warning signs of stroke, at SCTIMST Trivandrum.

1.5. Objectives of the study

1. To assess the neuro nurses' knowledge about the risk factors of stroke.
2. To assess the neuro nurses' knowledge about the warning signs of stroke.
3. To assess the neuro nurses' knowledge about risk factors and warning signs of stroke and selected variables.

1.6. Operational definition

Knowledge: It refers to the score obtained by the neuro nurses in the knowledge test on risk factors and warning signs of stroke.

Neuro nurses: It means temporary & permanent staff nurses working in Neuro Medical Intensive Care Unit, Neuro Medical Ward, Neuro Surgical Intensive Care Unit and Neuro Surgical Ward of Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum.

Risk factors: In this study, it refers to factors, presence of which predisposes an individual to develop stroke. Risk factors include hypertension, smoking, diabetes mellitus, hyperlipidemia, cardiac abnormalities and obesity.

Warning signs: In this study, these are the signs, which are exhibited by stroke patients in the early stage of the disease. Warning signs of stroke sudden numbness or weakness of face, arm or leg, especially on one side of the body sudden confusion, trouble speaking or understanding, sudden trouble seeing in one or both eyes, sudden trouble walking, dizziness, loss of balance or coordination, sudden severe headache with no known cause other danger signs that may occur include double vision, drowsiness, and nausea or vomiting. Sometimes the warning signs may last only a few moments and then disappear.

Stroke: Stroke is the sudden death of a brain cells due to lack of oxygen. A stroke occurs when blood flow to the brain is damaged resulting in abnormal function of brain. It is caused by blockage or rupture of an artery in the brain.

1.7. Methodology

This is a descriptive survey of nursing staff. The investigator first assesses the knowledge of Risk factor & warning signs of stroke with standardized questionnaire (stroke center, Stanford, questionnaire). The total duration of assessment is 10 minutes. Fifty nursing staff was conveniently selected for the study, the duration of the study is from August -October 2009.

1.8. Delimitations

This study is limited to nursing staff working in Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum.

1.9. Summary

This chapter deals with introduction, background of the study, need and significance of study, statement of problem, objectives, operational definition, methodology and delimitation.

1.10. Organization of the report

Chapter II deals with the review of literature, Chapter III deals with the methodology of this study, Chapter IV consists of analysis and interpretation of the findings, Chapter V consists of summary, conclusion, implication and limitation of the study and recommendations. This report also includes a selected bibliography and appendices.

CHAPTER-2

REVIEW OF LITERTURE

2.1 Introduction

Review of literature is an important aspect of any research project from beginning to end. It gives character insight into the problem and helps in selecting methodology, tool, and analyzing data. With these in view, an intensive review of literature has been done. Related literatures were reviewed and studied in depth, so as to broaden the understanding of selected problem. The studies are categorized under the following subsections.

2.2 Studies related to risk factors and warning signs of stroke done in different parts of world.

2.3 Studies related to risk factors and warning signs of stroke done in India

2.2 Studies related to risk factors and warning signs of stroke done in different parts of world.

Haley, et al. (2009) studied about the prevalence and stressfulness of stroke-related problems, and perceived benefits of caregiving, as reported by an epidemiological derived sample of caregivers of stroke survivors. Caregivers were given a comprehensive telephone interview 8 to 12 months after the stroke, using measures of stroke patient problems, caregiver appraisals of the stressfulness of these problems, and perceived benefits of caregiving. Caregivers rated patient problems with mood (depression, loneliness and anxiety), memory, and physical care (bowel control), as the most stressful, but reported prevalence of these problems was lower than those reported previously in studies using clinical samples. Caregivers also reported many benefits from caregiving, with over 90% reporting that caregiving enabled them to appreciate life more. Epidemiologically based studies of stroke caregiving provided a unique picture of caregiver strains and benefits compared with clinical studies, which tend to over-represent more impaired patients. Support for caregivers should include interventions to aid their coping with highly stressful mood, physical care, and cognitive problems of stroke patients, but should also attend to perceived benefits of caregiving. The researchers found that Caregivers rated patient problems with mood, memory, and physical care as the most stressful. They concluded epidemiologically based studies of stroke care giving provide a unique picture of caregiver strains and benefits compared with clinical studies, which tend to over-represent more impaired patients. Support for caregivers should include

interventions to aid their coping with highly stressful mood, physical care, and cognitive problems of stroke patients, but should also attend to perceived benefits of care giving.

Bestehorn, et al. (2008) performed a study to assess the risk factor profile of Hypertensive patients in primary care in various age groups, and to calculate their corresponding risk of stroke. A total of 2482 primary-care practices throughout Germany included 47,394 consecutive unselected patients with diagnosed hypertension in a cross-sectional prospective observational study. In addition to demographic characteristics, participating primary-care physicians documented known risk factors for stroke using standardized questionnaires. The 10-year prospective risk of first stroke was then calculated according to the Framingham Stroke Risk Score. The most prevalent risk factors were a positive family history of cardiovascular disease (46.1%) diabetes mellitus (36.1%), coronary artery disease (34.4%), and left ventricular hypertrophy (33.3%). They concluded Co-morbidities relevant for total stroke risk are very prevalent among typical primary-care patients, confirming a substantial burden of disease in this setting. The resulting risk of stroke is substantial. The need for more aggressive BP control and treatment of modifiable risk factors is confirmed by our results.

