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Perception of stroke warning sign among hypertensive patients in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province, Thailand

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Abstract

This research purpose of this study was to study the perception of stroke warning signs in hypertensive patients in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province.

To compare the perception of stroke warning in hypertensive patients of different sexes Different Education, different occupations, and to study the relationship between perceptions of stroke warning signs in hypertensive patients with age, income, duration of illness. The questionnaire on the perception of warning signs of stroke in 5 areas consisted of Numbness and muscle weakness Confusion, slurred speech, blurred vision, drowsiness, dizziness, severe headache There were 120 people. The sample group in this research was estimated Sample size according to Yamane

1972's method. The sample group was 120 people. And most of them graduated from primary school. have a career The results of the research are summarized as follows.

Recognizing Stroke Warning Signs in Hypertensive Patients Overall, it's at a good level. Numbness and muscle weakness Confusion, slurred speech, blurred vision, drowsiness, dizziness, severe headache It's in the same good level in every aspect. Comparison It was found that the perception of stroke warning signs in hypertensive patients are different when there are different sexes different education and different occupations and when analyzing the relationship between age per month of the family and length of time being sick with high blood pressure There was a statistically significant correlation.

Keywords: Stroke Warning Sign, Cerebrovascular Disease, Hypertensive Patients

Background and importance of the problem

Cerebro Vascular Disease (CVD) or stroke Means diseases of the brain and nervous system caused by abnormalities of the blood vessels in the brain that are constricted, ruptured or blocked, causing sudden or acute neurological illness. (Office of Medical Academic Development, Department of Medicine, Ministry of Public Health, 2007; Nipon Phuangwarin, 2001^[8]; Michael G. Hennerie *et al.*, 2005) causing neurological deficiencies such as hypochondria. sensory deficit or have difficulty communicating (Jauch, 2005).

World Health Organization (WHO) (WHO, 2008) give definition of cerebrovascular disease is a condition that interferes with the functioning of the brain which is partial or the whole brain that happens rapidly and symptoms persist for more than 24 hours. A report from the Department of Disease Control found that people around the world die from stroke, it found that 80 million patients, approximately 5.5 million deaths, and 13.7 million new cases per year.

It also estimated the risk of stroke in the world's population in 2019. It found that every four people will suffer from a stroke, with 80 percent of the world's population at risk preventable.

For Thailand, from the 5-year historical data report of the Strategic and Planning Division, Ministry of Public Health found that the number of stroke patients from 2013-2017 There is a rising trend. In 2016, there were 293,463 cases, in 2017, there were 304,807 cases and the number of deaths from strokes was about 30,000 per year.

From the foregoing, it was concluded that cerebrovascular disease is the cause of illness and major death and if the patient survives, there is often a residual disability (Tanyalak Prasertsri, 2008), causing the patient to be less self-help and when the disability lasts for a long time, it causes stress on both the patient and the patient. family members or relatives in addition, the problem of chronic illness inevitably affects society. medical expenses and the overall economy of the country greatly (Kornphan Chobnitas 2008)^[3] However, before the patient is affected by the severity of the disease. Often there are signs or symptoms of alarm occurring first. If patients and relatives are aware of such danger signs as a result, the severity of the aforementioned complications is reduced (Hasayaporn Mano, 2009). Stroke warning signs are the leading symptoms before

