პასუხი არაადექვატურია. ცნობიერების დონის კუთხით განსხვავება ჯანდაცვის მუშაკებს, არაჯანდაცვის მუშაკებსა და დაუსაქმებელ მონაწილეთა შორის არ დაფიქსირდა. ჯანდაცვის მუშაკა 20.0% -ს, ისევე როგორც კვლევის მონაწილე სხვა პირებს სჯერათ, რომ SARS-CoV-2 საწინააღმდეგო ვაქცინა და ანტივირუსული მედიკამენტები არსებობს, მაგრამ საქართველოში არ არის ხელმისაწვდომი. საქართველოში ყოველ

მეხუთეს მიაჩნია, რომ SARS-CoV-2 საწინააღმდეგო ვაქცინა და ანტივირუსული მედიკამენტები არსებობს, მაგრამ საქართველოს მოსახლეობისთვის არ არის ხელმისაწვდომი. ახალი კორონავირუსის შესახებ ინფორმაცია სწრაფად იცვლება, რაც ხაზს უსვამს საგანმანათლებლო მესიჯების დროული მიწოდების და პრევენციული ღონისძიებების სასიცოცხლო მნიშვნელობას.

AWARENESS AND ATTITUDE TOWARDS COVID-19 AMONG STUDENTS OF MEDICAL UNIVERSITIES IN TBILISI, GEORGIA

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Chinese officials detected pneumonia-like cases in Wuhan on December 31st, 2019 and alerted The World Health Organization (WHO). A wet market in Wuhan was initially suspected to be at the center of the outbreak, and within two weeks cases started being reported outside China. On February 11, the WHO announced the official name given to the disease caused by the novel coronavirus: COVID-19. Just one month later, the WHO stated that there were more than 118 000 cases in 114 countries and 4291 deaths worldwide, and declared the SARS-CoV-2 outbreak a pandemic.

The first case in Georgia was confirmed in Tbilisi on 26 February. By April 15, a total of 4000 individuals had been tested and 306 cases were confirmed, including 232 active cases and 3 deaths. Georgia declared a state of emergency to prevent the spread of the virus on March 21 and introduced a curfew order on 1 April, 2020.

After the WHO declared COVID-19 a pandemic and most countries announced a quarantine regime, the general atmosphere was concern and fear due to conflicting information or a lack of guidance regarding how to stay safe and where to access testing and health care services for loved ones. A primary role of public health professionals is to promote awareness about disease and provide guidance regarding safety measures to prevent the spread of disease. Access to accurate and reliable information is especially crucial for health care workers and medical students, as most of them are at risk of getting infected themselves and want to be empowered to correctly respond to questions regarding COVID-19.

Material and methods. The online survey was conducted using a Facebook advertisement. The target group was students of Medical universities in Tbilisi and the language used was Georgian. Although the questionnaires were completed anonymously, we did collect demographic information. There were 18 questions in total, including multiple-choice and check-box type questions. All the questions were marked as "required" to encourage completion. The survey was entitled "Awareness about COVID-19 among students of medical universities in Tbilisi"

and posted in three Facebook groups on April 13, 2020. It remained open for 3 days.

The intent of the questionnaire was to reveal awareness regarding the epidemiology of COVID-19, specifically knowledge about transmission of the virus and differentiation of COVID-19 from influenza, as well as the course of the disease, including identification of the main symptoms. The survey also contained questions about availability of a vaccine and effective antiviral medicines against SARS-CoV-2. We also assessed the attitudes of students toward preventive measures such as social distancing and individual protective equipment, as well as religious events held at that time.

Results and discussion. In total, 178 participants completed the survey, of these 79.8% (n=142) were female and 20.2% (n=18) were male. (71.9%, n=128) of respondents were medical program students, followed by 9% (n=16) enrolled as students in Physical Medicine and Rehabilitation; 6.7% (n=12) of students in Public Health and Management, and 2.2% (n=4) of respondents enrolled in the Pharmacy program. The remaining 10.1% (n=18) of respondents chose "other" as their response. With respect to year in the program, 75.3% (n=134) of the respondents were second-year medical students; followed by third-year students 7.9% (n=14); 3.4% (n=6) were in 1st year and the remaining students were in 4th-6th year (n=24).