McNamara, et al. (2008) conducted a study to assess stroke knowledge and practice between frontier and urban emergency medical services (EMS) providers and to evaluate the need for additional prehospital stroke training opportunities in Montana. In 2006, a telephone survey of a representative sample of EMS providers was conducted in Montana. Respondents were

stratified into 2 groups: those working in urban and frontier counties. There were no significant differences between frontier and urban EMS respondents' ability to correctly identify 4 or more stroke warning signs (58% vs. 61%), 4 or more stroke risk factors (46% vs. 43%), or the 3-hour recombinant tissue plasminogen activator (rt-PA) treatment window (56% vs. 57%). Approximately two thirds of respondents from urban and frontier counties believed they had adequate stroke knowledge, but 90% indicated they were interested in additional stroke-related training. Although stroke knowledge did not differ between urban and frontier groups, stroke screens and stroke protocols were less likely to be used in the frontier areas. Training opportunities and the implementation of stroke protocols and screening tools are needed for EMS providers, particularly in frontier counties.

Koenig, et al, (2007) performed a study to measure stroke knowledge and prestroke personal health behaviors of stroke patients undergoing inpatient rehabilitation and their caregivers. A total of 130 stroke patients and 85 caregivers were interviewed after ischemic stroke at Academic rehabilitation hospital, that stroke patients participating in inpatient rehabilitation and their caregivers had large gaps in stroke knowledge and had sub optimal personal health behaviors, thereby putting patients at high risk for recurrent stroke. Large deficiencies in patient and caregiver stroke knowledge were found. Fifty-two percent of patients could not name any stroke risk factors, 52% were unable to name a stroke warning sign, and 35% were unable to identify appropriate actions to take in a stroke emergency. Older patients were less knowledgeable than younger patients. Caregivers were more knowledgeable

than patients. The authors concluded that Stroke patients participating in inpatient rehabilitation and their caregivers have large gaps in stroke knowledge and have suboptimal personal health behaviors, thereby putting patients at high risk for recurrent stroke. The finding highlighted the need to develop stroke-education programs for rehabilitating patients that are effective in closing these gaps in knowledge and personal health behaviors.

Kraywinkel, et al. (2007) conducted a study among 1483 participants by using a mailed questionnaire. Stroke risk factor knowledge, perception of lifetime stroke risks and risk factor status were included in the questionnaire. Results showed that overall stroke risk factor knowledge was good with 67-96% of participants recognizing established risk factors. All major risk factors contributed significantly to the perception of being at high stroke risk, but effects of age, sex, and education were non-significant. The authors concluded that stroke risk factor knowledge was high in this study. The self-perception of an increased stroke risk was associated with established risk factors as well as low perception of general health.

Nicol, et al. (2005) summarized the findings of fifteen studies about knowledge of stroke warning signs and risk factors in both high and low risk populations. In general, there appears to be low levels of knowledge of both risk factors and warning signs among communities studied. Using free recall, 20% to 30% of respondents could not name a single risk factor. Respondents in older age group and lower levels of educational attainment tended to have

less knowledge of risk factors and warning signs of stroke than those in younger age groups and with more education.

Blades, et al. (2005) conducted a study to assess awareness of stroke warning signs and risk factors among residents in rural communities 800 adults aged 45 years and older from two Montana counties participated in a telephone survey using unaided questions to assess awareness of stroke warning signs and risk factors. The survey also asked respondents if they had a history of atrial fibrillation, diabetes, high blood pressure, high cholesterol, smoking, heart disease, or stroke. More than 70% of survey participants were able to correctly report two or more warning signs for stroke The authors concluded Residents of two rural counties were generally aware of stroke warning signs, but their knowledge of stroke risk factors was limited.

Schneider, et al. (2003) performed a study to examine temporal trends in public knowledge of stroke warning signs and risk factors. They concluded that public knowledge of stroke warning signs within greater Cincinnati region has significantly improved from 1995 to 2000. Although knowledge of stroke risk factors did not improve significantly during same time period. Public education efforts must continue and should focus on groups at highest risk for stroke.

Sug Yoon, et al. (2001) studied about baseline knowledge regarding stroke risk factors, symptoms, and treatment and information resources. They concluded that the level of knowledge in the community of established stroke risk factors, warning signs and treatment as indicated by this survey suggests

that a community based education program to increase public knowledge of stroke may contribute to reduce risk of stroke and to increase the speed of hospital presentation after onset of stroke.

2.3 Studies related to risk factors and warning signs, done in India.

Community-based longitudinal study on stroke is rare in India. It has been predicted that the stroke incidence will be higher in developing countries than developed countries. Bhattacharya, (2005). Conducted a five years prospective study, in rural Bengal, India based on WHO protocol to determine the incidence rate, risk factors, morbidity and mortality profile of stroke. Twelve villages were surveyed by house-to-house method and screened cases were examined by a team of neurologists including post stroke surveillance for one year. The study had shown that hypertension, heart diseases and smoking were significant risk factors. This study indicated a higher age adjusted incidence rate of stroke in India as compared to that of developed country.

