Influence of encountering a heart attack or stroke to the knowledge of cardiovascular disease

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Introduction

Cardiovascular diseases annually cause up to 4 million deaths in Europe, which is approximately 47% deaths when compared to other causes. Especially high mortality rates predominate in Central and Eastern Europe, including Lithuania. Most of the people of working age are unable to identify acute cardiovascular disease symptoms. Due to life expectancy growth, heart attack, stroke and other cardiovascular pathologies became the leading ones in comparison to other illnesses. High mortality rates, complications and long distance disability influences national, economic and social development.

For the past decade, various campaigns and preventive programmes are being held all over the world in order to educate people about cardiovascular disease risk factors, primary warning signs and urgent actions to take. Meanwhile Lithuania itself makes its first steps towards intense public education in cardiovascular diseases.

Purpose

The goal of this study was to determine whether encountering a heart attack or stroke influences the knowledge of these acute cardiovascular disease complications among urban Lithuanian adults.

Methods

▪ Questionnaire, provided by investigators, and offering multiple close-ended right and wrong answers about cardiovascular risk factors and heart attack warning signs was used

▪ The correct answers about cardiovascular disease risk factors and heart attack warning signs were selected after combining data from *European cardiovascular disease prevention recommendations of 2012, World Health Organisation and American Heart Association heart attack and stroke statistics of 2014* (*Table1, Table 2*).

Fragment from the survey instrument

Cardiovascular disease risk factors	
1. Diet rich in bad fats	T
2. Diet rich in carbs	F
3. Blood pressure >150/90mmHg	T
4. Blood pressure <135/80mmHg	F
5. Diabetes mellitus	T
6. Impaired working-rest mode	T
7. Stress, tention	T
8. Smoking	T
9. Male gender	T
10. Female gender	F
11. Full moon	F
12. Physical inactivity	T
13. Overweight and obesity	T
14. Hormonal contraceptives	T

Heart attack warning sigs	
1. Lack of air, dyspnea	T
2. Sudden loss of vision with one or both eyes	F
3. Weakness, nausea, vomiting	T
4. Pain in the arm or shoulder	T
5. Back pain	T
6. Pain in the neck or jaw	T
7. Loss of strengh in the arm or leg	F
8. Sudden onset of head pain	F
9. Impaired speech	F
10. Chest pain	T
11. Loss of coordination or impaired motion	F

Table 2. Question about heart attack 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).

Table 1. Question about cardiovascular disease risk factors sustained from 14 possible answers with 10 correct ones. The correct answers marked as T (true), wrong answers as F (false).

▪ Data was collected at „Vilniaus Centro Poliklinika" primary health care center between January and October in 2015 during routine doctor visits.

▪ A total of 490 adults (aged 25-65 years) were surveyed.

▪ Responses from only (n=408) participants were included into final analysis

▪ The knowledge levels were compared between **control group** and the following three:

• heart attack or stroke survivors;

• those who have heart attack victims among family members or close friends;

