International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2023: 1.843

Knowledge, Practices and Health Beliefs of Stroke Risk Factors Among Patients with Hypertension: Basis for Stroke Prevention Program

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Abstract: ***Aim: This study aimed to find out the level of knowledge, practices and health beliefs of stroke risk factors among patients with hypertension attending check-up in Out-Patient Department of President Ramon Magsaysay Memorial Hospital as an input for stroke prevention program. Methodology: This study used a cross-sectional, descriptive, and correlational survey design. The study included two hundred hypertensive patients from ages 20 and older without cases of stroke incidence attending clinic in President Ramon Magsaysay Memorial Hospital – Out Patient Department. Results: The researcher found out that the respondents are female, in their middle adulthood, married, Roman Catholic, high school graduate and unemployed. The respondents assessed "sometimes true" on signs and symptoms and causes of stroke while "always true" on stroke risk factors and stroke prevention respectively. The stroke-patient respondents were assessed "partly practiced" on daily practices while "sometimes practiced" on stroke prevention practices. The respondents were "agree" on the perception towards health beliefs related to stroke. Conclusion: There is no significant difference on the assessment towards sign and symptoms, causes of stroke, stroke risk factors and stroke prevention when grouped according to age, sex, civil status, religion, highest educational attainment and occupation profile variables. There is no significant difference on the assessment towards daily practices while significant on sex and civil status towards stroke prevention practices. There is significant difference when grouped according to age and religion on the assessment towards health beliefs related to stroke. There is weak correlation between knowledge and risk factors and the practices while moderate relationship between practices and the causes of stroke and stroke prevention respectively.***

Keywords: Stroke, Knowledge, Practices, Health Beliefs, Stroke Risk Factors, Hypertension

1.Introduction

Stroke is a debilitating condition with devastating consequences or outcomes. Stroke results when there is block or a break in the arteries supplying blood to the brain (Sacco et al., 2013) updated definition of stroke encompasses the clinical and tissue criteria irrespective of areas of focus, whether in practice, research, or public health assessments. Ischemic stroke is thus defined as "an episode of neurological dysfunction caused by focal cerebral, spinal, or retinal infarction" (Sacco et al., 2013, p. 2072).

Transient ischemic attack (TIA) is a brief episode of neurological dysfunction from focal brain ischemia without acute infarction (Sacco et al., 2013). Intracerebral hemorrhage (ICH) is a localized collection of blood in the brain parenchyma or ventricles while subarachnoid hemorrhage (SAH) is bleeding into the subarachnoid space (Sacco et al., 2013). Stroke is the one of the leading causes of morbidity and mortality globally and lack of knowledge and poor risk factor control is contributing to its rise in incidence. (Sallar, Williams, Omishakin, & Lloyd, 2010).

Stroke is a major cause of death and disability in many countries. It was reported that, in 2013, globally, there were nearly 25.7 million stroke survivors, 6.5 million deaths due to stroke, 113 million disability-adjusted life-years (DALYs) lost because of stroke, and 10.3 million new cases of stroke (Feigin VL, et al., 2013).

Stroke is an especially serious problem in Asia, which has more than 60% of the world's population, and many of its countries are "developing" economies. Stroke mortality is higher in Asia than in Western Europe, the Americas or Australasia, except in the case of some countries such as Japan (Feigin VL, et al., 2010).

In 2010, stroke is a worldwide health problem and a major contributor to morbidity, mortality and disability in both developing and developed countries (Feigin VL et al., 2013). Stroke is the third most common cause of death in the world after heart diseases and cancers and the second leading cause of cardiovascular deaths worldwide after ischemic heart disease. The World Health Organization (WHO) estimates show that 17.3 million people died of cardiovascular diseases (CVDs) in 2012, representing 31% of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart diseases and 6.7 million were due to stroke (World Health Organization, 2016).

