



What Do Medical Students Know About Space Medicine?

Tıp Öğrencileri Uzay Tıbbı Hakkında Ne Biliyor?

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ABSTRACT

Aim: In medical practice, education is mainly carried out in inpatient care. There is limited attention to specific training focusing on the medical branches like space medicine. Educating medical students can assist them in becoming potential candidates or educators in space medicine, and this education could become a necessity for future generations. In the present study, we aimed to assess the medical school students in Turkey for their level of awareness in this field.

Material and Method: Our study is designed as a cross-sectional study comprising students studying medicine. Participants in different grades who agreed to fill the awareness questionnaire focusing on space medicine were included. Participants were asked to fill out a questionnaire consisting of 16 questions. The questions included in the questionnaire were asked in different forms, such as multiple-choice, open-ended questions, and questions scaled from 1 to 10.

Results: A total of 318 participants were included in the study. The mean age of the participants was 21.3±2.1 years. It was found that 42.1% of the students did not know space medicine. Similarly, 56.3% of the participating students were unaware that this specialty was among the medical fields. 60.7% of participants incorrectly answered the questions about their knowledge of the potentially encountered problems in space. It was found that 43.1% of the participants were unaware of the presence of any space agency; of those who were informed about their presence, only as few as 9.9% responded with the Turkish Space Agency. 6.6% of the participants believed that the Scientific and Technological Research Council of Turkey (TUBITAK) was Turkey's official space agency.

Conclusion: Medical faculty students have limited knowledge of space medicine, and half of them were not aware of the presence of the aerospace medicine field.

Key words: student; education; awareness; aerospace medicine; celestial

ÖZET

Amaç: Tıbbi pratikte, eğitim çoğunlukla hasta bakımıyla ilgili alanlara odaklanmıştır. Uzay tıbbı alanı gibi özelliği eğitim gerektiren alanlara gösterilen ilgi oldukça sınırlıdır. Bu konuda tıp öğrencilerine verilecek eğitim onları uzay tıbbı alanında potansiyel bir aday ve eğitici haline getirebilir ve gelecek nesiller için bu eğitim gereklilik haline gelecektir. Bu çalışmada amacımız Türkiye'deki tıp fakültesi öğrencilerinin uzay tıbbı ile ilgili farkındalıklarını araştırmaktır.

Materyal ve Metot: Çalışmamız kesitsel nitelikte olup, tıp fakültesi öğrencileri kapsamaktadır. Uzay tıbbı ile ilgili anketimize katılmayı kabul eden farklı dönemlerdeki tıp fakültesi öğrencileri çalışmaya dahil edildi. Çalışmada katılımcılara 16 sorudan oluşan bir anket düzenlendi. Anketteki sorular, çoktan seçmeli, açık uçlu ve 1'den 10'a kadar değişen puanlamaları olan farklı soru tiplerinden oluşmaktadır.

Bulgular: Toplamda 318 katılımcı çalışmaya dahil edildi. Katılımcıların yaş ortalaması 21,3±2,1 yıldır. Öğrencilerin %42,1'inin uzay tıbbı ile ilgili bir fikri olmadığı saptandı. Benzer şekilde, öğrencilerin %56,3'ü bu branşın tıp bölümleri arasında yer olduğunu bilmiyordu. Uzayda meydana gelebilecek potansiyel tehlikelerle ilgili sorulara katılımcıların %60,7'si yanlış cevap verdi. Çalışmada katılımcıların %43,1'inin herhangi bir uzay ajansını bilmedikleri, uzay ajansları ile ilgili bilgisi olanların ise sadece %9,9'nun bildiği uzay ajansı için Türkiye Uzay Ajansı cevabını verdiği saptandı. Katılımcıların %6,6'sının ise Türkiye'nin resmi uzay ajansını Türkiye Bilimsel ve Teknolojik Araştırma Kurumu (TÜBİTAK)'nu sandığı ortaya çıktı.

Sonuç: Tıp fakültesi öğrencilerinin uzay tıbbı ile ilgili bilgileri oldukça sınırlıdır ve bu öğrencilerin yarısı uzay tıbbı bölümünün varlığından haberdar değildir.