• those having stroke victims in their close surroundings. *(Graph 1)*
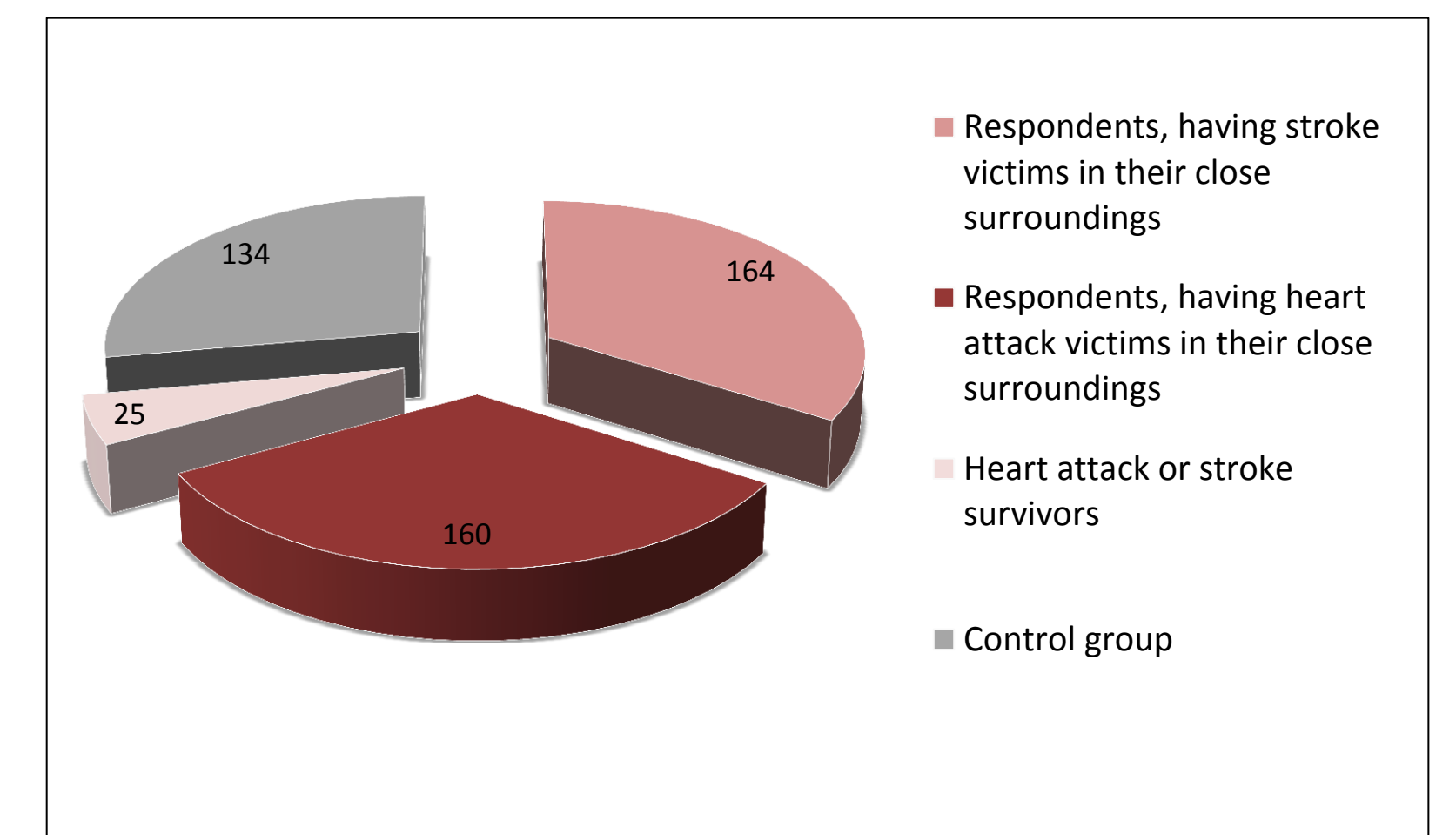
Graph 1. Distribution of survey participants between comparative groups.

Results

The main age was 44,09±11,9 and (53,2%) were women.

▪ The ability to select correct cardiovascular disease risk factors, heart attack and stroke warning signs among comparative groups slightly differs *(Graphs 2, 3 and 4).*

▪ Those whose family members and close friends suffered from stroke had better knowledge of stroke warning signs (p<0,001) and cardiovascular disease risk factors (p=0,02), whereas those who had heart attack victims among close aquaintances, were significantly better in recognising only heart attack warningsigns (p<0,001) *(Table 3).*