According to the Centre for Disease Control and Prevention (CDC), stroke is the leading cause of preventable disability worldwide. It is a major cause of long term disability and has potential enormous emotional and socioeconomic burden for patients, their families and health services. The often long term disabilities that accompany the disease are known to have far-reaching consequences on the well-being and quality of life stroke of stroke survivors and their caregivers (Vincent-Onabajo G et al., 2013). The World Health Organization (WHO) estimates show that about 17.3 million people died of cardiovascular diseases (CVD's) in 2012, representing 31% of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart diseases and 6.7 million were due to stroke. Contrary to popular belief, four out of five of deaths occurred in the low-and-middle-

income countries and men and women were equally affected (WHO, 2016).

Epidemiological studies have indicated that a stroke does not occur at random, there are risk-factors which precede stroke by many years, therefore awareness and good knowledge of these risk factors are very crucial to its prevention. 80% of premature heart attacks and strokes are believed to preventable when necessary precautions and actions are taken (NINDS, 2004.)

According to the latest WHO (World Health Organization) data published in 2017, Stroke Deaths in Philippines reached 87, 402 or 14.12% of total deaths. The age adjusted Death Rate is 134.74 per 100,000 of population that ranks Philippines #29 in the world (World Health Organization,2017). Stroke is the Philippines' second leading cause of death. About half a million Filipinos will be affected by stroke.

Stroke mortality rates are predicted by the prevalence of hypertension (Chapman N, Neal B., 2002). Hypertension is directly related to primary and secondary stroke risk. The higher the BP, the greater is the risk (Sy RG, Dans AL, 2003). Hypertension is the most important modifiable risk factor for stroke worldwide and the risk of all stroke sub-types increases with increasing blood pressure. Hypertensive people are three to four times more likely to have a stroke than non-hypertensive people. (Goldstein LB et al.,2011). Blood pressure is the force exerted in the walls of the arteries when the heart pumps the blood (NHLBI, 2011b). If this pressure remains high, it can cause damage to the body in several ways. AHA (2011e) reported high blood pressure as "the silent killer" because often it has no symptoms but it can cause damage to the heart, kidneys, eyes, and brain. Blood pressure is typically measured in two numbers, the upper one is called systolic pressure (pressure in the arteries when the heart is contracting), and the lower one is called diastolic pressure (pressure in the arteries when the heart is relaxing). Less than 120 of systolic and less than 80 of diastolic pressure is considered normal blood pressure (AHA, 2011e).

Primary stroke prevention refers to the treatment of individuals with no history of stroke while secondary stroke prevention refers to the treatment of individuals who have already had a stroke or transient ischemic attack (Sy RG et al., 2003). Primary prevention is "interventions designed to modify adverse levels of risk factors once present with the goal of preventing a stroke event" (Weintraub et ala., 2011, p. 50). Individuals can practice primary prevention by having high level of knowledge of stroke and practicing healthy lifestyle behaviors. Some examples of primary prevention include treating hypertension to prevent stroke in order to prevent heart attack. There is clear evidence that population-wide primary prevention and individual health-care intervention strategies have both contributed to the declining mortality trends of stroke (Mendis, Puska, & Norrving, 2011). The MONICA project conducted by WHO showed that mortality rates from stroke declined dramatically in many of the 38 MONICA project populations (Keil, 2005).

Secondary stroke prevention has been traditionally defined as the prevention of the disease recurrence and death after the onset of the symptomatic disease (Pearson, 2007). The goal of secondary prevention is not to prevent the onset of the disease but rather detecting early and treating early before any complications occur and it lead t disability. Approximately half of the mortality with stroke disease is declined in developed countries in the last two decades due to advancement of the medical therapy. (Ford et al., 2007).