Sonuç: Tıp fakültesi öğrencilerinin uzay tıbbı ile ilgili bilgileri oldukça sınırlıdır ve bu öğrencilerin yarısı uzay tıbbı bölümünün varlığından haberdar değildir.

Anahtar kelimeler: öğrenci; eğitim; farkındalık; uzay tıbbı; gökssel

Introduction

In medical practice, education is mainly carried out in inpatient care, and medically well-equipped settings are focused on this care. There is limited attention to specific training focusing on the medical branches that entail various challenging conditions¹. One of these medical branches is space medicine. In the 1950 s, space medicine emerged as a branch of medicine to assist humanity's exploration of space². Today, there are even cardiopulmonary resuscitation guidelines regulated explicitly for the field of space medicine³. Soon,

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it will be mandatory to include medical doctors during space travels. It is, therefore, necessary to train the medical staff for this specific purpose and ensure that they are skilled in a wide range of fields, from preventive medicine to surgical intervention⁴. Educating medical students, both through training and raising awareness of this field, can assist them in becoming potential candidates or educators in space medicine. This education could become a necessity for future generations⁵.

In the present study, we aimed to assess the medical school students in Turkey for their level of awareness in this field.

Material and Method

Study Design

Our study is designed as a cross-sectional study comprising students studying medicine at Karabuk University, Faculty of Medicine. After the local ethics committee's approval (Approval no: 2021/707).

Selection of the Participants

The study population consisted of students of varying grades studying at Karabuk University, Faculty of Medicine, 2021–2022. Participants who agreed to fill the awareness questionnaire focusing on space medicine were included. Participants who did not agree to participate in the study and did not answer all the survey questions were excluded from the study.

Data Collection

Participants were asked to fill out a questionnaire consisting of 16 questions, which took approximately 3 min to complete (Appendix 1). The questions included in the questionnaire were asked in different forms, such as multiple-choice, open-ended questions, and questions scaled from 1 to 10. With this questionnaire, after asking questions about the demographic data of the students (age, gender), which class they are in, whether they have knowledge about space medicine and whether there will be a need for a physician in any way in space travel in the future, there is a question about whether they are interested in this subject or not.

Statistical Analysis

The descriptive statistics used to summarize the research data were expressed as median, minimum, and maximum values in the case of continuous (numerical) variables depending on whether they conform to the normal distribution, and as numbers and percentage values in

the case of categorical variables. Conformity of numerical variables to normal distribution was checked with the Shapiro-Wilk, Kolmogorov-Smirnov, and Anderson-Darling tests. The Kruskal-Wallis H test compared more than two independent groups in cases where the numerical variables did not conform to normal distribution.

In comparing the differences between the categorical variables by the groups, Pearson's chi-squared test was used for RxC tables with five or more expected cells, and the Fisher-Freeman-Halton Exact test was used for RxC tables with less than 5 expected cells.

Statistical analyses were conducted with "Jamovi project (2021), Jamovi (version 2.2.2.0) [Computer Software] (retrieved from <https://www.jamovi.org>) and JASP (version 0.16) (retrieved from <https://jasp-stats.org>) software. Probability (p) values of ≤ 0.05 were deemed to indicate statistical significance.

Results

A total of 318 participants were included in the study. The mean age of the medical faculty students was 21.3 ± 2.1 years. Of these participants, 133 were male, and 185 were female. Ninety-five (29.9%) of the participants were in the second-grade level, 69 (21.7%) were in the third-grade level, 48 (15.1%) were in the sixth-grade level, 43 (13.5%) were in the fifth-grade level, 39 (12.3%) were in the fourth-grade level, and 24 (7.5%) were in the first-grade level (Table 1).

As shown in Table 2, the distribution of the responses given by the study participants to the question of "Is space medicine a specialization in our country?" revealed statistically significant differences between

Table 1. Participants' demographic data and grades

	Participants (n=318)
Mean age (years)	21.3±2.1
Gender	
Male	133 (41.8)
Female	185 (58.2)
Grade Levels (3rd question)	
1 st-grade	24 (7.5)
2nd-grade	95 (29.9)
3rd-grade	69 (21.7)
4th-grade	39 (12.3)
5th-grade	43 (13.5)
6th-grade	48 (15.1)

Descriptive statistics were expressed as mean and standard deviation values in the case of numerical variables depending on whether they conform to the normal distribution and as numbers and percentage (%) values in the case of categorical variables.

the grade levels ($p=0.005$). There was no significant difference between the groups created based on the grade levels in other variables ($p>0.05$ for each variable). Participants mostly agreed with the question, “I think more medical problems would emerge in longer-term and touristic space travels.” Similarly, they mostly agreed with the question, “Would you be interested in these topics were they to be included in the curriculum of the Faculty of Medicine?” (median 8.0, interquartile range 25–75 [7.0, 10.0], median 8.0, interquartile range 25–75 [5.2, 10.0], respectively).