a patient has symptoms of a stroke. due to temporary brain ischemia Neurological disorders that occur are short-lived. Most occur in about 5 - 10 minutes and heal within 24 hours. For Thailand, the Bureau of Non-Communicable Diseases, Department of Disease Control, Ministry of Public Health (2009) has divided disease alarm There are 5 symptoms of cerebrovascular disease, the details are as follows: 1) Sudden numbness or weakness in one side of the face, arm, or leg 2) a change in sensation (fuss, confusion, drowsiness) Difficulty speaking, unable to speak, slurred speech, or speech incomprehensible 3 Trouble seeing blurred vision of one eye 4) Sudden drowsiness, dizziness, inability to walk, difficulty walking, staggering, or sudden loss of balance in the act of rebellion. 5) Sudden unexplained severe headache. The leading symptoms of a stroke are worth paying attention to. and observe regularly from the performance of the study, it is often found that the people or sometimes even patients are not as aware of the main symptoms of a stroke as they should be. This is consistent with Stephanie's study. (Stephanie P. Jones *et al.*, 2009) who study the level of knowledge, awareness and prevention of stroke in patients with stroke and those with risk factors for the disease. It was found that the sample group had a very low level of knowledge and awareness. and from the study of Kothari (Kothari R *et al.*, in: Donald Lloyd Jones *et al.*, 2010) In a study in patients with a stroke, it was found that the population did not know the symptoms. In addition, a 2003 study by Ferris (Ferris A. *et al.*, 2005) A study conducted by the Sai word survey in 2003 found that the female population studied Recognizes Stroke Warning Signs Better Than Males But only 26 percent of all five signs of the month were recognized from the battle. It was found that every age group had Very few are aware of all the symptoms or warning signs. and from the study of Mathew (Mathew J Reeves *et al.*, 2002) Study knowledge of stroke risk factors and early warning signs in adulthood. It was found that in those with high stroke risk factors, little was known about the early warning signs of the disease. Therefore, studies on the perception of stroke warning signs are extremely necessary (Frank L. Silver *et al.*, 2003). Because of the patient and relative have the correct perception of symptoms or warning signs and fast will allow patients to access and receive emergency medical services according to the referral system to the health care facility in time. can save the patient from the disability that will happen to the patient.

In Thailand, there are relatively few studies on the perception of warning signs of stroke. The study is a public health officer who plays an important role in health promotion and prevention in the pre-ill period. role in pre-treatment and the role in rehabilitation of both the body and the patient's mental state Therefore, it is interesting to study the perception of stroke warning signs in hypertensive patients and their relatives in order to apply the data from the study to planning health care in the at-risk population. and disseminating the information obtained for further public health benefits in the community

Research questions

1. How is the perception of stroke warning signs in hypertensive patients in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province?
2. Patients with high blood pressure with different sexes, different education, different occupations, had the

perception of stroke warning signs. different or not, how

3. Recognition of stroke warning signs in hypertensive patients Is there a relationship with age, income, duration of illness or not?

Research objectives

1. To study the perception of stroke warning signs in patients with hypertension in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province
2. To compare the perception of stroke warning signs in patients with hypertension. of different sexes Different education, different career
3. To study the relationship between the perception of stroke warning signs in hypertensive patients with age, income, duration of illness.

Research hypothesis

1. Patients with high blood pressure with different sexes, different educations, different occupations will have different perceptions of stroke warning signs.
2. Recognition of stroke warning signs in hypertensive patients correlated with age, income, length of illness

Research benefits

1. Make them aware of the perception of stroke warning signs in patients with hypertension in Muang district, Nakhon Nayok province. How is it? This will lead to educating and raising awareness on how to prevent strokes from occurring.
2. It made them aware of the difference in perception of stroke warning signs among hypertensive patients in Khao Phra Subdistrict, Muang District, Nakhon Nayok Province, classified by gender, education, and occupation. How were they perceived differently to bring information to further innovation?
3. This led to the relationship between perception of stroke warning signs in hypertensive patients with age, income, duration of illness. to bring the data to further development projects.

Research scope

1. Hypertensive patients who live in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province who receive treatment at Khao Durian Subdistrict Hospital and Pak Chong Subdistrict Hospital, 170 people
2. Recognition of warning signs of stroke in patients with high blood pressure consists of 5 symptoms:
 - a) Sudden numbness or weakness in one side of the face, arm, or leg
 - b) Changes in feelings (fuss, fuss, confusion, lethargy) or difficulty speaking, inability to speak, slurred speech, or incomprehensible speech.
 - c) Vision problems, blurred vision, or suddenly seeing hot images of one or both sides of the car
 - d) Dizziness, dizziness, inability to walk, difficulty walking, staggering, or sudden loss of balance in standing
 - e) severe headache Suddenly, unknown

Term definition

Recognition of stroke warning signs refers to cognitive processes, knowledge, and understanding through

knowledge. From previous experiences, beliefs and attitudes, it is helpful to interpret different things through the body's sensory systems. of hypertensive patients and their relatives for important early warning symptoms before stroke (Bureau of Non-Communicable Diseases, Department of Disease Control, Ministry of Public Health, 2009), which has 5 major symptoms:

1. Sudden numbness or weakness in one side of the face, arm, or leg.
2. Changes in feelings (fuss, fuss, confusion, lethargy) or difficulty speaking, inability to speak, slurred speech, or incomprehensible speech.
3. Vision problems, blurred vision, or suddenly seeing hot images of one or both sides of the car
4. Dizziness, dizziness, inability to walk, difficulty walking, staggering, or sudden loss of balance in standing
5. Severe headache Suddenly, unknown

Stroke is defined as a condition in which there is a neurological disorder caused by abnormalities in the blood vessels. Caused by embolus and ruptured blood vessels in the brain causing some parts of the brain to lack blood supply and unable to function normally

Hypertensive patient means a person who has been diagnosed by a doctor as having high blood pressure who lives in Muang District, Nakhon Nayok Province.