According to the Guidelines for the Prevention, Treatment and Rehabilitation of Stroke by the Stroke Society of the Philippines (SSP), 5th Edition 2011, the burden of stroke will rise in Asia-Pacific region to which the Philippines belongs due to longevity and increasing prevalence of risk factors. Strategies for preventing stroke and reducing stroke disability are many but can be divided into primary (preventing a first stroke) and secondary (preventing stroke recurrence). Primordial prevention is used to prevent the occurrence of risk factors for stroke. Hypertension is the most modifiable risk factor for stroke. Treatment of hypertension substantially reduces the risk of stroke. All classes of antihypertensive drugs are effective for BP control. Diet modification encouraging low salt and high potassium content may help keep the blood pressure of an individual within normal levels. Regular aerobic exercise and keeping the body weight in normal weight range may also help the BP of an individual under control. Recommended primary stroke prevention includes regular screening for hypertension (at least every 2 years in most adults and more frequently in minority populations and the elderly) and appropriate management including dietary changes, lifestyle modification and pharmacological therapy. Recommended secondary stroke prevention includes antihypertensive treatment for both prevention of recurrent stroke and of other vascular events in patients who have had and ischemic stroke or transient ischemic attack (TIA), BP should be adequately controlled in patients with hypertension. Physicians should check the BP of all patients at every visit. Patients with hypertension should be advised to monitor their BP at home. Several lifestyle modifications have been associated with BP reductions and should be included as part of a comprehensive antihypertensive therapy.

Stroke has become a problem of public health importance worldwide. Knowledge and practices related to stroke prevention among hypertensive patients are important in the control of the disease (Sarafadeen Adeniyi Arisegi et al., 2018).

One of the main reasons for the rise in stroke as a cause of death is patients' lack of knowledge of the risk factors involved (Walker RW, Mclarty DG et al., 2000). In addition, there is lack of patient's participation in the management of the disease. This participation demands motivation knowledge and compliance from the patients since it is complex lifetime regimen that needs to be followed. Patients who do not have knowledge of the risk factors of stroke are less likely to engage in stroke prevention practices like controlling their blood pressure, and behavioral pattern such as smoking cessation and consuming a low-salt diet (Schneider AT, et al., 2003).

Objective

This study aimed to find out the level of knowledge, practices and health beliefs of stroke risk factors among patients with hypertension attending check-up in Out-Patient Department of President Ramon Magsaysay Memorial Hospital as an input for stroke prevention program.

Specifically, the study seeks to answer to the following questions:

1.What are the socio-demographic profile of respondents in terms of:
1.1 age;
1.2 sex;
1.3 marital status;
1.4 religion;
1.5 highest educational attainment; and
1.6 occupation?
2. What are the knowledge of respondents in terms of:
2.1 signs and symptoms of stroke;
2.2 causes of stroke;
2.3 stroke risk factors; and
2.4 stroke prevention?
3. What are the practices of respondents in terms of:
3.1 daily practices; and
3.2 stroke prevention practices?
4. How may the health beliefs related to stroke of the respondents be described?
5. Is there a significant difference on the knowledge of the respondents in stroke when group according to profile variables?
6. Is there a significant difference on the practices of the respondents in stroke when group according to profile variables?
7. Is there a significant difference on the health beliefs related to stroke when group according to respondents' profile?
8. Is there a significant relationship between knowledge and practices of stroke patients respectively?
9. What stroke prevention program can be proposed to enhance and develop the knowledge, practices and health beliefs of hypertensive patients?

Hypothesis

To make the data more vivid, the following hypotheses were tested in this study:

Hypothesis 1: There is no significant difference on the assessment of knowledge towards sign and symptoms, causes of stroke, stroke risk factors and stroke prevention when grouped according to age, sex, civil status, religion, highest educational attainment and occupation profile variables.

Hypothesis 2: There is no significant difference on the assessment towards daily practices while significant on sex and civil status towards stroke prevention practices.

Hypothesis 3: There is a significant difference when grouped according to age and religion on the assessment towards health beliefs related to stroke.

Hypothesis 4: There is weak correlation between knowledge and risk factors and the practices while moderate relationship between practices and the causes of stroke and stroke prevention respectively.

