

Relationship Between Stroke Risk Factors Knowledge and Lifestyle Behavior Compatibility in Medical School Students

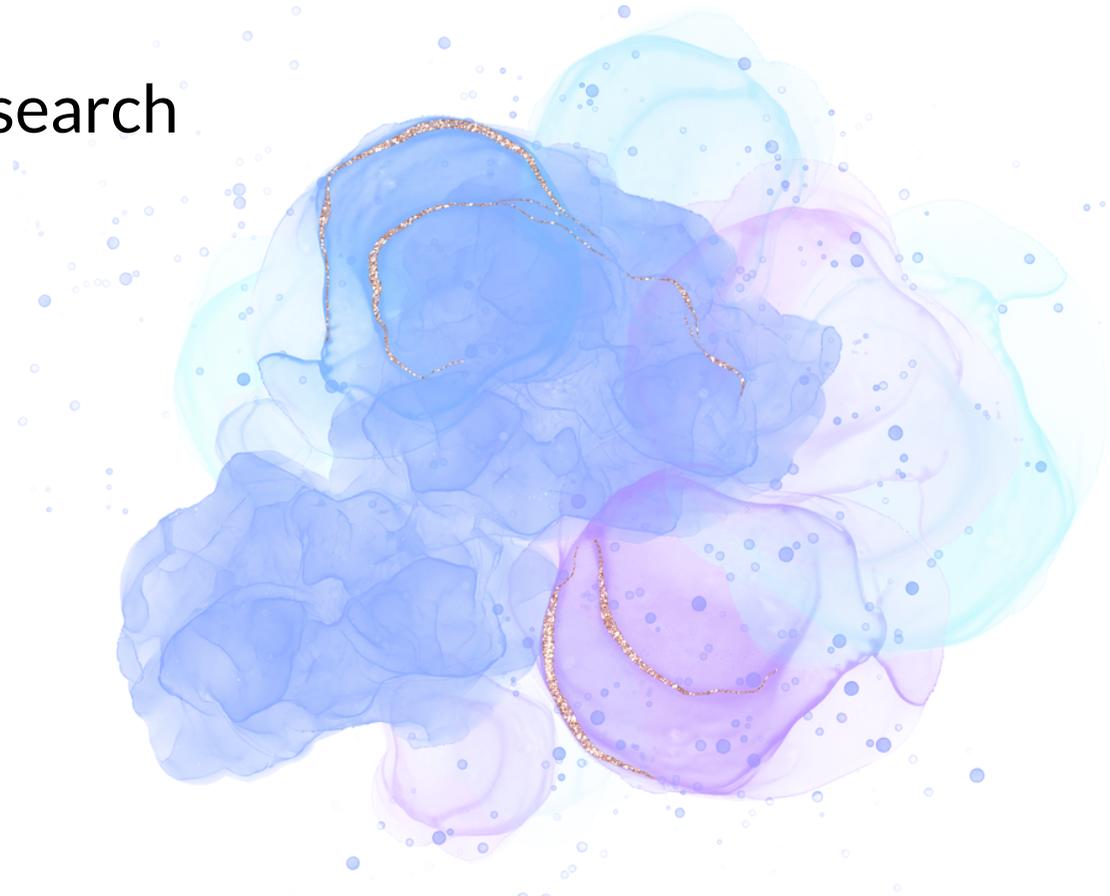
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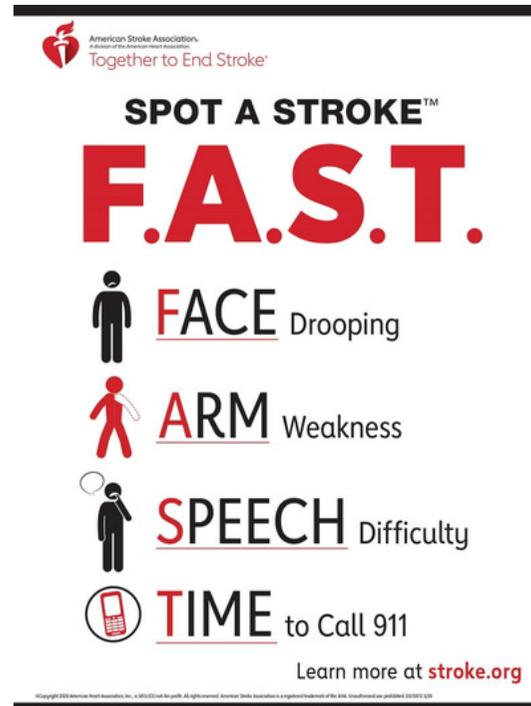
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Introduction