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.

Pandian, et al. (2005) in their study assessed public awareness of warning symptoms, risk factors and treatment of stroke in Ludhiana, Punjab and North West India. A hospital -based survey was conducted between February 2002 and September 2002. The study subjects were relatives of patients without history of stroke attending outpatient department of the hospital. Trained medical students, interns and nurse interviewed subjects. This hospital- based survey reveals a better awareness of stroke warning signs and risk factors. However knowledge regarding the organ involved, etiology and treatment of stroke was lacking. Considerable education is needed to increase public awareness in modern concepts of stroke treatment.

Limited information is available from India and other developing countries regarding the various factors that contribute to a delay in hospital admission after stroke. Pandian, (2006) prospectively studied the various factors contributing to delay in hospital admission during a 15-month period ending September 2003. Patients or their relatives were interviewed within 48 hours of admission using a structured questionnaire. The authors found a considerable delay in the early arrival of patients to their stroke department. The authors concluded that the local physicians and the public should be

educated about the importance of an early referrals and presentations to the stroke centers.

The premise of brain attack concept is that early intervention may salvage ischemic neurons. Early intervention depends on adequate knowledge of stroke so that patients seek urgent medical attention. Chaturvedi, (1997) conducted a study to assess knowledge of stroke risk factors and warning signs in an urban, Indian community. A 20- item questionnaire was administered to two patient groups. Group one had a diagnosis of first ever stroke or TIA. Group two was without history of cerebral ischemia. Thirty patients in-group one answered 57% of the questions correctly. Patients showed misperceptions regarding warning signs of stroke and were unfamiliar with concept of TIA. They concluded that results from the urban medical center suggested that knowledge of stroke is deficient among high-risk individuals who developed cerebral ischemia. This would mean that opportunities for effective prevention and treatment of stroke are being missed in minority patients. Recruitment a massive educational effort is undertaken. The key words are given below:

Table 2.1 Key words

Key terms used for searching articles

Key words	Number of articles
Risk factors and warning signs of stroke	74
Caregivers' knowledge about stroke	60
Stroke in India	214
Public perception of stroke	36
Stroke risk factors and warning signs identified	13
Risk factors and warning signs	284

CHAPTER - 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a brief description of the method adopted by the investigator to conduct this study. This chapter includes the research approach, research design, setting of the study and sampling technique .It further deals with the development of the tool, procedure for the data collection and plan for data analysis.

3.2 Research approach

The survey approach was selected as the objectives of the study to were (1) To assess the neuro nurse's knowledge about risk factor of stroke. (2) To assess the neuro nurse's knowledge about warning signs of stroke. (3) To assess the neuro nurse's knowledge about risk factor and warning signs of stroke & selected variable. More over survey approach is suitable for educational fact finding in a relatively small sample.

3.3 Research design

To accomplish the objectives of the study a survey design is used for data collection and analysis of the data. A study to assess the knowledge of Neuro nurses about risk factor and warning signs of stroke.

3.4 Setting of the study

This study was conducted in neuro medical units and neuro surgical units of Sree Chitra Tirunal Institute for Medical science and technology, is an institution of national importance where there is a separate department for neuro medical and surgical unit, which include neurology medical and surgical wards, neuro medical and surgical intensive care unit.

3.5 Study population

The target population of the study was both male and female permanent staff nurses in the neuro medical and surgical units.

3.6 Sample and sampling techniques

This is a descriptive survey of nursing staff. The investigator first assesses the knowledge of Risk factor & warning signs of stroke with standardized questionnaire (stroke center, Stanford, questionnaire). The total duration of assessment is 10 minutes. Fifty nursing staff were conveniently selected for the study, the duration of the study is from August -October 2009.

3.7 Criteria for sample selection

The samples selected were based on the following criteria.

Inclusion criteria

- Nursing staff working in NMICU, NMW, NSICU and NSW
- Nursing staff who are willing to participate.

Exclusion criteria

- Nursing staff working in other departments.
- Nursing staff who are not willing are excluded from the study.
- Ward in charge nurse and temporary staff nurse.

3.8 Data Collection Tool

Data collection tool refers to the instrument, which was used by the investigator to obtain relevant data .An extensive review and study of literature helped in selecting the tool. (Stroke center, Stanford, edu/ questionnaire). This prepared questionnaire is used as tool for the study to collect data. Experts of Sree Chitra Tirunal Institute For Medical science And Technology validated the tool. The research tool was finalized according to expert's opinion.

3.9 Description of the tool

The structured questionnaire consist of two sections

Section-1: Socio Demographic data.

Section-2: It consists of 10 questions regarding knowledge of neuro nurses about risk factor and warning signs of stroke. There are five questionnaires on risk factors and five questionnaire on warning signs of stroke.