2.Methods

Research Design

This study used a descriptive, cross-sectional, and correlational research method using surveys to describe the variables and the relationships between the knowledge, practices, and health beliefs of stroke risk factors among patients with hypertension.

Population and Sampling

This study was conducted at the President Ramon Magsaysay Memorial Hospital- Out Patient Department among patients with hypertension with 200 respondents.

Instrument

Survey questionnaire was used to collect the necessary data in this study. Said instrument was validated by experts in the field.

Data Collection

The data were gathered, read, and analyzed following the objective of the study and in adherence to all protocols in the conduct of research.

Treatment of Research

Statistical Analysis were used to analyze the knowledge, practices, and health beliefs of stroke risk factors among patients with hypertension in President Ramon Magsaysay Memorial Hospital.

3.Results and Discussion

Out of two hundred (200) respondents, there were 13 or equivalent to 6.5% are from age group of 20-34 years old; 38 or 19.01%, from 35-44 years old; 48 or 24.015 from 45-54 years old; 61 or 30.5% from 55-64 years old; 28 or 14.01% from 65-74 years old and 12 or equivalent to 6.0% are from 75-84 years old. The computed mean age of the respondents was 53.95 or 54 years old.

Out of two hundred (200) respondents, majority with 116 or equivalent to 58.0% are females and 84 or 42.0% are males. Out of two hundred (200) respondents, majority with 130 or equivalent to 65.0% are married; 19 or 9.5% are single; 41 or 20.0% are widow and 10 or equivalent to 5.0% are separated/annulled.

In terms of religion, majority with 143 or equivalent to 71.5% are Roman Catholic; 29 or 14.5% are Born Again; 19 or 9.5% are Iglesia ni Cristo; 2 or equivalent to 1.0% are Seventh Day Adventist and 7 or equivalent to 3.50% are Protestants.

As to educational attainment, mostly with 97 or equivalent to 48.5% are high school graduate; 48 or 24.0%, are college graduate; 47 or 23.5% are high school undergraduate; and 8 or 4.0% are with post graduate degree. In terms of occupation, majority with 115 or equivalent to 57.5% are unemployed and 85 or 42.50% are employed.

As to knowledge of the respondents towards stroke in terms of signs and symptoms of stroke, the respondents assessed "always true" to experience of having numbness or reduced sensation on one side of the body as signs and symptoms of stroke manifested on the high mean value of 3.27 followed by sudden weakness or paralysis on one side of the body with mean of 3.26 and least on the symptoms of sudden difficulty in swallowing with mean of 2.94 interpreted as "sometimes true". The computed overall weighted mean on the responses towards signs and symptoms of stroke was 3.13 with qualitative interpretation of "sometimes true".

In terms of causes of stroke, the respondents assessed "always true" that high blood pressure is one of the causes of stroke manifested by its high mean value of 3.45 followed by family history of stroke with mean of 3.34 while least on smoking with mean of 3.08 interpreted as "sometimes true". The computed overall weighted mean the responses towards causes of stroke was 3.23 with qualitative interpretation of "sometimes true".

In terms of stroke risk factors, the respondents were assessed "always true" that high blood pressure attributed to stroke risk factors manifested by its high mean value of 3.52 followed by heart diseases with mean of 3.41 while least on cigarette smoking with mean of 3.10 interpreted as "sometimes true". The computed overall weighted mean on the responses towards stroke risk factors was 3.28 with qualitative interpretations of "always true".

In terms of stroke prevention, the respondents were assessed "always true" on controlling and monitoring high blood pressure manifested on the high mean value of 3.47 followed by reducing consumption of fatty foods with mean of 3.40 while assessed "sometimes true" on ensuring appropriate treatment of heart diseases with mean of 3.02. The computed overall weighted mean on the responses towards stroke prevention was 3.29 with qualitative interpretation of "always true".