- Stroke is the second leading cause of death and the third leading cause of disability [1].
- In 1970, the World Health Organization defined stroke as ‘rapidly developed clinical signs of focal (or global) disturbance of cerebral function, lasting more than 24 hours or leading to death, with no apparent cause other than of vascular origin’ [2].

Stroke Signs: “FAST”



Importance of Stroke and Risk Factors

- Stroke is an important public health problem that causes high mortality, morbidity and treatment costs.
- Knowing the risk factors in the prevention of the disease is important for the development of preventive methods [3].
- Inadequately informed patients are less likely to follow medical advice and more likely to have worse outcomes [4].



Importance of Stroke and Risk Factors

- Stroke has many risk factors.
 - Innate biological characteristics such as age and gender,
 - physiological characteristics such as high blood pressure, cholesterol, fibrinogen;
 - behaviors such as smoking, diet, alcohol, physical inactivity;
 - social characteristics such as education, social class and ethnicity;
 - environmental factors that may be physical, geographical or psychosocial [5].



Literature

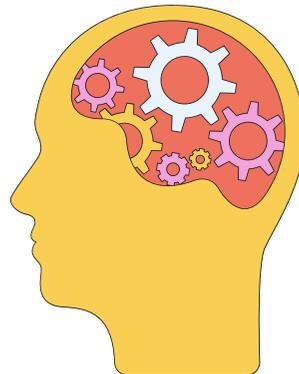
- In the stroke knowledge and approach questionnaire study conducted by Bayraktar et al. on interns and nurses, stroke symptoms were answered correctly by all interns. The rates of correct answers to the questions of first response to stroke patient, stroke patient transport information and first diagnosis / treatment approach in the stroke center were 80.9%, respectively; It was determined as 79.1% and 73.9% [6].
- Pradhan et al., conducted a study in Nepal. They found that among the students preparing for the undergraduate medical entrance exam, the knowledge about risk factors and stroke signs and symptoms was sufficient, but the knowledge about thrombolysis was insufficient. Male participants appeared to have better knowledge of risk factors, stroke warning signs and symptoms, and thrombolysis than females [7].
- Ilow et al., as a result of their study on Wroclaw University Pharmacy students; The majority of the participants stated that they do not consume enough fruits and vegetables. A daily recommended intake of less than 5 servings of these foods was reported by approximately 62% of women and 75% of men [8].
- When Porto-Arias et al examined the nutritional habits of students at the University of Santiago de Compostela, Spain; While carbohydrate intake was below the recommended 55-60%, protein and lipid intake were above the recommended, especially protein. Inadequate intake of cereals, legumes and fresh fruit has been observed [9].
- According to the results of Mahmoud et al.'s study on Medical Faculty students of two universities in Saudi Arabia and Egypt, the most common risk factor among the students examined was a sedentary lifestyle with a general prevalence of 64.7% [10].

Aim and Importance of Our Research

- While there are separate studies in the literature, as far as we know, there is no study that measures both stroke knowledge and lifestyle of medical school students.
- Our aim in our research is to measure the stroke knowledge level of medical students and to examine whether they exhibit a lifestyle related to this knowledge level.

Our questions are:

- Is there a difference in the level of knowledge between the grades?
- Is gender, which we know as a risk factor for stroke [5], also effective on the level of knowledge?
- Will lifestyle behavior be more appropriate as the level of knowledge increases?



Material and Method

- Bezmialem Vakif University Medical Faculty 1-6th grade students voluntarily participated in our study.
- We conducted 2 online questionnaires, that prepared by us in accordance with the references, that measure the stroke knowledge and the appropriateness of behaviors towards stroke risk factors.