3.10 Pilot study

After obtaining permission from the authorities the pilot study was conducted among 10 diplomas in neuro nursing and diploma in cardiovascular and thoracic nursing students of SCTIMST, Trivandrum. The aim of the pilot study was to find out the practicability and feasibility of the tool. The pilot study gave more information about research study. The total time period required was 10 minutes. The pilot study samples were excluded from the main study. The finalized tool was used to assess knowledge of neuro nurses about risk factors and warning signs of stroke. The pilot study findings revealed that the study was feasible and practicable.

3.11 Data collection procedure

For data collection formal permission was obtained from the authorities. The investigator first introduced and explained the need and purpose of the study. Confidentiality of their responses was assured. The nursing staff were

interviewed with the structured tool. The time taken for the assessment was 10 minutes.

3.12 Plan of analysis

The data will be coded, entered in excel sheet for analysis. Descriptive and inferential statistics will be used and present them in the form of tables and bar, cone, and pie diagram.

3.13 Summary

This chapter presented the research approach used for the study, research design of the study, setting of the study, sample and sampling techniques, development of description of tool, pilot study, data collection procedure and plan for analysis.

CHAPTER - 4

ANALYSIS AND INTERPRETATION OF DATA

This chapter presents analyses and interpretation of the data collected from 50 neuro nurses whom working in Neuro Medical Intensive Care Unit, Neuro Surgical Intensive Care Unit, Neuro Medical Ward, Neuro Surgical Ward of Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum.

Analyses are process of organizing and synthesizing data in such a way research questions can be answered. The questionnaire was based on to assess the knowledge about risk factors and warning sings of stroke. Interpretation refers to the process of making sense of the process of making Sense of the results and examining the implications of the findings with in a broader context.

The data were coded and entered in Microsoft Excel sheet and were analyzed using epi info version.

The finding of study were arranged and analyzed under the following section.

4.1 Sample characteristics

The age of the nurses ranged from 24 to 52 years with a mean of 33.24, median31 and mode24 the age distribution is given in table 4.1.

Table4.1 Distribution of samples according to age category.

Age category	Frequency	Percentage
<25 years	15	30%
26-35years	16	32%
36-45 years	13	26%
>46years	6	12%
Total	**50**	**100%**

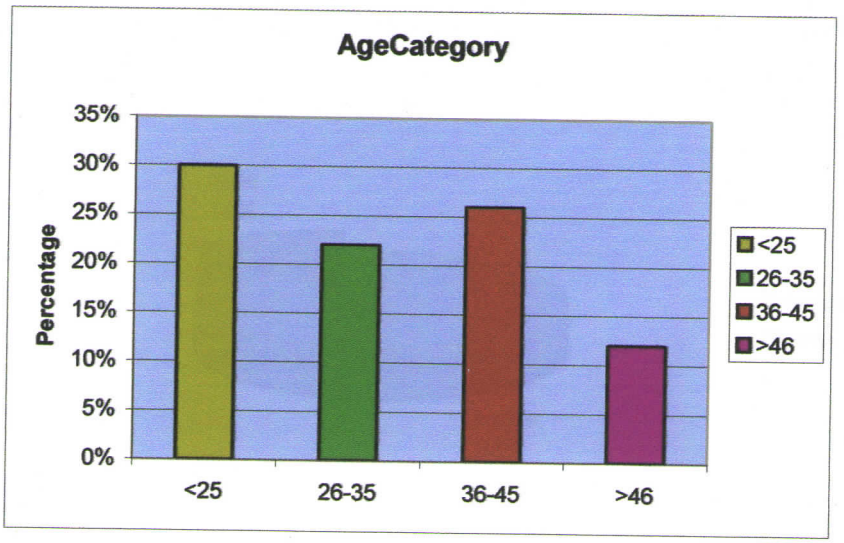

Figure 4.1 bar Diagram showing distribution of samples according to age category.

The data given in table 4.1 show that majority of nurses were below 35 years. The same data is shown as bar diagram in the figure 4.1.

4.1 Distribution of sample according to the sex is given in the Table 4.2 and figure

Table 4.2 Distribution of sample according to sex

Sex	Frequency	Percentage
Male	7	14%
Female	43	86%
Total	50	100%

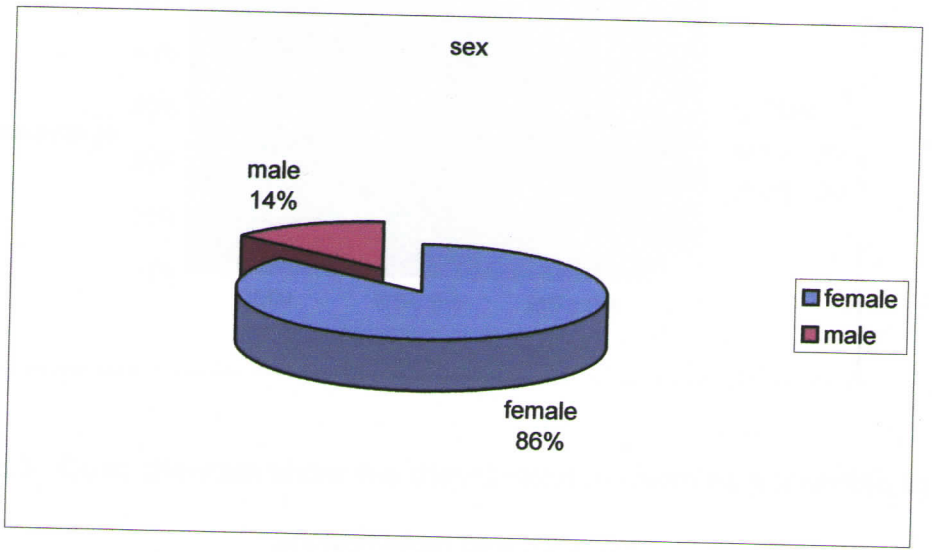

Figure4.2. Pie Diagram showing distribution of sample according to sex

Majority of sample were females (86%).