As to assessment on practices of the respondents, in terms of daily practices, the respondents were "sometimes practiced" on having blood pressure monitoring with high mean value of 2.67 followed by blood sugar monitoring with mean of 2.63 while assessed "partly practiced" on drinking or in taking of alcohol with mean of 2.09. The computed overall weighted mean on the daily practices of the respondents was 2.46 with qualitative interpretation of "partly practiced".

In terms of stroke prevention practices, the respondents were "sometimes practiced" as stroke prevention on avoidance of excessive drinking of alcohol with high mean value of 3.08 followed by maintaining a healthy weight and avoiding of smoking with equal weighted mean value of 3.07 while least on visiting doctor to follow-up check-up with mean of 2.86. The computed overall weighted mean on the responses towards stroke prevention practices was 2.99 with qualitative interpretation of "sometimes practiced".

As to assessment of the respondents towards health beliefs related to stroke, the respondents assessed "strongly agree" that eating fruits and vegetables regularly will decrease my chances of having a stroke manifested on the computed high mean value of 3.26 followed by "agree" on the indicator which states that life would change if they had a stroke with mean of 3.24 while least on the assessment that the respondents cannot afford to buy healthy foods with mean of 2.63. The computed overall weighted mean on the responses towards health beliefs related to stroke was 3.02 with qualitative interpretation of "agree".

Knowledge of the Respondents in terms of Signs and Symptoms of Stroke

Early recognition of stroke signs and symptoms is the key to maximizing the potential for medical intervention and more favorable stroke outcomes. However, the need to increase public awareness of stroke warning signs has been identified as critical to addressing large gaps in knowledge including promoting awareness about the signs and symptoms of stroke and seriousness of stroke (Schneider AT, Pancioli AP, Khoury JC et al., 2003).

Table 1: Knowledge of the Respondents in terms of Signs and Symptoms of Stroke

INDICATORS		MEAN	DESCRIPTIVE RATING
1.	Sudden and severe headache and vomiting.	3.25	Sometimes True
2.	Slurring of speech.	3.05	Sometimes True
3.	Facial deviation.	3.03	Sometimes True
4.	Sudden dizziness or loss of balance or coordination.	3.23	Sometimes True
5.	Sudden loss of memory.	3.01	Sometimes True
6.	Blurring of vision.	3.04	Sometimes True
7.	Sudden difficulty in swallowing.	2.94	Sometimes True
8.	Numbness or reduced sensation on one side of the body.	3.27	Always True
9.	Sudden loss or reduced sensation all over the body.	3.26	Always True
10.	Sudden weakness or paralysis on one side of the body.	3.26	Always True
Overall Mean		**3.13**	**Sometimes True**

The signs and symptoms of stroke most commonly known to respondents assessed "always true" include numbness or reduced sensation on one side of the body manifested on the high mean value of 3.27 followed by sudden weakness or paralysis on one side of the body with mean of 3.26 and least on the symptoms of sudden difficulty in swallowing with mean of 2.94 interpreted as "sometimes true". The computed overall weighted mean on the responses towards signs and symptoms of stroke was 3.13 with qualitative interpretation of "sometimes true".

Better knowledge of warning signs/symptoms and complications would translate into faster and better identification of stroke, it may lead to improved attitudes and if translated into health-seeking behavior/ practices would result in improved patient outcomes, whereas knowledge of risk factors and preventive strategies if translated into lifestyle modification would go a long way in reducing the morbidity and mortality due to stroke as well as burden on the health system (Kothari R, Sauerbeck L, Jauch E, et al., 1997).

Greater understanding of perceived warning signs for stroke would facilitate health interventions aimed at reducing morbidity and mortality from stroke (Collins DR, McCormack PME, O'Neill D, 2002).

Knowledge of the Respondents in terms of Causes of Stroke

Stroke is one of the leading causes of death globally. Awareness of stroke risk factors and its causes are important for stroke prevention and seeking care. Even though the knowledge of the warning signs of stroke is important, the most effective treatment of a stroke is prevention and a major step in stroke prevention is knowledge of the risk factors and learning how to reduce them. Hypertension is the most important target for stroke prevention worldwide, associated with PARs ranging from 38.8% to 59.6% in all regions, which is generally consistent with estimates from other studies (Feigin VL et al., 2010).

