

Awareness of stroke is deficient among Lithuanian urban adults



Laura Špejeraitė, Aušra Rudinskienė
Vilnius University, Faculty of Medicine, LT-01122, Vilnius



Introduction

Diseases of circulatory system are the principle cause of deaths in European countries. As Lithuania takes top positions of this unfavorable statistics for several years, we purposed to investigate public awareness of stroke warning signs and response to stroke onset. During 2013th in Lithuania more than 56.3% of deaths happen due to circulatory diseases. The majority of (86.1%) who died from cardiovascular disease were 65 years old and older individuals. However, most public participants often know very little or do not fully understand about the risk factors that influence these diseases to occur. Also key symptoms of which to seek specialized medical help when the time is one of the greater survival, disability curtailment indicators.

The aim

The aim of this study was to investigate public awareness of stroke warning signs and response to stroke onset. Also to compare knowledge about stroke symptoms on the basis of differences in socio-demographic factors, personal lifestyle habits and their health.

Methods

Questionnaire, provided by investigators, about stroke symptoms, action to take and time gap for effective treatment after stroke onset was determined via close-ended questions, offering multiple right and wrong answers.

The correct answers about stroke warning signs were selected after combining data from recommendations from National Institute of Neurological Disorders and Stroke (Table 1).

Adults aged 25-65 years were surveyed at "Vilniaus Centro Poliklinika" primary health care centre during their regular doctor appointments in 2015. Additional demographic and personal medical history was collected.

A total of 490 adults were surveyed. Responses from only (n=408) participants were included into final analysis.

Data was analyzed using Statistical Package for the Social Sciences version 17.0. Demographic characteristics of the subjects and response rates to symptoms and were calculated. T-test and analysis of variance were used to examine the relationship between the demographic variables and knowledge scores of symptoms.

Fragment from the survey instrument

Stroke warning signs and symptoms	
Lack of air, dyspnea	F
Sudden loss of vision with one or both eyes	T
Weakness, nausea, vomiting	T
Pain in the arm or shoulder	F
Back pain	F
Pain in neck or jaw	F
Loss of strength in the arm or led	T
Sudden onset of head pain	T
Impaired speech	T
Chest pain	F
Loss of coordination or impaired motion	T

Table 1. Questions about stroke warning signs and symptoms sustained from 11 possible answers, with 6 correct ones. The correct answers marked as T (true), wrong answers as F (false).

Results

The average age of participants in this study was 44.09±11,9 years. The majority of participants (53.2%) were women. A total of 57.8% participants had an university degree. A total of 39.2% participants smoked at the time of interview or were ex-smokers. About 26.7% had hypertension and 6.6% had diabetes. A total of 40.2% had a family history of stroke and 39.2% had a family history of heart attack. The majority of participants (28.2%) had two CVD risk factors (Table 2 and 3).

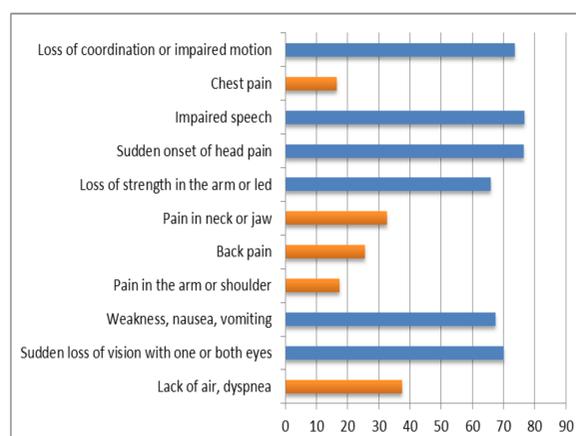
Variables	Category	n	%
Gender	Male	191	46.8
	Female	217	53.2
Age (years)	25-34	99	24.3
	35-44	113	27.7
	45-54	101	24.8
	>55	95	23.3
Education	Secondary school	28	6.9
	College	144	35.3
	University	236	57.8

Table 2. Demographic characteristics of study participants (n=408)

Variables	n	%	
Smoking	Yes	160	39.2
	No	248	60.8
Physical activity	7 times/week	32	7.8
	> 3 times/week	102	25.0
	< 3 times/week	274	67.2
Co-morbid diseases (answer duplicated)	Diabetes	27	6.6
	Hypertension	109	26.7
	Stable angina	21	5.2
	High blood cholesterol	100	24.5
	Obesity	14	3.4
	Atrial fibrillation	22	5.4
	History of heart attack or stroke	25	6.1
	Don't know because don't go for regular check-ups	74	18.1
	Believes to be healthy	129	31.6
	Family history of stroke	164	40.2
Family history of heart attach	Yes	160	39.2
	No		
Number of self reported CVD risk factor	Zero	38	9.3
	One	104	25.5
	Two	115	28.2
	Three	78	19.1
	More than three	73	17.9

Table 3. Health-related characteristics of study participants (n=408)

Respondents recognised on average 4.29 stroke symptoms of 6 possible (SD±1.12). Frequent adult knew 4 or 5 signs, but only 14% recognised all correct stroke signs. The most prevalent stroke symptom was "impaired speech" (76.72%) accompanied by "sudden acute head pain" (76.47%) (Graph. 1).