Material and Method

1) Stroke General Knowledge Questionnaire:

- It includes questions on stroke term knowledge, general information about stroke, stroke warning signs and symptoms, stroke risk factors, and stroke treatment.
- We combined questions from different surveys [7, 11-15] that were previously used to measure the community stroke knowledge.
- There are 16 closed-ended questions in this survey. If the participant chooses the correct answer, they get 1 point, and if they choose the wrong answer or "I don't know", they get no points.
- The total point value of this questionnaire is 16 points.

Material and Method

2) Lifestyle Behavior Compatibility by Stroke Risk Factors Questionnaire:

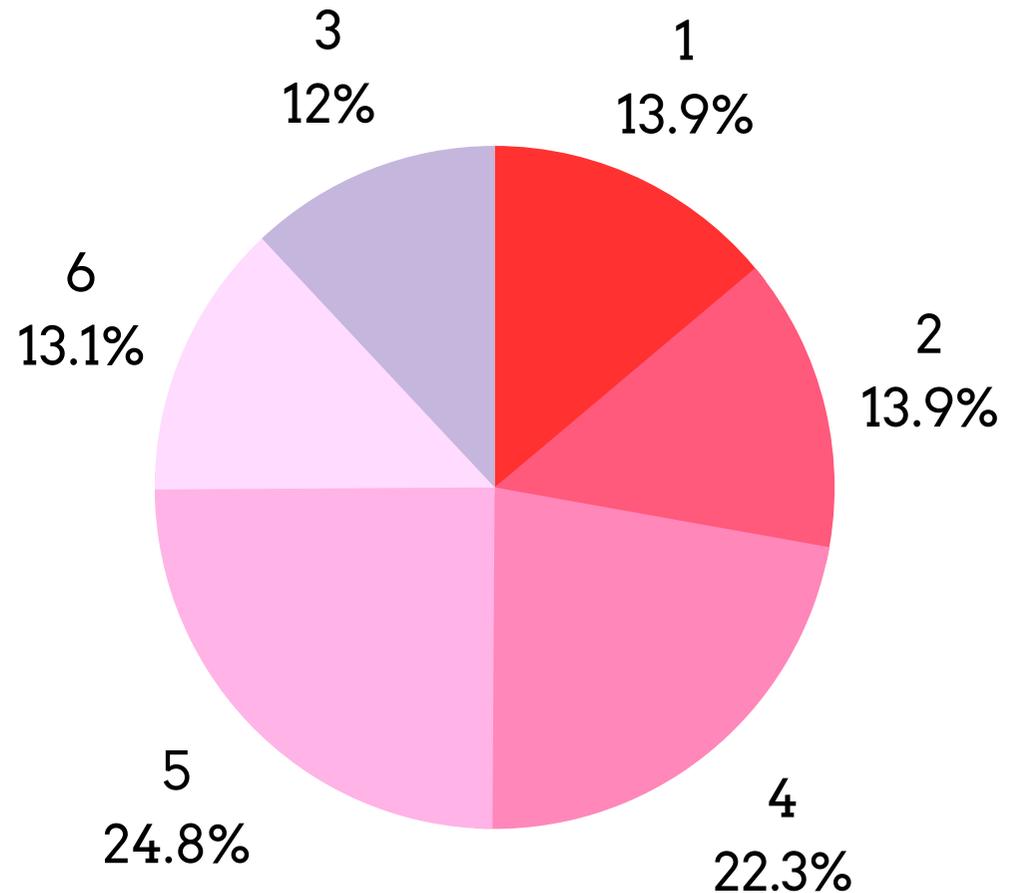
- The relationship between the participants' behaviors and risk factors will be determined by Physical Activity, Diet, Smoking Status Salt and Sugar Consumption with a total of 12 points.
- This questionnaire has been prepared with reference to American Heart Association (AHA) [16], Turkey Dietary Guidelines (which prepared by Ministry of Health) [17] and World Health Organization (WHO) [1].

Material and Method

- As a result of the study,
 - the scores of the participants from the knowledge survey and the scores they got from the behavior survey will be individually compared.
 - The relationship between the awareness of the stroke risk factors and the appropriateness of lifestyle status in line with the awareness will be questioned.

