AWARENESS OF STROKE, KNOWLEDGE OF STROKE RISK FACTORS AND THEIR PREVALENCE AMONG THE POPULATION OF 18+ IN THE SOUTHWESTERN REGION OF NORTH MACEDONIA

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Abstract

Reduction of the risk of stroke and increase in the speed of hospital presentation after the onset of stroke, depends on the level of knowledge about stroke among general population.

The aim was to assess community knowledge of stroke symptoms and risk factors, information resources, as well as self-reported prevalence of established risk factors among 18 + population.

Cross-sectional study was conducted by members of the Association for fight against stroke- "Mozocen Udar Ohrid" through face to face and telephone interviews in the period from March 2019 to April 2021. In total, there were 576 respondents older than 18, residents of Southwest region of our country. 48% of them were up to 49 years, 52 % were older than 50 years.

The most reconaised stroke risk factors were: hypertension (38%), smoking (17%), stress (15%) and lipids (13%). 44% of the respondents did not mention any stroke risk factor. 46% of the respondents did not know how to recognize stroke. 29% of them mentioned paralysis on part of the body, 22% speech problems and 14 % face paralysis.

Main source of information for stroke is internet, mentioned by 42%.

42 % stated that they had hypertension, 33% stated high level of triglycerides, 25% stated that they had 1-6 drinks per week, 20% stated that they were inactive in the previous week.

A community-based education program to increase public knowledge of stroke should be considred; Internet and TV are powerful tools for raising awareness.

Key words: stroke, risk factors, public knowledge

Introductuion

Stroke is the third most common cause of death and the leading cause of long-term disability. It places great demands on family members and caregivers. Stroke is an enormous financial burden not only for the families of patients but also for society as a whole.

The rate of new strokes and stroke deaths, when adjusting for age, has decreased over the last two decades in all European countries.

Decreasing rates of new strokes are generally attributed to successful prevention strategies, e.g. hypertension control and smoking cessation. On average, improvements have been larger in Western European countries – increasing the already existing difference between East and West [1,14,16].

Stroke is preventable, but public knowledge about the risk factors for stroke is low.The proportion of the population with one or more risk factors for stroke is significant. High blood pressure, the most important risk factor for stroke, is significantly under-treated [15].

The proportion of people with known high blood pressure who achieve adequate blood pressure control is well below half. Atrial fibrillation, another important risk factor, is often not diagnosed until after a stroke event, or not treated according to widely available national, evidence-based guidelines.

Speedy access to acute medical services, particularly thrombolysis, is an important predictor of stroke outcome. Rapid access to services requires understanding of the warning signs for stroke [11]. Knowledge of risk factors and warning signs in the general population have consistently been found to be poor, with knowledge levels poorest in groups that have the highest risk of stroke, e.g., those aged over 75 [2,3].

Even among those aware that they have a risk factor for stroke, knowledge of stroke warning signs has been found to be not greater than for those without risk factors [3,4].

Methods & Material

The Association for fight against stroke- "Mozocen Udar Ohrid", from Ohrid, was established with a goal to assist in improving the public awareness and knowledge of stroke. With that aim, the Association has conducted this cross- sectional, epidemiological study.

The study population was defined as all residents in southwestern parts of Northern Macedonia (municipality of Ohrid, Struga, Debar and Kicevo and smaller municipalities that gravitate around them), older than 18years (18+).

This population is multietnical and is a representative sample of the population that inhabits the western and northern parts of the country, as well. The total sample included 576 respondents.

Representative of the Association made a plan for organization of lectures in different municipalities in Southwest region. The core team of the Association engaged a team of two doctors, two medical nurses and a driver in order to collect all the necessary data.

Different events were organized with lectures where the core team administered questionnaires to participants. After the start of pandemic, the team began collecting data via telephone and online questionnaires. Face to face interviews were conducted in the period from March 2019 to March 2020, while telephone and online interviews were collected in the period from March 2020 to April 2021. Random-digit selection of telephone numbers and random-respondent selection within a household were used.

The survey instrument consisted of 21 questions divided into 3 sections. The first section contained open-ended questions designed to challenge respondents to spontaneously demonstrate their knowledge.

Respondents were asked to name up to 3 stroke warning signs, then 3 stroke risk factors, and finally 3 sources of information about stroke. Those listing fewer than 3 were encouraged to complete the list. The second section contained questions designed to assess the prevalence of stroke risk factors.

The third section contained questions regarding demographics.