Table 4.3 Distribution of samples according to the professional qualification is given in Table 4.3 and figure 4.3

Professional qualification	Frequency	Percentage
GNM	23	46%
B.Sc (N)	24	48%
M.Sc (N)	3	6%
Total	**50**	**100%**

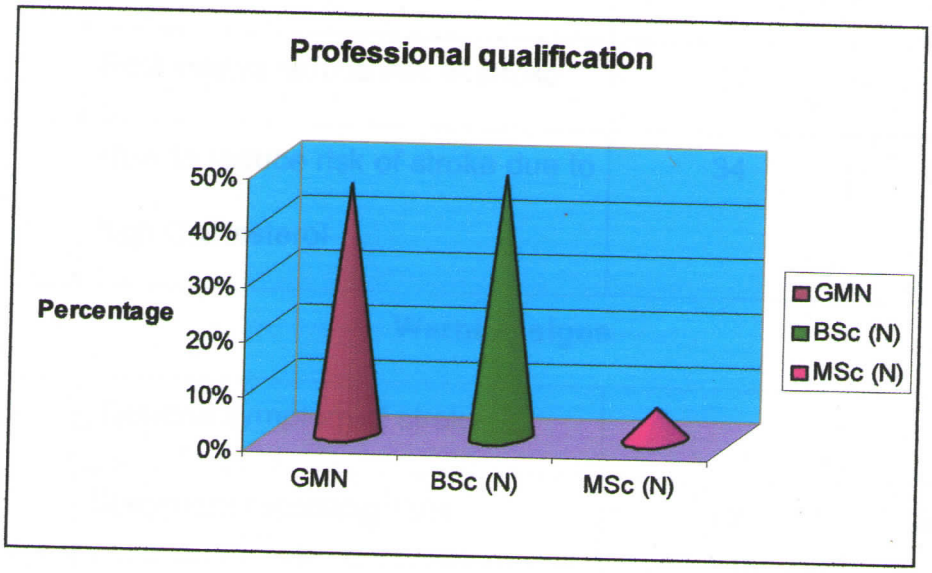

Fig 4.3 Cone diagram show the distribution of samples according to the professional qualification.

The data given in the table 4.3 show that majority of nurses were either graduates or post graduates.

Table 4.4 Percentage of Knowledge on risk factors and warning signs of sroke

S. No.	Area of knowledge	Frequency	Percentage
Risk factors			
1	Statement regarding stroke & HTN	45	90%
2	Statement regarding smoking	42	84%
3	True statement about risk factor for stroke	38	76%
4	Best way to reduce risk of stroke	37	74%
5	How to reduce risk of stroke due to high Cholesterol	34	68%
Warning signs			
6	General symptom of stroke		
7	Statement regarding TIAs	45	90%
8	Warning signs of stroke	45	90%
9	Recognize a stroke	45	90%
10	Common feature of most stroke	43	86%