From among the various treatable risk factors, hypertension was found to be the most important risk factor for stroke (Al Rajeh S, Awada A, Niazi G, Larbi E., 1993).

Hypertensive people are three to four times more likely to have a stroke than non-hypertensive people. (Goldstein LB et al.,2011). Blood pressure is the force exerted in the walls of the arteries when the heart pumps the blood. If this pressure remains high, it can cause damage to the body in several ways (NHLBI, 2011b).

Table 2: Knowledge of the Respondents in terms of Causes of Strokes

INDICATORS		MEAN	DESCRIPTIVE RATING
1.	High blood pressure	3.45	Always True
2.	Smoking	3.08	Sometimes True
3.	Heart disease	3.16	Sometimes True
4.	Diabetes Mellitus	3.13	Sometimes True
5.	Overweight	3.25	Sometimes True
6.	Lack of physical activities/exercise	3.23	Sometimes True
7.	Advancement in Age	3.27	Always True
8.	Family History of Stroke	3.34	Always True
9.	Gender	3.09	Sometimes True
10.	Under Stress	3.27	Always True
Overall Mean		**3.23**	**Sometimes True**

Table 2 shows the knowledge of the respondents towards strokes as to cause/causes of strokes. The respondents assessed "always true" that high blood pressure is one of the causes of stroke manifested by its high mean value of 3.45 followed by family history of stroke with mean of 3.34 while least on smoking with mean of 3.08 interpreted as "sometimes true". The computed overall weighted mean the responses towards causes of stroke was 3.23 with qualitative interpretation of "sometimes true".

Knowledge of stroke risk factors, especially identification of one's personal risk, is believed to play an important role in stroke prevention (Nichol MB, Thrift AG, 2005). This study showed good knowledge of stroke risk factors among the respondents, with hypertension being the most commonly reported stroke risk factor or cause of stroke.

Knowledge of the Respondents in terms of Stroke Risk Factors

Table 3 shows the knowledge of respondents in strokes in terms of stroke risk factors. The respondents were assessed "always true" that high blood pressure attributed to stroke risk factors manifested by its high mean value of 3.52 followed by heart diseases with mean of 3.41 while least on cigarette smoking with mean of 3.10 interpreted as "sometimes true". The computed overall weighted mean on the responses towards stroke risk factors was 3.28 with qualitative interpretations of "always true".

Table 3: Knowledge of the Respondents in terms of Stroke Risk Factors

INDICATORS	MEAN	DESCRIPTIVE RATING
High blood pressure	3.45	Always True
Smoking	3.08	Sometimes True
Heart disease	3.16	Sometimes True
Diabetes Mellitus	3.13	Sometimes True
Overweight	3.25	Sometimes True
Lack of physical activities/exercise	3.23	Sometimes True
Advancement in Age	3.27	Always True
Family History of Stroke	3.34	Always True
Gender	3.09	Sometimes True
Under Stress	3.27	Always True
Overall Mean	**3.23**	**Sometimes True**

Knowledge of stroke risk factors is of paramount importance in the prevention of stroke. The risk factors for stroke as identified by Goldstein, et al. of American Heart and Stroke Association 2011 can be classified into two groups' namely (a) non-modifiable and (b) modifiable risk factors. Non-modifiable risk factors for stroke are age, genetics, and gender while modifiable risk factors for stroke are high blood pressure, diabetes mellitus, high cholesterol, cigarette smoking, physical inactivity, overweight/ obesity, excessive consumption of alcohol, family history of stroke and cardiac conditions.