All the collected questionnaires were manually entered into SPSS database, and the logical check was carried out. Once entered into SPSS necessary statistical data analyses were performed, including cross-tabulations by gender, area and age group.

Results

Stroke Research - Part 1
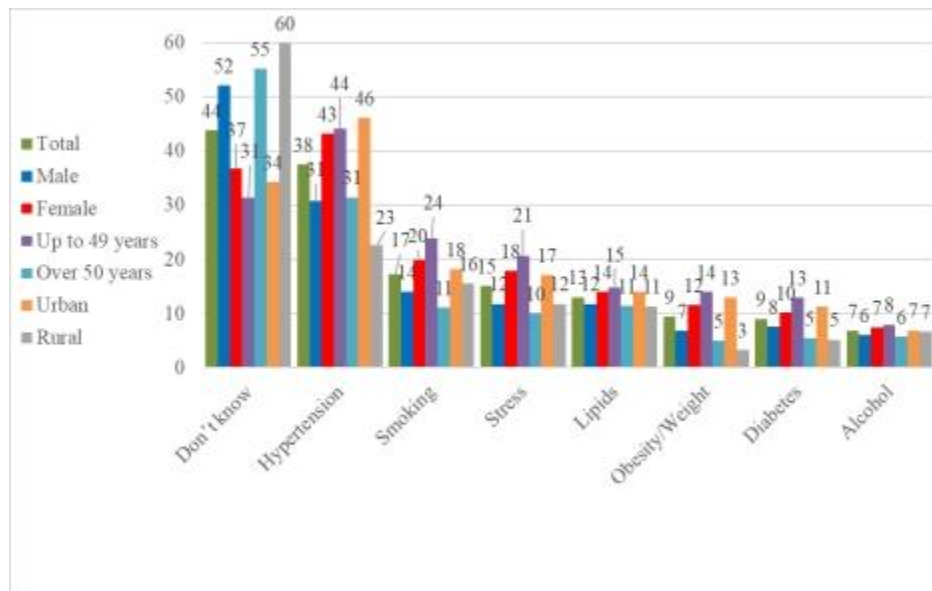
Graph 1. Are you familiar with factors for stroke? If yes, please name those you know?

Results from graph 1 show that respondents mostly named hypertension (38%) as stoke risk factor, followed by smoking (17%), stress (15%) and lipids (13%). Worth noting is that 44% of the respondents did not mention any stroke risk factor. Bigger percentage of the respondents that did not mention any stroke risk, according to the data, was in the goup older than 50, male and residing in rural areas.
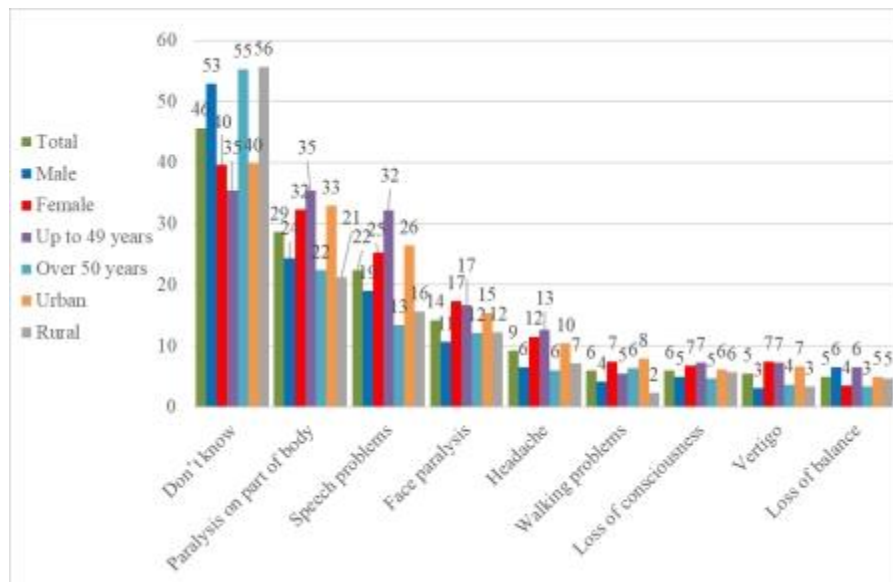
Graph 2. Do you know how to recognize stroke? If yes, according to which signs/symptoms?

Graph 2 shows that less than half of the respondents (46%) do not know how to recognize stroke. Those who mentioned any sign/symptom, mentioned: paralysis on part of the body (29%), speech problems (22%) and face paralysis (14%).