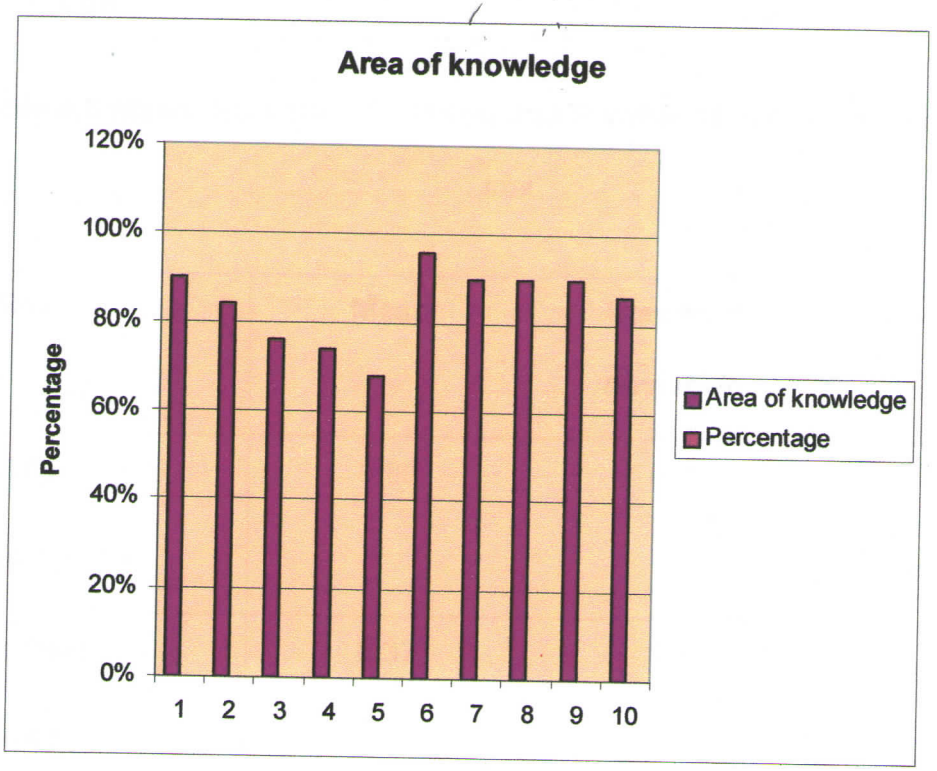

Fig 4.4 The bar diagram showing the Percentage of Knowledge on various risk factors and Warning signs of stroke

The data given the table 4.4 shows the sample had good knowledge in risk factors and warning signs of stroke having General symptom of stroke (96%), statement regarding TIAs (90%), Warning signs of stroke (90%), recognize a stroke (90%). Statement regarding as a risk factor (90%), Common feature of most stroke (86%), True statement about risk Factors for stroke (76%), Statement regarding smoking (84%), Best way to reduce risk of stroke (74%), How to reduce risk of stroke due to high cholesterol (68%),

4.5 Distribution of samples according to the knowledge score by sex

Table 4.5 Mean, Standard deviation and P value of nurse's knowledge by sex.

Sex	**Mean**	**Standard deviation**	**P value**
Male N=7	8.86	0.9	0.28
Female N=43	8.37	1.1	

The data given Table 4.5 show that the knowledge of Neuro nurses range from male 8 to10 and female 6 to 10 an unpaired 't'test showed that there was no significant difference in the mean knowledge of male and female nurses.

4.6 Distribution of samples according to the knowledge score by Professional Qualification

Table4.6 Mean standard deviation and 'p'value nurse's knowledge by qualification.

Professional Qualification	Mean	Standard deviation	P value
GNM N=23	8.29	1.1	0.36
BSc(N)&MSc(N) N=27	8.58	1.07	

The knowledge score of both the groups ranged from 6 to 10 (not shown in Table). Table 4.6 shows1.1 with B.Sc (N) and M.Sc (N) qualification it was 8.58 ± 1.07 an unpaired students 't' test did not show a significant difference in their mean knowledge. (P=0.36).

4.7 Distribution of samples according to the knowledge score by age category.

Table 4.7 Mean Standard deviations p value of knowledge according to age category

Age category	Mean	Standard deviation	P value
<31 Yrs	8.4	1.1	0.8
>31 Yrs	8.5	1.1	

The given Table 4.7 shows the knowledge of neuro nurses by age category. The median was taken to device the group into two <31 years and >31years. The knowledge ranged from 6 to 10 for both the groups an unpaired 't'test showed that there was no significant difference in the mean knowledge for the two age categories.

Summary

This chapter deals with analyses and interpretation of data collected from fifty Neuro nurses SCTIMST, Trivandrum. Descriptive and inferential statistics were used for the analyses bar, pie and cone diagram were used to illustrate the findings of study.

CHAPTER V

SUMMARY, LIMITATION, CONCLUSION, DISCUSSION AND RECOMMENDATIONS

Introduction: -

This chapter gives a brief account of the present study including conclusion drawn from the findings and possible application of the result. Recommendation for future research and suggest for improving the present study are also presented.

Summary: -

This study was undertaken to assess the knowledge about risk factors and warning signs of stroke among of neuro nurses working at the Sree Chitra Tirunal institute for medical Sciences and technology, Trivandrum.

The specific objectives of the study.

1. To assess the neuro nurse's knowledge about risk factors of stroke.
2. To assess the neuro nurse's knowledge about warning signs of stroke.
3. To assess the neuro nurse's knowledge about risk factors and warning signs of stroke and selected variables.

Poor awareness about the warning signs delay medical treatment and of the stroke increases the risk of developing complication. This study was as attempt to find out whether the nursing staff have adequate knowledge about risk factor and warning signs of stroke. This knowledge of nurses can be utilised for health education of the patients and public in general.

A standardized questionnaire (http://www.strokecenter, Stanford, edu/ questionnaire date; 3–8-2009) was used for assessing the knowledge level of nursing staff. After the assessment the investigator explained and cleared doubts regarding risk factors and warning signs of stroke.

The study was conducted in Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala, During the period of August to October 2009 fifty Nursing staff were selected using convenient sampling techniques. On analysis it was found that Neuro nurses had more knowledge warning signs (90.4%)then about risk factors (78.4%).

Limitation

The study was limited to nursing staff working in Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum

Major finding of the study

Knowledge of 50 Neuro nurses ranged from 6 to 10(maximum score 10) with a, Mean of 8.42, Median 9 and 9. This shows that mean knowledge of nurses working in ICU and ward with regard to risk factor and warning signs of stroke is above average. However the knowledge about warning signs of stroke was more. There was no significant difference between the mean knowledge of nurses about risk factors and warning signs of stroke with regard to their experience.