Epidemiological studies have indicated that a stroke does not occur at random, there are risk-factors which precede stroke by many years, therefore awareness and good knowledge of these risk factors are very crucial to its prevention. 80% of premature heart attacks and strokes are believed to preventable, when necessary, precautions and actions are taken. For people to control their environment they have to be informed, aware, or have the knowledge of what the risk factors for stroke are and their individual risk factors so that they can make necessary decisions towards controlling them (NINDS, 2004).

Hypertension was the most commonly identified risk factor. Stroke mortality rates are predicted by the prevalence of hypertension (Chapman N, Neal B., 2002). Hypertension is directly related to primary and secondary stroke risk. The higher the BP, the greater is the risk (Sy RG, Dans AL, 2003). Hypertension is the most important modifiable risk factor for stroke worldwide and the risk of all stroke sub-types increases with increasing blood pressure.

Knowledge of the Respondents in terms of Stroke Prevention

Table 4 shows the knowledge of respondents in strokes in terms of stroke prevention. The respondents were assessed "always true" on controlling and monitoring high blood pressure manifested on the high mean value of 3.47 followed by reducing consumption of fatty foods with mean of 3.40 while assessed "sometimes true" on ensuring appropriate treatment of heart diseases with mean of 3.02. The computed overall weighted mean on the responses towards stroke prevention was 3.29 with qualitative interpretation of "always true".

Table 4: Knowledge of the Respondents in terms of Stroke Prevention

INDICATORS	MEAN	DESCRIPTIVE RATING
Engage in physical activities/ exercise regularly.	3.24	Sometimes True
Lose weight.	3.25	Sometimes True
Avoid or quit smoking.	3.24	Sometimes True
Controlling and monitoring high blood pressure.	3.47	Always True
Controlling and monitoring blood sugar.	3.37	Always True
Reduce consumption of fatty foods.	3.40	Always True
Reduce consumption of salty foods.	3.36	Always True
Eat fruits and vegetables regularly.	3.33	Always True
Avoid excessive alcohol intake.	3.25	Sometimes True
Ensure appropriate treatment of heart disease.	3.02	Sometimes True
Overall Mean	**3.29**	**Always True**

In order to reduce the increasing stroke burden in our society, and fight against this number one killer, multiple prevention strategies should be implemented (Kahn, Robertson, Smith, & Eddy, 2008). Effective prevention strategies could reduce the current burden of stroke (Brownstein, 2008).

Primary stroke prevention refers to the treatment of individuals with no history of stroke while secondary stroke prevention refers to the treatment of individuals who have already had a stroke or transient ischemic attack (Sy RG et al., 2003).

Individuals can practice primary prevention by having high level of knowledge of stroke and practicing healthy lifestyle behaviors. Some examples of primary prevention include treating hypertension to prevent stroke in order to prevent heart attack (Mendis, Puska, & Norrving, 2011).

Secondary prevention has been defined as the prevention of the disease recurrence and death after the onset of the symptomatic disease (Pearson, 2007). The goal of secondary prevention is not to prevent the onset of the disease but rather detecting early and treating early before any complications occur and it led to disability. Examples of secondary prevention include detecting high cholesterol early and treat it or finding out diabetes at the early stage to avoid complication (Ford et al., 2007).

Assessment on Daily Practices of the Respondents

Table 5 shows the assessment respondents as to daily practices. The respondents were "sometimes practiced" on having blood pressure monitoring with high mean value of 2.67 followed by blood sugar monitoring with mean of 2.63 while assessed "partly practiced" on drinking or in taking of alcohol with mean of 2.09. The computed overall weighted mean on the daily practices of the respondents was 2.46 with qualitative interpretation of "partly practiced".