Research method

This study was descriptive research

Population and sample

Population

The population used in the study included hypertensive patients living in Khao Phra Subdistrict Muang District, Nakhon Nayok Province, year 2020, 170 people

Sample group

The sample was collected from all hypertensive patients who received treatment at Khao Phra Subdistrict Sub-District Hospital, which consisted of 2 locations, namely Khao Durian Subdistrict Hospital and Pak Chong Subdistrict Hospital using sample size according to the Yamane (1972) method (Phongthep Jiraro, page 12) as follows:

$$n = \frac{N}{1+Ne^2}$$

Where,

n = Sample size.

N = Population

e = Degree of tolerance = 0.05

Substitute values in formulas

$$\begin{aligned} n &= \frac{170}{1+170(0.05)^2} \\ &= \frac{170}{1.425} \\ &= \frac{170}{1+0.425} \end{aligned}$$

$$= 120$$

A sample of 120 people was obtained by using Accidental sampling method.

Respondent Qualifications

1. is a person who has been diagnosed by a doctor as being high blood pressure
2. is a person without conditions Complications of cerebrovascular disease
3. voluntarily and to cooperate in this study.
4. A person with complete consciousness able to communicate or can read and write

Research tools

The instrument used in this research was a questionnaire. The information consists of 2 parts as follows:

Part 1: General information questionnaire consisted of age, sex, education level, occupation, income, number of years sick with high blood pressure.

Part 2: of the questionnaire on perception of warning signs of stroke consisted of 9 positive questions and 11 negative questions.

The response style of the questionnaire was a 5-level estimation scale as follows:

For positive questions

- Level 5 = Strongly agree
- Level 4 = Strongly agree
- Level 3 = Moderately Agree
- Level 2 = least agree
- Level 1 = Disagree

For negative questions,

Recode Before calculating the total score as follows:

- Level 5 = Disagree
- Level 4 = least agree
- Level 3 = Moderately Agree
- Level 2 = Strongly agree
- Level 1 = Strongly agree

Tool quality

Validity

In this study, the quality of Content Validity was examined by 3 experts to examine the Index of Item Objective Congruence: IOC (Pongthep Jiraro 2019, page 18). After passing the IOC audit, a Conformity Index of 1.00 was obtained. for all items. This assessment form has a content validity

Reliability

In this study, internal consistency quality was determined by using Cronbach's alpha coefficient method (Pongthep Jiraro p. 22). From the assessment form in this research, Alpha = 0.838

Data analysis

The statistics used in the data analysis consisted of

1. frequency and percentage value used to describe general information such as gender, age, education, occupation, income, and length of time being sick with high blood pressure.

2. Mean and Standard Deviation Used to describe information about the perception of stroke warning signs in hypertensive patients.
3. Comparison Recognizing Stroke Warning Signs in Hypertensive Patients with different sexes by t-independent
4. Comparison Recognizing Stroke Warning Signs in Hypertensive Patients different occupation, Different Studies by One-way ANOVA
5. Study the relationship Between perceived stroke warning signs in hypertensive patients with age, income, and length of stay with hypertension by Pearson's Correlation Coefficient.

Summary of research results

A Study of Perception of Stroke Warning Signs in Hypertensive Patients in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province The results can be summarized as follows:

The results of the analysis of mean and standard deviation of the perception of stroke warning in hypertensive patients. In terms of numbness and muscle weakness, it was found that Overall, it was at a good level (Mean = 3.44, S.D. = .34). It was found that while eating, there was sudden dysphagia for unknown reasons, which was a symptom of a stroke. with the highest average score (Mean = 4.84, S.D. = .51) followed by numbness or weakness of the arm Suddenly one leg is a symptom of a stroke and a sudden drop in the corner of the mouth is a warning sign of a stroke (Mean = 4.57, SD = .75). Sudden numbness in the face or limbs and the symptoms go away within 24 hours, no need to see a doctor. Has the lowest average score (Mean = 1.98, S.D. = 1.07)
 Confusion The overall slurred speech was at a good level (Mean = 3.25, S.D. = .35). It was found that talking fuss Sudden disorientation is a warning sign of a stroke. with the highest average score (Mean = 4.57, S.D. = .75) followed by difficulty speaking, speechlessness, slurred speech for no

apparent reason suddenly is a warning sign of a stroke (Mean = 4.39, SD = .87). obvious for unknown reasons immediately and the symptoms disappear within 24 hours, no need to see a doctor. Has the lowest average score (Mean = 1.98, S.D. = 1.07)