There was no significant difference between the mean knowledge of nurses about risk factors and warning signs of stroke with regard to their qualification.

There was no significant difference between the mean knowledge of nurses about risk factors and warning signs of stroke with regard to their age.

Conclusion

Based on the findings of the study, the following conclusions were drawn.

The mean total knowledge of the neuro nurses regarding risk factors and warning signs of stroke in neuro medical units is above average.

The study shows that there was no significant difference between mean knowledge of the neuro nurses regarding risk factors and warning signs of

stroke with regard to the age of the nurses, sex, qualification and experience in neuro nursing.

Neuro nurses knowledge in specific content areas related to risk factors and warning signs of stroke ranged from 68% to 96%.

5.5 Discussion

There were many studies undertaken to assess caregiver's knowledge about risk factors and warning signs of stroke. There is no published data on nurses knowledge about risk factors and warning signs of stroke. The risk factors and warning signs, which could be identified, were the main focus in the questionnaire.

The study was as attempt to find out whether the nursing staff has adequate knowledge about risk factors and warning signs of stroke.

A standardized questionnaire (http://www.stroke center, Stanford, edu/ questionnaire date;3-8-2009)was used for assessing the knowledge level of nursing staff. After the assessment the investigator explained and cleared doubts regarding risk factors and warning signs of stroke.

The study was conducted in Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala, during the period of August to October 2009. Fifty nursing staff were selected using convenient sampling technique.

On analysis it was found that Neuro nurses had more knowledge about warning signs than risk factors.

5.6 Recommendations

Regular in-service education to nursing staff on Risk factors and warning signs of stroke can be planned to update the knowledge of nursing staff.

REFERENCE

1 Ayanniyi,O., Akande, O., Mustapha,A.F., (2006). Knowledge and perception of stroke among adults in Osgbo, Nigeria, African journal of Medical Sciences, 35 (4): 447 – 52.

2. Bestehorn,kK., Wale,K., Kirch, W., (2008) stroke risk screening of adults with hypertension: prospective cross- sectional study in primary care. Clinical drug investigtion. 28(5): 281-9.

3. Bhattacharya, S., Saha, S D., Basu, A., Das, S K.,(2005). A five year prospective study of incidence, morbidity and mortality profile of stroke in a rural community of Eastern India, Journel of Indian Medical Association, 103(12): 655 – 9.

4. Blades, L. L et al., (2005). Rural community knowledge of stroke warning signs and risk factors, Journal of preventive chronic diseases, 2(3): A19.

5. Chaturvedi, S., Femino, L., (1997). A pilot study regarding knowledge of stroke risk factors in an urban community, Journel of Stroke and Cerebro Vascular Diseases, 6(6): 426-9.

6. Das, K., Mondlar, G P., Dutta, A K., Mukharjee, B., Mukharjee, BB., (2007). Awareness of earning symptoms and risk factors of stroke in the general population and survivors of stroke, Journel of clinical Neurosciences, 14(1), 12 – 6.

7. Fayyaz, M., Risk factors and early prognosis in stroke. Annals 1999; stroke awareness of signs, symptoms and risk factors, a population based survey, journal of ceribrovascular diseas, 5(1): 12-15.

8. Haley, WE., et al.(2009).problems and benefits reported by stroke family caregivers: result from a prospective epidemiological study, final version stroke,40(6):2129-33.

9. Hickey, J V., (2009). Stroke and other cereberovascular diseases, Neurological and Neurosurgical Nursing, Lippincott William and Wilkins, Fifth edition, 559 – 587.

10. Htt;//stroke center, Stanford, edu/questionnaire date; 3 –8-2009.

11. Koeng,K., et al(2007) Stroke-related knowledge and health behaviors among post stroke patients in inpatient rehabilitation. Elsevier, 88(9):1214-6.

12. Kothari, R et al., (1997). Patients awareness of stroke signs symptoms and risk factors, Stroke; a journal of cerebral circulation, 28 (10): 1871 – 5.

13. Kraywinkel, K et al., (2007). Stroke risk perception among participants of a stroke awareness campaign, Journal of BMC public health, 20(1): 17-39.

14. Namara, Mc., et al.(2008) stroke Knowledge among urban and frontier first responders and emergency medical technicians in Montana, Journal of Rural health,24 (2):189-93.

15. Neau, JP., Ingrand P, Godeneche G.(2009) Awareness within the French population concerning stroke signs, symptoms, and risk factors.elsevier, Clin Neuron Neurosurg. 111(8): 659-6

16. Nicol, MB., Trist, AG., (2005). Knowledge of risk factors and warning signs if stroke, Journal of Vascular Health Risk Management. 1(2):137-47.

17. Pandian, J D et al., (2006). Knowledge of stroke among stroke patients and their relatives in North West India, Journel of Neurology, 54(2), 152 – 6.

18. Panicker, K et al., (2003). Long term outcome of stroke patients, Neurology India, 51(2): 285-6.

19. Park, M H et al., (2006), No difference in stroke knowledge between Korean adherents to traditional and Western medicine: an epidemiological study, Journel of BMC public health, 13(6): 153.