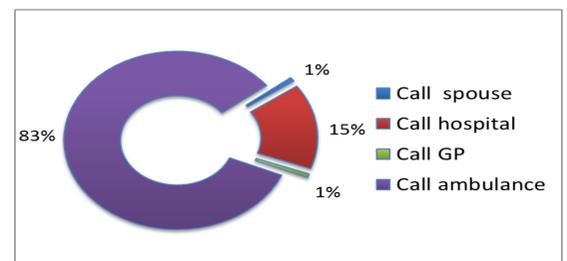
Graph. 1. Ability of survey participants to recognize stroke warning signs

Knowledge of stroke symptoms was significantly higher among men than women (p=0.006) and participants of 34-44 age group (p=0.377). No difference found by education, self-reported risk factors and smoking history (Table 4).

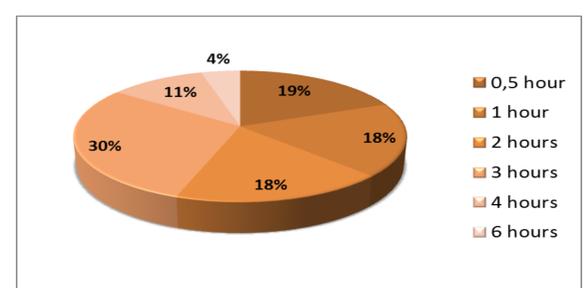
Variables	Mean (SD)	t/F	p	
Gender	Women	4.15 (1.08)		
	Men	4.45 (1.14)	-2.75	0.006
Age (years)	25-34	4.18 (1.12)		
	35-44	4.26 (1.18)		
	45-54	4.17 (1.08)		
	>55	4.57 (1.03)	2.85	0.037
Education	Secondary	3.89 (1.34)		
	College	4.29 (1.07)		
	University	4.33 (1.11)	2.00	0.137
Smoking	Yes	4.21 (1.08)		
	No	4.34 (1.14)	-1.09	0.276
Personally reported CVD risk factors	0	4.26 (1.00)		
	1	4.20 (1.16)		
	2	4.33 (1.12)		
	3	4.28 (1.08)		
	>3	4.38 (1.16)	0.35	0.847

Table 4. Comparison of knowledge of stroke warning signs by demographic variables and personally reported CVD risk factors

Barely (5,63%) participants listed the correct "three-hour time period for effective stroke treatment" and all six stroke signs. Almost all (83%) respondents would "call ambulance" at particular condition. A total of 25.4% (n=104) participants chose the right action and time gap for effective stroke treatment (Graph. 2 and 3).



Graph. 2. First action which respondents choose to take if stroke warning signs occur



Graph. 3. Time gap for effective stroke treatment chosen by study participants

Conclusions

Adequate response to stroke onset is principal component in time sensitive outcomes but it is not efficient among Lithuanian urban adults. Frequent adult know 4 or 5 stroke symptoms, what determines the average level of knowledge. There is a great necessity for stroke managing programmes such as mass media or role of primary care providers to be strengthened.

References

- Mosca L., Hammond G., Mochari-Greenberger H., Towfighi A., Albert M.A. Heart Disease and Stroke Statistics—2014 Update. A Report From the American Heart Association. Circulation. 2013;127:1254-1263.
- Jauch E. C., Saver J. L., Adams H. P., Bruno A., Connors J.J., Demaerschalk H. P et al. Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association and American Stroke Association. Stroke 2013;44:870-947.
- Herlitz J., WireklintSundström B., Bang A., Berglund A., Svensson L., Blomstrand Ch. Early identification and delay to treatment in myocardial infarction and stroke: differences and similarities. Scandinavian J of Trauma, Resuscitation and Emergency Medicine 2010;18:48.
- Kim S. Y., Park S., Bae H.-J., Cho A.-H., Cho Y.-J., Han M.-K et al. Stroke awareness decrease prehospital delay after acute ischemic stroke in Korea. BMC Neurology 2011; 11: 2. [