Human-to-human transmission by respiratory droplets was chosen as means of SARS-CoV-2 transmission by 178 participants (100% correct response rate). With respect to differentiation from influenza, 94.4% (n=168) correctly responded "no" to the question about SARS-CoV-2 causing influenza; and 2.2% (n=4) did not know the answer to this question. Regarding distancing, 76.4% (n=136) of respondents selected 1-2 meters as the maximum human-to-human transmission distance of SARS-CoV-2 and 16.9% (n=30) chose 0.1 meter as their response, followed by 6.7% (n=12) selecting 5-6 meters. Nearly all identified fever, cough and shortness of breath as main symptoms of COVID-19 (98.9%, n=176). , Very few (1.1%, n=2) chose all of the listed symptoms: diz-

ziness, loss of appetite, weight loss, bloody cough, polyuria, lymph node enlargement, fever, cough and shortness of breath. Most of the students (96.6%; n=172) correctly noted that an asymptomatic individual infected with SARS CoV-2 is able to transmit the disease. For the question: "which age group is the most vulnerable to becoming severely ill with the SARS CoV-2?", 87.6% (156) of participants selected 71 years or older. Most (73%, n=130) of students stated that they always wore a mask in public places and nearly all (94.4%, n=168) of the respondents considered a medical mask to be

only partly protective against SARS-CoV-2. The majority of the participants (85.4%; n=152) were not planning on attending religious events at a church in the near future, however, 5.6% (n=10) chose yes for this question; 9% (n=16) did not know. Finally, none of the participants refuted a belief in the effectiveness of social distancing and 76.4% (n=136) stated that they always practiced distancing. Social media was selected as the primary source of information about COVID-19 by 62.9% (n=112) of students, followed closely by 60.7% (n=108) utilizing scientific articles (Fig. 1).

Table 1- Knowledge of epidemiology of COVID-19

Characteristic	N	%
Means of coronavirus transmission:		
Human to human transmission by respiratory droplets	178	100
Human to human sexual transmission	0	0
Human to human transmission by blood	0	0
Don't know	0	0
COVID-19 and influenza are the same disease:		
Yes	6	3.4
No	168	94.4
Don't know	4	2.2
Maximum human to human transmission distance of SARS CoV-2:		
0.1 meter	30	16.9
1-2 meters	136	76.4
5-6 meters	12	6.7
Don't know	0	0

Table 2. Knowledge regarding the course of COVID-19

Characteristic	N	%
Main symptoms of COVID-19:		
Dizziness; loss of appetite; weight loss	0	0
Bloody cough; polyuria; lymph node enlargement	0	0
Fever; cough; shortness of breath	176	98.9
All of the above	2	1.1
Don't know	0	0
Asymptomatic individual infected with SARS CoV-2 can transmit the disease:		
Yes	172	96.6
No	2	1.1
Don't know	4	2.2
Can a reinfection of SARS CoV-2 occur after recovery from COVID-19?		
No, lifelong immunity develops after recovery	6	3.4
Yes, a reinfection can occur	66	37.1
There is not enough scientific evidence to support the statement	90	50.6
Don't know	16	9

Most vulnerable age group for COVID-19 complications:		
<=15	0	0
16-30	0	0
51-70	22	12.4
>=71	156	87.6
Don't know	0	0
Availability of vaccine:		
Yes, and it is available in Georgia	2	1.1
Yes, however it is not yet available in Georgia	6	3.4
Vaccine against the virus does not exist	168	94.4
Don't know	2	1.1
Availability of antiviral treatment:		
Yes	52	29.2
No	106	59.6
Don't know	20	11.2

Table 3. Attitude toward preventive measures for minimizing COVID-19 transmission