In terms of blurred vision, amblyopia, overall were at good level (Mean= 3.73, S.D. = .33). It was found that blurred vision Suddenly, it is a warning sign of a stroke. Has the highest average score (Mean = 4.84, S.D. = .51) followed by chronic amblyopia of one or both eyes are warning sign of a stroke (Mean= 4.36, S.D. = 1.07). blurred vision immediately and the symptoms disappear within 24 hours, there is no need to see a doctor. Has the lowest average score (Mean = 1.98, S.D. = 1.07)

As for drowsiness, dizziness, it was found that overall was at a good level (Mean = 3.33, S.D. = .44). with the highest average score (Mean = 4.57, S.D. = .75) and the sudden onset of drowsiness, dizziness, staggered walking, difficulty walking. and the symptoms healed within 24 hours, did not require a doctor's visit, had the lowest mean score (M = 2.09, S.D. = 1.02).

Severe headache It was found that the overall score was good (Mean = 3.41, SD = .48) and sudden, unexplained severe headache was a warning symptom of a stroke had the highest mean score (Mean = 4.84, SD. = .51) and severe headache of unknown cause and such symptoms. healed within 24 hours, no need to visit a doctor, had the lowest mean score (Mean = 1.98, S.D. = .48).

The results of the analysis of mean and standard deviation of stroke warning awareness among hypertensive patients showed that the overall level was good (Mean = 3.43, SD = .32). descending It was found that blurred vision, amblyopia had the highest mean score (Mean = 3.73, SD = .33), followed by numbness and muscle weakness (Mean = 4.344, SD = .34) and for confusion, slurred speech, had the lowest mean score (Mean = 3.25, SD = .35).

Table 1: Comparison Perceived warning signs of stroke in hypertensive patients in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province, by different gender aspects by independent t-test (n = 120)

Variable	sex	n	\bar{x}	S.D.	t	df	Sig.
1 numbness and weakness of the muscles	Male	24	3.54	.35	1.564	118	.120
	Female	96	3.41	.34			
2 confusion, slurred speech	Male	24	3.36	.34	1.710	118	.090
	Female	96	3.22	.35			
3 blurred vision, blurred vision	Male	24	3.72	.36	-.135	118	.892
	Female	96	3.73	.33			
4 dizzy	Male	24	3.50	.46	2.098*	118	.038
	Female	96	3.29	.42			
5 severe headache	Male	24	3.37	.42	-.419	118	.676
	Female	96	3.42	.50			
Total	Male	24	3.51	.32	1.342	118	.182
	Female	96	3.41	.31			

***P < 0.001, **P < 0.01 *P < 0.05

From the table, it was found that the perception of stroke warning signs among hypertensive patients in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province with different sexes had different perceptions of stroke warning

signs. No statistically significant, except for the fourth aspect, drowsiness and dizziness were significantly different at the .05 level.

Table 2: Comparison of the mean perceived stroke warning signs of hypertensive patients in Khao Phra Subdistrict, Mueang District, Nakhon Nayok Province, by aspects and including the different study areas by One-way ANOVA (n = 120)

Source of variance		SS	df	MS	F	Sig.
1) numbness and weakness of the muscles	between groups	1.522	5	.304	2.676*	.025
	within the group	12.971	114	.114		
	total	14.493	119			
2) confusion, slurred speech	between groups	1.527	5	.305	2.561*	.031
	within the group	13.596	114	.119		
	total	15.123	119			
3) blurred vision, blurred vision	between groups	1.340	5	.268	2.534*	.033
	within the group	12.059	114	.106		
	total	13.399	119			
4) dizzy	between groups	2.029	5	.406	2.188	.060
	within the group	21.138	114	.185		
	total	23.167	119			
5) severe headache	between groups	8.037	5	1.607	9.030***	.000
	within the group	20.294	114	.178		
	total	28.331	119			
Total	between groups	1.260	5	.252	2.614*	.028
	within the group	10.990	114	.096		
	total	12.250	119			

***P < 0.001, **P < 0.01 *P < 0.05

From the table, it was found that the perception of stroke warning signs in hypertensive patients by different educational levels, stroke warning signs were perceived. Severe headache There were statistically significant differences at the .001 level, the first side was numbness and

muscle weakness. The second side was confusion, slurred speech, and the third side had blurry vision. Amblyopia and total side were significantly different at the .05 level and at the 4th side stupor. The difference in dizziness was not statistically significant.