Main source of information for stroke is Internet mentioned by 42% of the respondents. After Internet, respondents mentioned TV (37%), doctors (28%), books (8%) and radio (5%). There were 18% of respondents who did not provide answer on source of information for stroke.

According to respondents, 5% of them had stroke. Highest percentage of respondents who had stroke was among respondents over 50 years (8%) and among males (8%).

Bigger percentage of the respondents that did not know how to recognize stroke, according to the data, was in the goup older than 50, male and residing in rurral areas.

Self reported Stroke Factors – Part 2

- 2 % had level of cholesterol above 7.2 mmol/L.
- .33% had above 1.7 mmol/L, level of triglycerides,
- 42 % of the respondents said they had hypertension, 8 % of them had systolic blood pressure over 160 mmHg.
- 61% declared that they had never smoked
- 25% responedents stated that they had 1-6 drinks per week
- 20% stated that they were inactive in the previous week
- 17% had diabetes
- 15 % of them had congestive heart failure
- 9 % said they had ischemic heart disease
- 15 % had atrial fibrillation
- 3% stated that they were always critical of others and 21 % were often critical of others
- 4% stated that they always cried easily and 13 % often cried easily
- 3% stated that they were always fearful and 14 % were often fearful
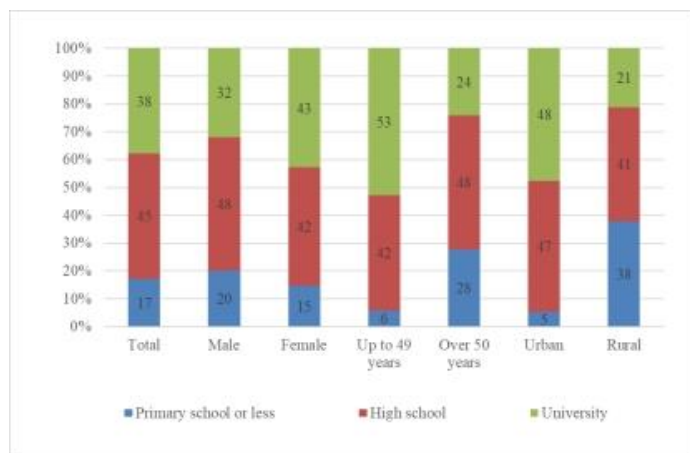
Graph 3. Demographic data of the respondents

There were 46% males and 54 % females in the sample. Regarding age, 48% of the respondents were up to 49 years, while 52 % were over 50 years of age. 63 % of the respondents lived in urban areas compared to 37% who lived in rural areas.

According to the Stroke calculator (a personalized stroke risk assessment tool for the general population) (5), results showed that more than half of the respondents (57%) were in low risk group, while one third (32%) of them had moderate stroke risk. 9% of the respondents had high risk and only 1 % of them had very high stroke risk. 2 % of males, respondents in rural areas and respondents aged over 50 years had very high stroke risk.

Discussion

Study results show modest knowledge of stroke and stroke risc factors. Lack of knowledge has been presented by the group of respondents with the highest risk of stroke [2]. Internet and TV have been pointed as very powerfull tool for information and therefore they should be used for improving public education about stroke [17].

Public education and better preventive strategies would have a positve impact of stroke outcome [1].

Results show that highest risk for stroke have male respondents in rural areas and respondents aged over 50 years. In general, stroke is a disease of aging. The incidence of stroke increases with age, with the incidence doubling for each decade after 55 years of age [8,16].

Acording to the study results, respondents older than 50 years self reported that: 23% had atrial fibrillation, 35% waist size over 100 cm, 29% diabetes, 14 % systolic blood pressure above 160 mmHg, 41 %   level of triglycerides above 1.7 mmol/L.

Another fact is that drinking habits, smoking, stress and inactivity have been recognaised as age-independent stroke risk factors. They are also modifiable behavioral risk factors.

So, education for healthy lifestyle is needed. Diabetes, hypertension, dyslipidemia and atrial fibrillation are important stroke risk factors and have been recognised as modifiable medical conditions. Intervention strategies aimed at reducing these factors can subsequently reduce the risk of stroke. Early identification and modification of risk factors is imperative [8,16].

Conclusion

Awareness of stroke and knowledge in the population in south west parts of N Macedonia did not differ compared to data from population studies in Europe [2, 4, 6, 7, 10, 12, 13]. A community-based education program to increase public knowledge of stroke should be considred; Internet and TV are powerful tools .

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