| **Characteristic**	N	%
Do you use a medical mask in public places?		
Yes always	130	73
Yes, occasionally	46	25.8
No	2	1.1
Is a medical mask protective against SARS-COV-2?		
Yes, always	2	1.1
Partly protective	168	94.4
No, never	6	3.4
Don't know	2	1.1
Are you planning to attend religious events at a church in the near future?		
Yes	10	5.6
No	152	85.4
Don't know	16	9
Practice of social distancing:		
Yes, always	136	76.4
I try to, most of the time	42	23.6
No, I don't believe in the effectiveness of this method	0	0
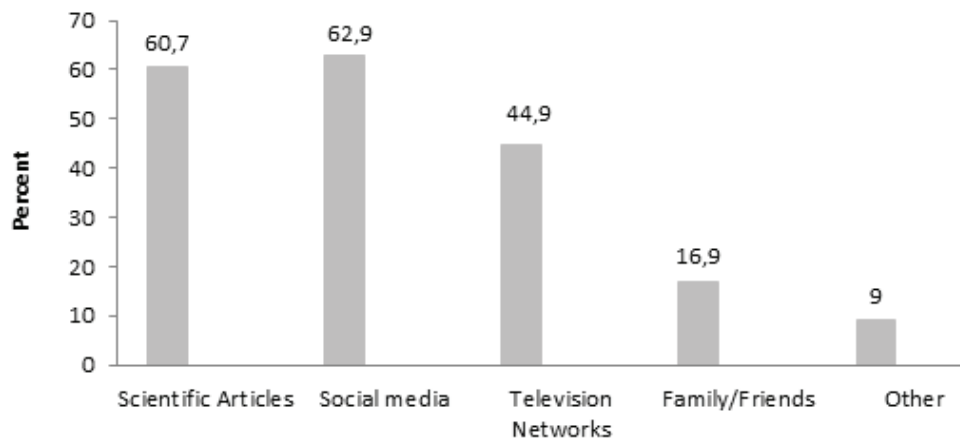
Fig. 1. Main source of information about COVID-19

Knowledge, attitude, and practice studies have been done in many countries among medical professionals. A survey was conducted among Iranian medical students to assess general awareness, risk perception and preventive behaviors regarding COVID-19 within the first week after the onset of the outbreak in Iran. Correct answer rates regarding general knowledge about COVID-19 were very high and most of the students practiced social distancing as well as accurate preventive measures. Our research also found a high proportion of participants who report practicing social distancing and avoid attending public gatherings, including religious events. Our respondents also had a high degree of knowledge about COVID-19 transmission.

Another study done in Georgia evaluated attitudes and knowledge regarding SARS-COV-2 virus among the Georgian population, including health care workers. A majority of respondents correctly identified the transmission route and symptoms (unpublished data). Our survey was focused on Tbilisi Medical University students only to ascertain their awareness level and attitude toward the pandemic. Knowledge regarding the spread of coronavirus had the highest correct answer rate. Given that most people cited social media as their primary source of information, we surmise that the circulating information is generally accurate. However, nearly as many of these respondents also reported utilizing scientific articles for information, making it difficult to discern which source predominates with respect to accurate information.

However, some students struggled with basic information, such as distinguishing between coronavirus and influenza in response to our very basic question (whether they are caused by the same virus). Influenza and COVID-19 share many similar symptoms: nonproductive cough, sore throat and fever and pneumonia as one of their complications. However, these two infections have many different characteristics to name a few. Infectiousness, as measured by R_0, estimates how quickly the virus spreads. COVID-19 is approximately 2-2.5 whereas influenza is an R_0 of 1.3. In addition, an annual vaccine is available for influenza, as are a number of antiviral drugs to attenuate the course of disease, such as oseltamivir and peramivir. Although remdesivir was recently approved for treatment of severe disease, there are scant effective medications for COVID-19 and treatment generally focuses on supportive care.

Acknowledging these differences is essential for medical students to confidently undertake diagnosis and treatment for their patients. It is also important for personal safety that they understand these crucial characteristics of transmission and treat-ment. Most of the participants correctly identified fever, cough and shortness of breath as the main symptoms of COVID-19, however many cases could be subclinical without the development of any symptoms. Many students correctly considered medical masks to be partially protective against SARS-CoV-2 and stated that they always wore them in public places. The US Centers for Disease Control and Prevention (CDC) recommends that the public wear cloth face coverings, especially in grocery stores and pharmacies, places where there is an increased risk of community-based transmission. In Georgia as well, wearing a medical mask is required in many stores. We included a question regarding attendance at a church given that orthodox Easter was forthcoming at the time of the survey. At the time, the legal maximal gathering limit of 9 people in enclosed spaces had already been introduced, but the closure of churches was not mandated by government. Our survey provides insight into the formative mindset of young clinicians regarding the risk posed by religious gatherings.