When asked about the topics of interest in space medicine, 265 (83.3%) students mentioned protecting the health of the crew members of the spaceship, 240 (75.5%) students mentioned finding solutions to

possible health problems, 235 (73.9%) students mentioned of recording physiological changes, 197 (61.9%) students mentioned of identifying potential problems, 177 (55.7%) students mentioned of telemedicine (remote assistance) options, and 101 (31.8%) students mentioned of non-human biological studies (Table 3). As shown in Table 4, when given four different factors that possibly affect the human physiology during space travel, 307 (96.5%) students stated that they think “loss of gravity” is one of the factors that would affect human physiology during space travel, 243 (76.4%) students said that they think “radiation” is one of the factors that would affect human physiology during space travel, 193 (60.7%) students stated that they think “photons” is one of the factors that would affect human physiology

Table 2. Questions about space medicine-part-1

	Total (n=318)	1st grade (n=24)	2nd grade (n=95)	3rd grade (n=69)	4th grade (n=39)	5th grade (n=43)	6th grade (n=48)	p
Have you ever heard of space medicine? (4th question)								
No	134 (42.1)	13 (54.2)	40 (42.1)	35 (50.7)	12 (30.8)	20 (46.5)	14 (29.2)	0.100*
Yes ▽	184 (57.9)	11 (45.8)	55 (57.9)	34 (49.3)	27 (69.2)	23 (53.5)	34 (70.8)	
through social media or the internet	136 (73.9)	9 (81.8)	39 (70.9)	27 (79.4)	15 (55.6)	18 (78.3)	28 (82.4)	0.429*
through academia/university	33 (17.9)	2 (18.2)	10 (18.2)	5 (14.7)	10 (37.0)	3 (13.0)	3 (8.8)	
through books	15 (8.2)	0 (0.0)	6 (10.9)	2 (5.9)	2 (7.4)	2 (8.7)	3 (8.8)	
Is space medicine a medical specialty in our country? (5th question)								
Yes	65 (20.4)	1 (4.2)	18 (18.9)	7 (10.1)	10 (25.6)	10 (23.3)	19 (39.6)	0.005*
No	74 (23.3)	6 (25.0)	23 (24.2)	20 (29.0)	12 (30.8)	8 (18.6)	5 (10.4)	
I have no idea	179 (56.3)	17 (70.8)	54 (56.8)	42 (60.9)	17 (43.6)	25 (58.1)	24 (50.0)	
At what altitude does space start? (6th question)								
50 km	19 (6)	0 (0.0)	6 (6.3)	6 (8.7)	1 (2.6)	1 (2.3)	5 (10.4)	0.071*
100 km (correct answer)	120 (37.7)	8 (33.3)	42 (44.2)	23 (33.3)	13 (33.3)	16 (37.2)	18 (37.5)	
150 km	51 (16)	2 (8.3)	19 (20.0)	15 (21.7)	6 (15.4)	3 (7.0)	6 (12.5)	
200 km	67 (21.1)	3 (12.5)	18 (18.9)	13 (18.8)	9 (23.1)	15 (34.9)	9 (18.8)	
250 km	61 (19.2)	11 (45.8)	10 (10.5)	12 (17.4)	10 (25.6)	8 (18.6)	10 (20.8)	
Do you think there will be a need for a doctor during space travels in the future? (10th question)								
Yes	279 (87.7)	21 (87.5)	84 (88.4)	64 (92.8)	32 (82.1)	36 (83.7)	42 (87.5)	0.438*
No	8 (2.5)	0 (0.0)	3 (3.2)	1 (1.4)	0 (0.0)	1 (2.3)	3 (6.2)	
Doctors will soon be replaced by artificial intelligence.	31 (9.7)	3 (12.5)	8 (8.4)	4 (5.8)	7 (17.9)	6 (14.0)	3 (6.2)	
Do you think there will be changes in the mechanism and duration of action or efficacy of medications during their use in space? (11th question)								
Yes	257 (80.8)	22 (91.7)	81 (85.3)	55 (79.7)	31 (79.5)	33 (76.7)	35 (72.9)	0.450*
No	14 (4.4)	0 (0.0)	3 (3.2)	2 (2.9)	3 (7.7)	1 (2.3)	5 (10.4)	
I have no idea	47 (14.8)	2 (8.3)	11 (11.6)	12 (17.4)	5 (12.8)	9 (20.9)	8 (16.7)	
Is it possible to get a bacterial, viral, or fungal infection in space? (12th question)								
Yes	191 (60.1)	17 (70.8)	54 (56.8)	38 (55.1)	28 (71.8)	24 (55.8)	30 (62.5)	0.760*
No	43 (13.5)	4 (16.7)	13 (13.7)	11 (15.9)	3 (7.7)	6 (14.0)	6 (12.5)	
I have no idea	84 (26.4)	3 (12.5)	28 (29.5)	20 (29.0)	8 (20.5)	13 (30.2)	12 (25.0)	
I think more medical problems would emerge in longer-term and touristic space travels (13th question)	8.0 [7.0, 10.0]	8.0 [7.0, 9.2]	8.0 [7.0, 9.5]	8.0 [7.0, 10.0]	8.0 [7.0, 9.0]	9.0 [7.0, 10.0]	9.0 [7.0, 10.0]	0.423**
Would you be interested in these topics were they to be included in the curriculum of the Faculty of Medicine? (15th question)	8.0 [5.2, 10.0]	7.5 [5.8, 10.0]	9.0 [6.0, 10.0]	8.0 [6.0, 10.0]	8.0 [5.0, 9.0]	8.0 [5.5, 10.0]	8.0 [5.0, 10.0]	0.331**