Results

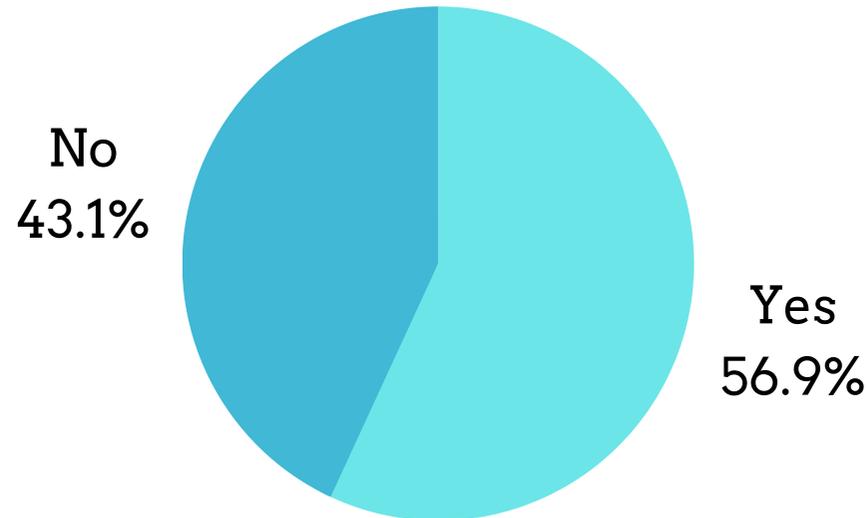
- A total of 274 students (174 women, 100 men) participated in the study.
 - 1st grade: 38 people
 - 2nd grade: 38 people
 - 3rd grade: 33 people
 - 4th grade: 61 people
 - 5th grade: 68 people
 - 6th grade: 36 people



Results

- The median of general knowledge level (GKL) of those who received information about stroke (n=156, %56,9) [14.0(6.0-16.0)] was significantly higher than those who did not [12(0.0-16.0)] (p<0.001).

Have you received information about stroke before?



Stroke General Knowledge Questionnaire- 16 points

Questions	Right (%)	Wrong (%)	Not Known (%)
If you've heard of stroke before, how would you define the term stroke?	246 (89,8)	8 (2,9)	20 (7,3)
Is stroke a preventable disease?	208 (76,0)	11 (4,0)	55 (20,0)
Is stroke a disease that only affects people over the age of 60?	264 (96,4)	4 (1,4)	6 (2,2)
Is a patient more likely to have a stroke after having a stroke once?	231(84,3)	4 (1,4)	39 (14,3)
Is headache a warning sign or symptom of stroke?	224 (81,7)	9 (3,3)	41 (15,0)
Is difficulty breathing a warning sign or symptom of stroke?	39 (14,3)	162 (59,1)	73 (26,6)
Is limb weakness a warning sign or symptom of stroke?	236 (86,1)	3 (1,1)	35 (12,8)
Is visual impairment a warning sign or symptom of stroke?	227 (82,8)	6 (2,2)	41 (15,0)

Stroke General Knowledge Questionnaire- 16 points

Questions	Right (%)	Wrong (%)	Not Known (%)
Is smoking a risk factor for stroke?	261 (95,2)	1 (0,4)	12 (4,3)
Is low blood pressure a risk factor for stroke?	121 (44,1)	73 (26,6)	80 (29,3)
Is regular physical exercise a risk factor for stroke?	238 (86,8)	21 (7,6)	15 (5,8)
Is abnormal heart rhythm a risk factor for stroke?	242 (88,3)	7 (2,5)	25 (9,1)
Is obesity a risk factor for stroke?	258 (94,1)	2 (0,7)	14 (5,2)
Is stroke a curable disease?	175 (63,8)	25 (9,1)	74 (27,1)
Does loss of movement and/or sensation after stroke improve with medication only?	160 (58,3)	30 (10,9)	84 (30,8)
Should stroke patients have their blood pressure checked regularly?	252 (91,9)	0 (0,0)	22 (8,1)

Results of this Questionnaire

When the median of general knowledge level (GKL) was compared between grades;

- The GKL of fourth [14.0(7.0-15.0)], fifth [14.0(7.0-16.0)] and sixth [15.0(13.0-16.0)] grades was found superior to the first [11.0(0.0-15.0)] and second [12.0(0.0-14.0)] grades.
- The GKL of 5th and 6th grades was higher than the third [12.0(2.0-16.0)] graders.
- The GKL of 6th grades was higher than the 4th grades ($p \leq 0.001$).
- There was no difference in the level of knowledge between men [13.0(0.0-16.0)] and women [13.0(0.0-16.0)].