▪ Adults, who underwent heart attack or stroke personally, were more familiar only with cardiovascular disease risk factors (p=0,015), but knowledge level about heart attack or stroke warning signs had no difference in comparison to control group *(Table 3).*
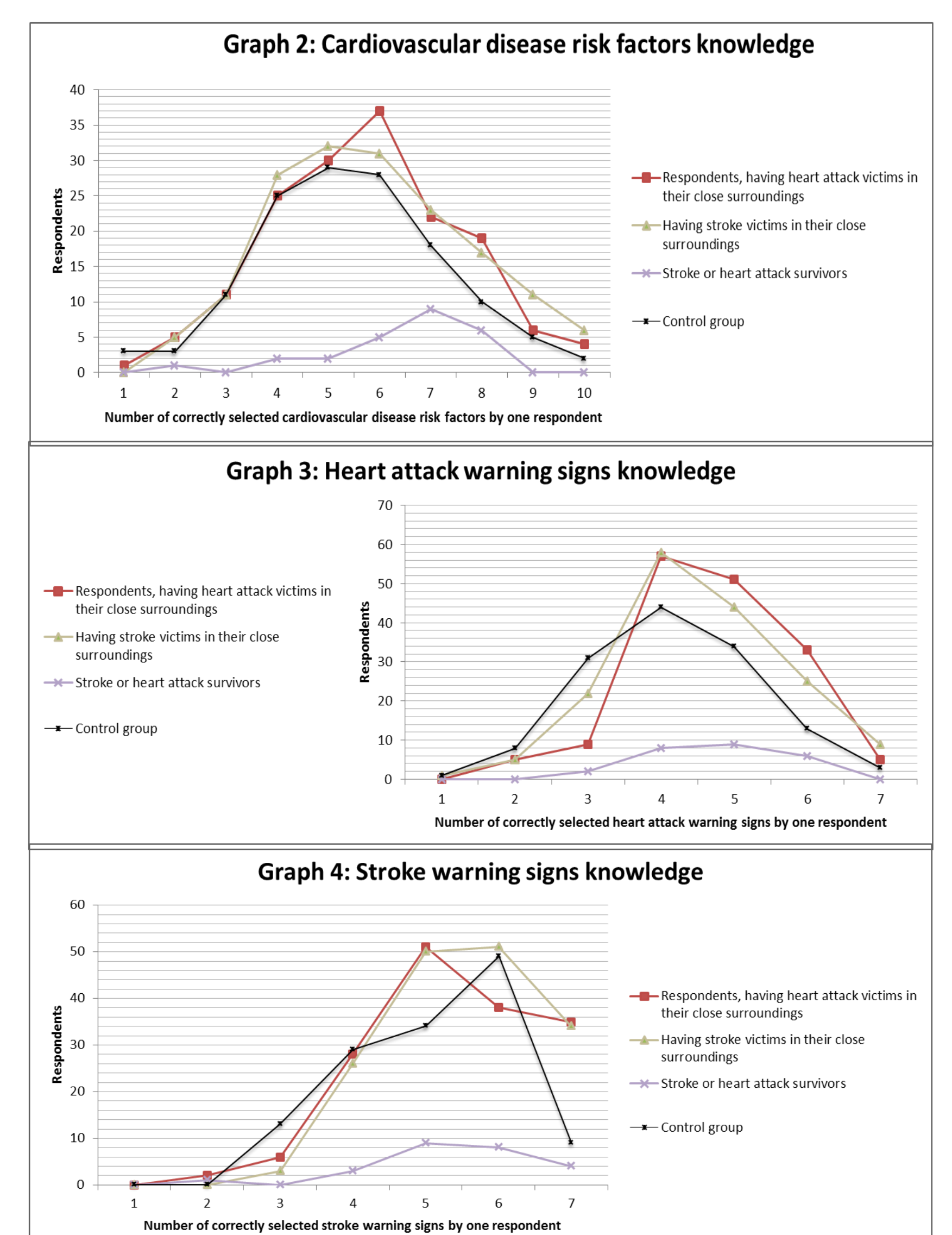
Graphs 2, 3, 4: Correctly selected cardiovascular disease risk factors, heart attack and stroke warning signs by one respondent among comparative groups.

	Knowledge about CVD risk factors			Knowledge about heart attack symtoms			Knowledge about stroke sympms		
	Mean (SD)	t/F	p	Mean (SD)	t/F	p	Mean (SD)	t/F	p
Heart attack or stroke survivors	6.44 (1.50)	2,438	0,015	3.76 (0.92)	1,351	0,177	4.4 (1.15)	0,487	0,626
Control group	5.53 (1.82)			3.44 (1.16)			4.29 (1.11)		
Have heart attack victims in their close surroundings	5.72 (1.83)	1,224	0,222	3.70 (1.05)	3,537	<0,001	4.38 (1.18)	1,354	0,177
Control group	5.5 (1.79)			3.29 (1.18)			4.23 (1.07)		
Have stroke victims in their close surroundings	5.83 (1.92)	2,268	0,024	3.52 (1.19)	0,948	0,343	4.53 (1.04)	3,544	<0,001
Control group	5.42 (1.71)			3.41 (1.12)			4.13 (1.14)		

Table 3. Comparison of cardiovascular disease risk factors, heart attack warning signs and stroke warning signs knowledge among three different groups: heart attack or stroke survivors, ones having heart attack victims in their close surroundings and ones, who have stroke victims among close aquaintances, each compared with control group (CVD- cardiovascular disease).

Conclusion

The knowledge among heart attack and stroke survivors about these acute complications is poorer than expected. In that case, low interest on one's personal health could not be dismissed.

Since heart attack and stroke survivors usually are elderly people, having limited educative facilities primary health care providers should be concerned about transfering repeated health-protecting messages to their high risk cardiovascular patients. Knowledge improvement to the recognition of heart attack and stroke signs will lead to earlier presentation for medical care may result in better patient outcomes in high risk patients.

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