Descriptive statistics were expressed as mean and standard deviation values in the case of numerical variables depending on whether they conform to the normal distribution and as numbers and percentage (%) values in the case of categorical variables.

* Pearson's chi-squared test or Fisher-Freeman-Halton test was used.

** Kruskal-Wallis H test was used.

during space travel, and 193 (% 60.7) students said that they think “strong nuclear force” is one of the factors that would affect human physiology during space travel.

Question about the health problems that develop in those returning from space, 240 (75.5%), 272 (85.5%), 221 (69.5%), 177 (55.7%), and 97 (30.5%) students responded that they think low blood pressure, muscle wasting, reduction in body mass, radiation-induced diarrhea, and sunstroke, respectively, are the health problems that develop in those returning from space (Table 5). Regarding the medical specialties related to space medicine, 83.6%, 63.2%, 62.6%, and 58.5% of the students responded that they think physiology, emergency medicine, internal medicine, and pathology are related to space medicine (Table 6).

As shown in Table 7, when asked whether they knew of any space research institute, 181 (56.9%) students gave a positive answer. In this context, 151 (83.4%), 18 (9.9%), and 12 (6.6%) stated that they are aware of NASA (National Aeronautics and Space Administration), Turkish Space Agency (TUA), and TUBITAK (Scientific and Technological Research Council of Turkey), respectively.

Discussion

There is no existing curriculum published explicitly in space medicine for the students of medical faculties⁶. However, according to Wilderness Medicine Societies, pre-specialty training in less-known medical areas might be useful⁵. To the best of our knowledge, our study is the first in Turkey to assess the medical faculty students for their level of awareness of space medicine. It was found that 42.1% of the students who participated in our study did not know space medicine. Similarly, 56.3% of the participating students said they were not aware that this specialty was among the medical fields in Turkey.

There is only a single study in the literature reporting that training in space medicine would be helpful. In a study by Babu et al., the researchers included 1 st- and 2nd-grade medical faculty students trained based on a 3-month curriculum covering space medicine. After completing the curriculum, the participating students were asked whether the respective training was useful. According to the study results, 100% of the participants stated that they had more information about these lesser-known fields, whereas 95% indicated that they were able to form ideas regarding these lesser-known fields based on the scientific studies shown as a part of the curriculum¹. In our study, only 37.7% of the participants correctly answered the question about the altitude at which outer space starts.