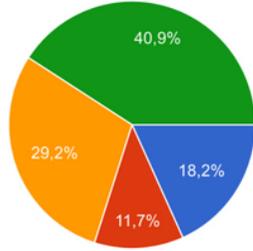
Lifestyle Behavior Compatibility by Stroke Risk Factors Questionnaire - 12p

Physical Activity

Günlük normal aktivitenizin dışında haftada kaç dakika fiziksel egzersiz/spor yaparsınız?



274 yanıt



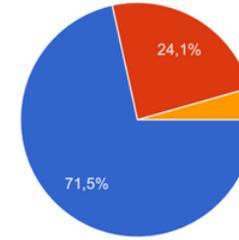
- 150 dakika veya daha fazla **2 points**
- 90 - 150 dakika arası **1 point**
- 50 - 90 dakika arası
- Hiç

Mediterranean Diet

Günde kaç porsiyon sebze yersiniz? (Bir porsiyon yaklaşık olarak bir el ayasına tekabül eder)



274 yanıt



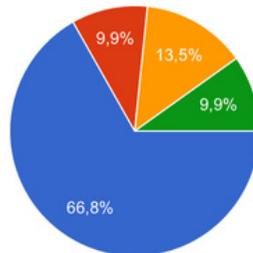
- 2 porsiyon veya daha az
- 3 porsiyon **1 point**
- 4 porsiyon veya daha fazla

Smoking Status

Sigara kullanım durumunuzu değerlendiriniz.



274 yanıt

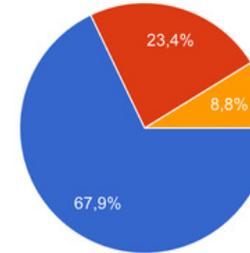


- Hiç kullanmadım **2 points**
- Eski içicim **1 point**
- Aktif içicim ancak sigarayı bırakmayı düşünüyorum
- Aktif içicim ve sigarayı bırakmayı düşünmüyorum

Günde kaç porsiyon meyve yersiniz? (Bir porsiyon yaklaşık olarak bir tam meyveye tekabül eder. Örneğin: Bir elma = 1 porsiyon)



274 yanıt

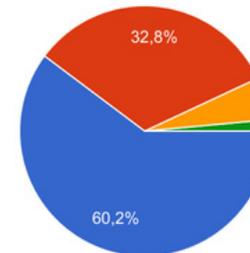


- 1 porsiyon veya hiç
- 2 porsiyon **1 point**
- 3 porsiyon veya daha fazla

Ne sıklıkla balık yersiniz?



274 yanıt



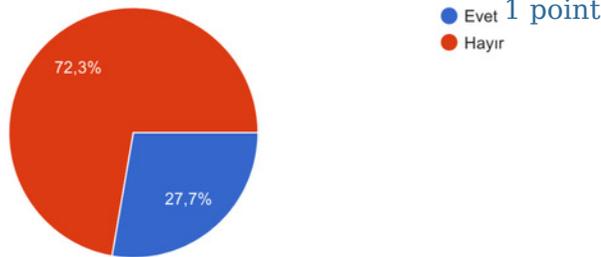
- Haftada 1 porsiyondan daha az sıklıkta
- Haftada 1 porsiyon **1 point**
- Haftada 2 porsiyon
- Haftada 2 porsiyondan daha fazla sıklıkta

Lifestyle Behavior Compatibility by Stroke Risk Factors Questionnaire - 12p

Salt Consumption

Evde yemekleriniz tuzsuz mu pişer?