Table 3 Comparison of the average perception of stroke warning signs of hypertensive patients in Khao Phra Subdistrict, Muang District, Nakhon Nayok Province, by one-way ANOVA, by one-way ANOVA (n = 120)

Source of variance		SS	df	MS	F	Sig.
1) numbness and weakness of the muscles	between groups	2.339	4	.585	5.532***	.000
	within the group	12.155	115	.106		
	total	14.493	119			
2) confusion, slurred speech	between groups	2.589	4	.647	5.939***	.000
	within the group	12.534	115	.109		
	total	15.123	119			
3) blurred vision, blurred vision	between groups	2.103	4	.526	5.354**	.001
	within the group	11296	115	.098		
	total	13.399	119			
4) dizzy	between groups	2.975	4	.744	4.236**	.003
	within the group	20.19123.167	115	.176		
	total	23.167	119			
5) severe headache	between groups	8.585	4	2.146	12.499***	.000
	within the group	19.747	115	.172		
	total	28.331	119			
Total	between groups	1.995	4	.499	5.592***	.000
	within the group	10.255	115	.089		
	total	12.250	119			

***P < 0.001, **P < 0.01 *P < 0.05

From the table, it was found that the perception of stroke warning signs among hypertensive patients with different occupations had the perception of stroke warning signs. Numbness and muscle weakness Confusion, slurred speech

Severe headache and total, there was a statistically significant difference at the .001 level, for blurred vision, amblyopia and stupor. The dizziness was statistically different at the .01 level.

Table 4: Relationships between perceptions of stroke warning signs in hypertensive patients, Part 1, numbness and muscle weakness, Part 2, confusion, slurred speech, Side 3, blurred vision, amblyopia. Stage 4: drowsiness and dizziness; Section 5: Severe headache and overall, with age, income and length of time suffering from hypertension by Pearson's Correlation Coefficient

Variable	Age	Income	length of time suffering from hypertension	Numbness and muscle weakness	Confusion, slurred speech,	Blurred vision	Drowsiness and dizziness	Severe headache	Total
Age	-								
Income	.621**	-							
length of time suffering from hypertension	.955**	-.592**	-						
Numbness and muscle weakness	.056	-.093	-.011	-					
Confusion, slurred speech,	.195*	-.148	.127	.949**	-				
Blurred vision	-.176	.161	-.260**	.663**	.671**	-			
Drowsiness and dizziness	.256**	-.245**	.223*	.901**	.859**	.300**	-		
Severe headache	.658**	-.338**	.622**	.292**	.425**	.411**	.254**	-	
Total	.178	-.138	.107	.973**	.957**	.734**	.855**	.489**	-

***P < 0.001, **P < 0.01 *P < 0.05

From the table it was found that Age was associated with monthly income (family), duration of hypertension, stupor, dizziness, and severe headache at the .01 level and income. Monthly (family) relationship was statistically significantly related to duration of hypertension, stupor, dizziness, and severe headache at the .01 level and duration of illness with high blood pressure at the .01 level, age was associated with confusion, slurred speech, and duration of hypertension. correlated with stupor statistically significant dizziness at the .05 level