Table 3. Questions about space medicine-part-2

7th question	Participants (n=318)
What are the topics of interest to space medicine? (All answers are correct)	
Protection of the health of the crew members of the spaceship (yes)	265 (83.3)
Finding solutions to possible health problems (yes)	240 (75.5)
Recording physiological changes (yes)	235 (73.9)
Identification of possible problems (yes)	197 (61.9)
Telemedicine (remote assistance) options (yes)	177 (55.7)
Non-human biological studies (yes)	101 (31.8)

Descriptive statistics were expressed as numbers and percentage (%) values for categorical variables.

Table 4. Questions about space medicine-part-3

8th question	Yes	No
What are the factors that affect human physiology during space travel?		
Loss of gravity (true)	307 (96.5)	11 (3.5)
Radiation (true)	243 (76.4)	75 (23.6)
Photons (false)	193 (60.7)	125 (39.3)
Strong nuclear force (false)	193 (60.7)	125 (39.3)

Descriptive statistics were expressed as numbers and percentage (%) values for categorical variables.

Table 5. Questions about space medicine-part-4

9th question	Yes	No
What are the health problems that develop in those returning from space?		
Low blood pressure (true)	240 (75.5)	78 (24.5)
Radiation-induced diarrhea (false)	177 (55.7)	141 (44.3)
Muscle loss (true)	272 (85.5)	46 (14.5)
Sunstroke (false)	97 (30.5)	221 (69.5)
Reduction in body mass (true)	221 (69.5)	97 (30.5)

Descriptive statistics were expressed as numbers and percentage (%) values for categorical variables.

Table 6. Questions about space medicine-part-5

14th question	Participants (n=318)
Which medical specialties are related to space medicine?	
Physiology (yes)	266 (83.6)
Emergency Medicine (yes)	201 (63.2)
Internal Medicine (yes)	199 (62.6)
Pathology (yes)	186 (58.5)
Anesthesia & Resuscitation (yes)	139 (43.7)
General Surgery (yes)	122 (38.4)
Brain Surgery (yes)	105 (33.0)

Descriptive statistics were expressed as numbers and percentage (%) values for categorical variables.

Table 7. Questions about space medicine-part-6

16th question	Participants (n=318)
Do you know of any Space Research Institute?	
No	137 (43.1)
Yes ▽	181 (56.9)
NASA	
Yes	151 (83.4)
No	30 (16.6)
Turkish Space Agency	
Yes	18 (9.9)
No	163 (90.1)
TUBITAK	
Yes	12 (6.6)
No	169 (93.4)
Other space research institutes	
Yes	74 (40.9)
No	107 (59.1)

Descriptive statistics were expressed as numbers and percentage (%) values for categorical variables.

Similarly, a high rate of participants (60.7%) incorrectly answered the questions about their knowledge of potentially encountered space problems. The Aerospace Medicine training programs have been conducted in Turkey since 1986, where military hospitals initially conducted them, and today, they are being conducted by the University of Health Sciences⁷. Most participants agreed that the curriculums should cover a more significant part of the content specialized in space medicine, which indicates that the majority is still not well-informed about this field. Although space medicine is a specialty in the United States and the United Kingdom, it is still not considered in many countries. Moreover, it is seen that people, who are interested in the field, must visit other countries to attend this specialized courses⁸. We believe that incorporating the courses aimed at raising awareness of space medicine in the medical school curriculum and organizing courses and congresses focusing on space medicine will enhance the knowledge of this field in the students at medical faculties.