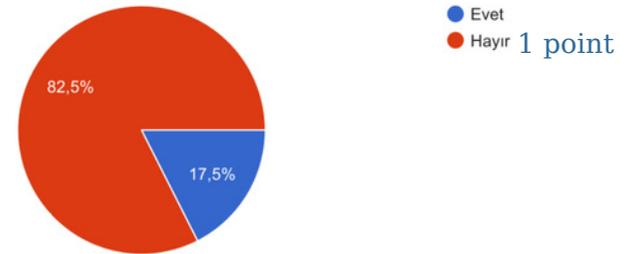
274 yanıt



Sugar Consumption

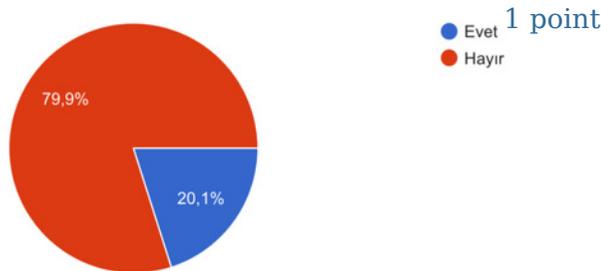
Günde 6 çay kaşığı veya 6 küp şekerden fazla şeker tüketiyor musunuz?

274 yanıt



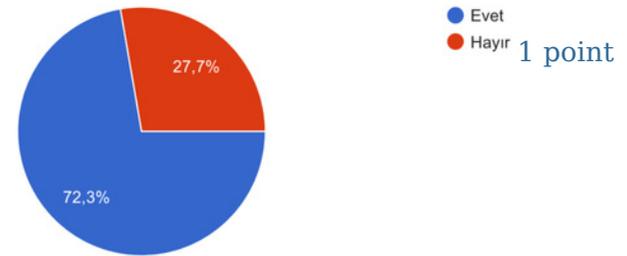
Peynir veya zeytini özellikle tuzsuz tüketmeye özen gösteriyor musunuz?

274 yanıt



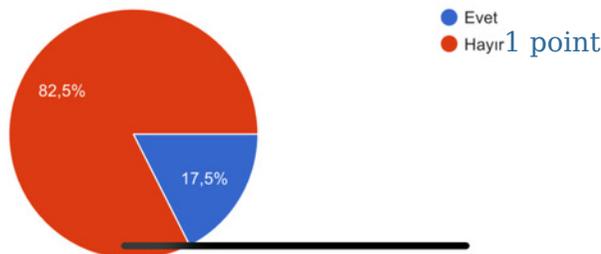
Haftada 1 porsiyon sütlü tatlıdan daha fazla tatlı tüketiyor musunuz? (Haftada 1 porsiyon şerbetli tatlı tüketiyorsanız da "Evet"i işaretleyiniz.)

274 yanıt



Tabağınıza tadına bakmadan ekstra tuz dökme alışkanlığınız var mıdır?

274 yanıt



- No significant difference was observed when Lifestyle Behavior Compliance was compared between grades. Participants generally had low scores.
- The minimum score received from the questionnaire was 0, and the maximum score was 10. (10 points achieved by only 1 participant.)
- There was no difference in the scores between men (4.9 ± 2.1) and women (4.8 ± 1.7)

	"Stroke General Knowledge" Scores	"Lifestyle Behavior Compatibility by Stroke Risk Factors" Scores
First Grade	11.0 (0.0-15.0)	5.2 ± 1.8
Second Grade	12.0 (0.0-14.0)	5.0 ± 1.6
Third Grade	12.0 (2.0-16.0)	5.1 ± 1.6
Fourth Grade	14.0 (7.0-15.0)	4.8 ± 1.9
Fifth Grade	14.0 (7.0-16.0)	4.5 ± 2.2
Sixth Grade	15.0 (13.0-16.0)	4.8 ± 1.7
P Value	<0.001	0.465
Women	13.0 (0.0-16.0)	4.8 ± 1.7
Men	13.0 (0.0-16.0)	4.9 ± 2.1
P Value	0.449	0.549

CONCLUSION

- According to the results of the study, no positive correlation was observed between the level of stroke knowledge and lifestyle behavior compliance.
- As the duration of education increases, correct information was obtained, but students could not apply it to their own lives. Besides knowing stroke risk factors, medical students need to take appropriate steps in their daily lives to avoid these risk factors.
- *Knowledge is power. But what makes us powerful is applying this knowledge.*
- KEY WORDS: stroke, knowledge, survey, medical students



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