Table 5: Assessment on Daily Practices of the Respondents

INDICATORS	MEAN	DESCRIPTIVE RATING
Smoking	2.21	Partly Practiced
Alcohol intake	2.09	Partly Practiced
Eat fruits and vegetables	2.65	Sometimes Practiced
Engage to physical activities/exercise	2.51	Sometimes Practiced
Eat salty foods	2.43	Partly Practiced
Eat fatty foods	2.48	Partly Practiced
Blood pressure monitoring	2.67	Sometimes Practiced
Blood sugar monitoring	2.63	Sometimes Practiced
Overall Mean	**2.46**	**Partly Practiced**

The data clearly reveals on the awareness of the respondents to have blood pressure be monitored in order to avoid severe or fatal stroke. The blood pressure monitoring provides information whether the blood pressure is too high, high, low or very low. The status of blood pressure will provide basis for doctors and medical experts on the appropriate action, medication and advices to avoid severe implications on health problems caused by stroke.

The gaps identified in the assessment on practices of the respondents underscore the need for health care providers to give sufficient attention to educating their patients on the importance of practicing healthy lifestyle to prevent stroke incidence (Stark J, Sharma P., 2014).

Assessment of the respondents towards health beliefs related to stroke

Table 6 shows the assessment of the respondents towards health beliefs related to stroke. The respondents assessed "strongly agree" that eating fruits and vegetables regularly will decrease my chances of having a stroke manifested on the computed high mean value of 3.26 followed by "agree" on the indicator which states that life would change if they had a stroke with mean of 3.24 while least on the assessment that the respondents cannot afford to buy healthy foods with mean of 2.63. The computed overall weighted mean on the responses towards health beliefs related to stroke was 3.02 with qualitative interpretation of "agree".

Table 6: Assessment of the respondents towards health beliefs related to stroke

INDICATORS	MEAN	DESCRIPTIVE RATING
It is likely that I will suffer from stroke in the future.	3.10	Agree
My whole life would change if I had a stroke.	3.24	Agree
Having a stroke will threaten my relationship with my family.	3.16	Agree
My chances of having a stroke in the next 5 years are great.	2.99	Agree
Increasing my exercise will decrease my chances of having a stroke.	3.14	Agree
Eating fruits and vegetables regularly will decrease my chances of having a stroke.	3.26	Strongly Agree
When I exercise, I am doing something good for myself.	3.11	Agree
I do not have time to exercise for 30 minutes a day on most days of the week.	2.88	Agree
I cannot afford to buy healthy foods.	2.63	Agree
I have other problems more important than worrying about diet and exercise.	2.67	Agree
Overall Mean	**3.02**	**Agree**

According to Health Belief Model, health behavior is determined by personal beliefs about a disease and the strategies available to decrease it occurrence (Hochbaum, 1958).

There is no one definitive scale to measure health beliefs as health belief tends to change and beliefs are different from individual to individuals and from one behavior to another behavior (Champion & Skinner, 2008).

Stroke risk perception and belief in light of this study is the knowledge or awareness by an individual that they will have a stroke which may be soon or later based on their knowledge or no knowledge of their personal risk factors for stroke. It is assumed that knowledge and beliefs of the risk factor for an ailment will provoke a desire for the individual to manage their risks in order to prevent the event from occurring. Individuals at highest risk for stroke still do not perceive themselves at risk (Boden-Albala et al., 2011 & Eshah, 2013).

4.Summary, Conclusions, and Recommendations

The respondents are female, in their middle adulthood, married, Roman Catholic, high school graduate and unemployed. The respondents assessed "sometimes true" on signs and symptoms and causes of stroke while "always true" on stroke risk factors and stroke prevention respectively. The respondents were assessed "partly practiced" on daily practices while "sometimes practiced" on stroke prevention practices. The respondents were "agree" on the perception towards health beliefs related to stroke.

There is no significant difference on the assessment towards sign and symptoms, causes of stroke, stroke risk factors and stroke prevention when grouped according to age, sex, civil status, religion, highest educational attainment and occupation profile variables.

There is no significant difference on the assessment towards daily practices while significant on sex and civil status towards stroke prevention practices.

There is a significant difference when grouped according to age and religion on the assessment towards health beliefs related to stroke.

There is weak correlation between knowledge and risk factors and the practices while moderate relationship between practices and the causes of stroke and stroke prevention respectively.

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