20. Reeves.MJ., et al (2008) Changes in knowledge of stroke risk factors and warning signs among Miching adults. Journal of stroke and cerebro vascular diseases 25(5):385-91.

21. Schneider, A T et al., (2003). Trends in community knowledge of warning signs and risk factors of stroke, The Journal of American Medical Mission, 289(3), 343 – 6.

22. Sug Yoon, S., Heller, R F., Levi, C., Wiggers, J., Fitzgerald, P E., (2002). Knowledge of stroke risk factors, warning signs, and treatment among an Australian Urban Population, Stroke; a journal of cerebral circulation, 32(8): 1926-30.

23. Sug Yoon, S., Heller, R F., Levi, C., Wiggers, J., Fitzgerald, P E., (2001) Knowledge of stroke risk factors, warning signs, and treatment among an Australian Urban Population, Stroke; a journal of cerebral circulation, 32(8): 1926-30.

24. Warlow, C.P., Dennis, M.S., Van Gijn, J., Hankely, G,L., Sandercock, P.A.G., Bamford, J., et al. Stroke: A practical guideline to management, 2nd ed. Blackwell scientific publications; Oxford, 2000.

APPENDIX

SOCIO DEMOGRAPHIC DATA

1. AGE: years ☐

2. SEX: Male ☐ Female ☐

3. QUALIFICATION: GNM ☐ BSc(N) ☐ MSc(N) ☐

4. ADDITIONAL QUALIFIATION if any:

5. PLACE OF WORK: NSICU ☐ NSWD ☐ NMICU ☐ NMWD ☐

6. TOTAL YEARS OF EXPERIENCE: ☐ years

QUESTIONNAIRE TO ASSESS THE KNOWLEDGE ABOUT RISK FACTORS AND WARNING SIGNS OF STROKE

Choose the best answer for each question.

1. Which of these statements regarding Transient Ischemic Attacks (TIAs) is FALSE?

a) If the TIA symptoms disappear in a couple of hours, they can be ignored.

b) TIAs are caused by temporary interruptions in the blood supply to the brain.

c) TIA symptoms occur rapidly and last a relatively short time, usually from a few minutes to several hours.

d) TIAs are often early warning signs of a more serious and debilitating stroke in the future.

e) Delaying help for TIAs can mean that it is too late for new treatments to be effective.

2. Which of the following is a warning sign of a stroke?

a) Loss of speech or trouble talking.

b) Sudden loss of vision, particularly in one eye.

c) Sudden severe headache.

d) Sudden and pronounced numbness or weakness on one side of the body.

e) All of the above.

3. Which of these can be a symptom of a heart attack, but is generally not a symptom of stroke?

a) Slurred speech.

b) Crushing pain in the chest.

c) Blurred vision.

d) Paralysis on one side of the body.

e) Difficulty understanding language.

4. Which of the following is a TRUE statement about risk factors for stroke?

a) Stroke is equally common in men and women.

b) Race has no bearing on the incidence of stroke.

c) The chance of having a stroke increases with age.

d) Changes in lifestyle cannot affect a person's risk of stroke.

e) All of the above are true.

5. Which of the following statements regarding stroke and high blood pressure (hypertension) is FALSE?

a) Mild hypertension is not a risk factor for stroke.

b) Modifying your diet can reduce your blood pressure.

c) In general, an ideal blood pressure is 120/80.

d) The most important risk factor for stroke is high blood pressure.

e) Medication to control hypertension is effective only if taken on a regular basis.

6. Which of the following statements regarding smoking is FALSE?

a) Smoking is a major risk factor for lung cancer and heart attacks, but not stroke.

b) Smokers have a higher risk of stroke, regardless of other factors such as age, high blood pressure or heart disease.

c) The risk of stroke declines dramatically within a few years of stopping smoking.

d) Being exposed to smoking, even if you don't smoke yourself, can be dangerous.

7. Which one of the following best describes a way to reduce your risk of stroke?

a) Maintain a sedentary lifestyle.

b) Exercise regularly.

c) Consume more then two alcoholic drinks per day.

d) Increase your intake of disodium phosphate, monosodium glutamate, sodium nitrate, and table salt.

e) Continue to use oral contraceptives, especially those with high estrogen content.

8. Which one of the following best describes how to reduce your risk of stroke due to high cholesterol?

a) Limit fat or oil added in cooking.

b) Trim fat and skin from meats and poultry.

c) Use low-fat or non-fat dairy products.

d) Broil or bake foods rather then frying.

e) All of the above.

9. Which of the following symptoms is NOT a common feature of most strokes?

a) Weakness.

b) Numbness.

c) Trouble talking.

d) Pain.

e) Confusion.

10. You can recognize a stroke by asking patient all of following except?

a) Smile.

b) Raise both arms.

c) Complete a simple sentence.

d) Raise your leg.

e) Pupilary reaction

ANSWERKEY

1-a, 2-e, 3-b, 4-c, 5-a, 6-a, 7-b, 8-e, 9- d, 10-e