Various problems are predicted to arise in the communication among Earth-based mission control centers during space travels, such as the Mars mission in the 2030 s. Therefore, it has been planned to assign a medical doctor, skilled in a wide range of medical subjects, as a member of the flight crew^{9,10}. Of the students who participated in our study, 87.7% (n=279) stated that more doctors might be needed in the future and that there may be more medical problems encountered during space travel in the future. Finally, the Turkish Space Agency was established in 2018 to develop and manage space technologies in Turkey and is still being operated within the national space program¹¹. However, our study found that 43.1% (137) of the participants were unaware of the presence of any space agency. Of those informed about their presence, most of the responses pointed at NASA, whereas only as few as 9.9% (n=18) responded to the Turkish Space Agency. According to another result of the present study, 6.6% of the participants believed that the Scientific and Technological Research Council of Turkey (TUBITAK) was Turkey's official space agency. This rate indicates that the awareness regarding the presence of the Turkish Space Agency is deficient even among the medical students in Turkey. To tackle this low rate indicating a lack of awareness of the Turkish Space Agency, we believe that more efforts should be put in to promote the agency, both through the internet and television channels.

Similarly, the Turkish Space Agency and the Board of Specialty in Medicine in Turkey can collaborate to incorporate rare disease-related topics into the curriculum

and raise awareness of space medicine. The major limitation of the present study is that it is a single-centered study. More and better results can be obtained with further studies conducted across various medical faculties.

In conclusion, it has been found that the students of the medical faculties have limited knowledge of space medicine and half of them were not aware of the presence of the aerospace medicine field in Turkey. We think it would be beneficial to implement this department, whose importance is increasing daily, to the curriculum to raise awareness among medical students.

Acknowledgment

None.

Conflicts of Interest

The author reports that there is no conflict of interest.

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Appendix 1

Space Medicine Awareness Survey

Today, interest in space tourism and interstellar travel has increased. Soon, the need for people who have knowledge about space will increase in the field of medicine as in every field. The aim of this study is to measure the awareness of the students of the Faculty of Medicine about Space Medicine. Some of the questions are short answers, some multiple-choice, and some are designed as checkboxes. Two questions were designed as scoring. During the survey, no questions regarding your personal data will be asked, and the information you provide is not made up of questions that will reveal who you are in any way. The data obtained here will be used for scientific study purposes and will not be shared with any third-party institution or organization. We thank you for your valuable contribution.

Do you accept to participate in the survey? (Yes or no)

1st Question: How old are you?

2nd Question: Please state your gender (Male or Female)

3rd Question: Which grade are you in medical school?
(1st to 6th grade)

4th Question: Have you ever heard of space medicine?
(Please choose only one answer)

- No
- If yes
 - through social media or the internet
 - through academia/university
 - through books

5th Question: Is space medicine a medical specialty in our country? (Please choose only one answer)

- Yes
- No
- I have no idea

6th Question: At what altitude does space start?
(Please choose only one answer)

- 50 km
- 100 km
- 150 km
- 200 km
- 250 km

7th Question: What are the topics of interest to space medicine? (You can tick more than one option)

- Protection of the health of the crew members of the spaceship
- Finding solutions to possible health problems
- Recording physiological changes
- Identification of possible problems
- Telemedicine (remote assistance) options
- Non-human biological studies

8th Question: What are the factors that affect human physiology during space travel?
(You can tick more than one option)

- Loss of gravity
- Radiation
- Photons
- Strong nuclear force

9th Question: What are the health problems that develop in those returning from space? (You can tick more than one option)

- Low blood pressure
- Radiation-induced diarrhea
- Muscle loss
- Sunstroke
- Reduction in body mass

10th Question: Do you think there will be a need for a doctor during space travels in the future? (Please choose only one answer)

- Yes
- No
- Doctors will soon be replaced by artificial intelligence

11th Question: Do you think there will be changes in the mechanism and duration of action or efficacy of medications during their use in space? (Please choose only one answer)

- Yes
- No
- I have no idea

12th Question: Is it possible to get a bacterial, viral, or fungal infection in space? (Please choose only one answer)

- Yes
- No
- I have no idea

13th Question: I think more medical problems would emerge in longer-term and touristic space travels?
Please choose one number
(1 strongly disagrees - 10 is I totally agree)

1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14th Question: Which medical specialties are related to space medicine? (You can tick more than one option)

- Physiology
- Emergency Medicine
- Internal Medicine
- Pathology
- Anesthesia & Reanimation
- General Surgery
- Brain Surgery

15th Question: Would you be interested in these topics were they to be included in the curriculum of the Faculty of Medicine?
(1 strongly disagrees - 10 is I totally agree)

1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16th Question: Do you know of any Space Research Institute?

- No
- If yes, please write the institution name below

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