Discussion of results

1. Recognition of Stroke Warning Signs of Hypertensive Patients with different sexes perceived Stroke Warning Signs The symptoms of dizziness and drowsiness were significantly different. Statistics at the .05 level. According to the perception theory, gender is one of the factors influencing perception. perception of things the same perception of heterosexual people may differ due to the original basis. or previous experience or ability to interpret differently (Sirirat Pan-Uthai *et al.*, 2003). The studies have shown that females have the interest in perceived risk of illness in the workplace was greater than that of males (Gilman, 1988 cited in Sanchana Champathong, 2002). Women see the value of accessing health care services. than males (Weissfeld, Kirscht, & Brock, 1990). For the researcher, women see the value of accessing health services is greater than that of males. This may be because females have fear and anxiety. more worried than male but for this research, it was found that this theory was inconsistent with that theory. This may be Because the sample is male, this group focuses on the stupor. Signs of dizziness Stroke warning more than females
2. Recognition of Stroke Warning Signs of Hypertensive Patients with different studies Recognizing Stroke Warning Signs Severe headache have different Statistically significant at the .001 level, numbness and muscle weakness. Confusion, slurred speech, blurred vision Amblyopia and total-sided differences were statistically significantly different at the .05 level. According to the perception theory, educational level is one of the factors influencing perception. Because education helps people to have Ability to think, make decisions, analyze or synthesize information well or there is a valid reason that people with higher education

- will learn or perceive better than those with lower levels of education (Jumnien Chuangchot, 1985). And education gives a person the intelligence to choose what is beneficial.
3. Recognition of Stroke Warning Signs of Hypertensive Patients with different occupations Recognize the Stroke Warning Signs Numbness and muscle weakness Confusion, slurred speech, severe headache and the total aspects were statistically different at the .001 level. As for the symptoms, blurred vision, blurred vision, and stupor There is a difference in dizziness. It was statistically significant at the .01 level. According to the theory, occupational perception was one of the factors influencing perception. If you have a career in health medical treatment, I will take good care of my health. recognize and realize The Importance of Stroke Warning Signs and protect yourself as well.

The results of the analysis of the relationship between perception of stroke alarm in hypertensive patients. numbness and muscle weakness, confusion, slurred speech, blurred vision, drowsiness, dizziness, severe headache, and overall, age, monthly income (family) and length of time spent Patients with high blood pressure found that age was related to monthly income (family)., Duration of patients with high blood pressure, drowsiness, dizziness, and headache Severely significant at the .01 level and the monthly income (family) was correlated. with the duration of the patient with high blood pressure, the stupor dizziness, headache the severity was statistically significant at the .01 level and the length of time being sick with high blood pressure correlation with blurred vision Amblyopia, severe headache was statistically significant at the .01 level. Age was associated with confusion, slurred speech, and duration of illness. High blood pressure was associated with stupor. statistically significant dizziness at the .05 level. From the results of the analysis of such correlations, according to the perception theory, age was one of the factors influencing perception. Because when they get older, learning opportunity's ability to judge able to interpret or reason better than those who are younger or have the opportunity to accumulate various experiences More than adolescents, when there is a stimulus to stimulate the perception expressed. For older people there may be differences from younger people by There may be a more accurate perception. As for the family income, if there is enough

income to be an expense Take care of your health, you will take better care of your health. And as for the duration of being sick with high blood pressure, if you are sick for a long time, you will neglect to take care of yourself.

Suggestions for applying the research results

Numbness and muscle weakness Should educate more and emphasize the patient's awareness of the importance of going to the doctor. If there is sudden weakness in the face or limbs, even if the symptoms disappear within 24 hours.

Confusion, slurred speech, should provide more knowledge and emphasize on the patient's awareness of the importance of going to the doctor. and if you have difficulty speaking Slurred speech for unknown reasons and the symptoms resolved within 24 hours, requiring immediate medical attention.

As for the symptoms of blurred vision, blurred vision, slurred speech, more knowledge should be given and emphasized on the patient's awareness of the importance of going to the doctor. which if there are symptoms of amblyopia blurred vision immediately and the symptoms disappeared within 24 hours that it was necessary to seek medical attention

The stupor dizziness, slurred speech Should educate more and emphasize the patient's awareness of the importance of going to the doctor. And if there is dizziness, dizziness, staggering suddenly and the symptoms disappear within 24 hours, it is necessary to seek medical attention.

Severe headache, slurred speech Should educate more and emphasize the patient's awareness of the importance of going to the doctor. If the headache is severe with no known cause suddenly and the symptoms are healed within 24 hours, it is necessary to seek medical attention.

Suggestions for further research

From this study, it was found that Most of the subjects were unaware of the early warning signs of a stroke that should seek medical attention. Therefore, more knowledge should be given and patients should be aware of the importance of going to the doctor. Although such alarm symptoms disappeared within 24 hours. And the sample is still too small to represent the population. Therefore, the population should be expanded. to get a larger sample and are representatives of good population groups that are more efficient, effective and reliable, for example, the perception of stroke warning signs in hypertensive patients in Nakhon Nayok Province, etc.

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