This is first study estimating COVID-19 knowledge among medical students in Georgia. A major limitation of the study is that we were unable to conduct it among representative sample of all medical students in Tbilisi, Georgia's most populous city. Also, due to the existing strict quarantine regime in Georgia, we were not able to conduct face-to-face interviews and the survey had to be conducted using an online platform (Facebook). Nevertheless, we believe that our study provides important insights into the nascent beliefs and impressions of young clinicians, the predominant information sources they use, and their personal practices regarding prevention of disease. These young clinicians will be the thought leaders of Georgian medical practice in the next decade and will be in a position to inform future public health endeavors regarding emerging pathogens.

REFERENCES

1.Coronaviruses and Acute Respiratory Syndromes (COVID-19, MERS, and SARS) https://www.merckmanuals.com/professional/infectious-diseases/respiratory-viruses/
2. Considerations for Wearing Masks. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html
3. Moderna vaccine approved: What we know about side effects, ingredients and doses. https://globalnews.ca/tag/coronavirus/
4.COVID-19 dadasturebuli SemTxvevebi saqarTveloSi, NCDC. https://www.ncdc.ge/Pages/User/News.aspx?ID=137c9b94-0be5-4b2b-bfd4-135fa4ee00de

SUMMARY

AWARENESS AND ATTITUDE TOWARDS COVID-19 AMONG STUDENTS OF MEDICAL UNIVERSITIES IN TBILISI, GEORGIA

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On December 31st, 2019, a disease, now known as COVID-19, caused by novel coronavirus was detected in Wuhan, China. Since then, new cases of COVID-19 emerge all over the world each day, having a fatal outcome chiefly in those who belong to high risk groups. In order to prevent the disease spread, health regulations have been brought in by the authorities. They have become obligatory to follow in numerous countries, including Georgia, which confirmed its first case in Tbilisi on February 26. During the pandemic, it is crucial for people, especially health care workers to have access to reliable information regarding the disease and its spread. One of the most important groups in this field are the medical students. The purpose of this study was to evaluate awareness and attitude towards COVID-19 among medical students in Tbilisi, Georgia. An online survey was conducted using Google forms and posted in Facebook groups. There were 18 questions in total and the language used was Georgian. All questions were marked as "required" to encourage completion. In total, 178 participants completed the questionnaire from 4 different medical universities of Tbilisi. Answers were compared to a study done locally among the Georgian population regarding knowledge and attitude towards COVID-19, as well as a survey conducted among Iranian medical students concerning the same topic. Our results showed that majority of participants had a high degree of knowledge about the coronavirus transmission, high proportion of students reported practicing social distancing, however some students struggled with distinguishing between coronavirus and influenza. This is the first study estimating COVID-19 knowledge among medical students in Georgia, however it needs further research to assess the situation in other medical universities and attain a larger sample to see a more accurate picture. It would also be interesting to conduct an updated version of the survey, in order to evaluate whether there has been an increase in awareness about this subject.

Keywords: COVID-19, Medical students, Survey

РЕЗЮМЕ

ОСВЕДОМЛЕННОСТЬ И ОТНОШЕНИЕ К COVID-19 СРЕДИ СТУДЕНТОВ МЕДИЦИНСКИХ УНИВЕРСИТЕТОВ ТБИЛИСИ, ГРУЗИЯ

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31 декабря 2019 года в китайском городе Ухань обнаружено заболевание на сегодняшний день известное как COVID-19, вызванное новым коронавирусом. По сей день во всем мире появляются новые случаи COVID-19, приводящие к летальному исходу лиц, в основном, принадлежащих к группам высокого риска. С целью предотвращения распространения болезни властями введены особые правила, которые обязательны для соблюдения во многих странах, включая Грузию. Первый случай заболевания COVID-19 в Тбилиси был зафиксирован 26 февраля 2020 г. В создавшихся условиях пандемии крайне важно иметь доступ к надежной информации о болезни и ее распространении как населению, так и медицинским работникам и студентам-медикам.

Целью исследования явилась оценка осведомленности и отношения к COVID-19 студентов-медиков в Тбилиси, Грузия. Онлайн-опрос проводился с использованием форм Google forms и размещался в группах Facebook. Опросник состоял из 18 вопросов на грузинском языке. Все вопросы были отмечены как «обязательные» для повышения уровня вовлеченности. Анкету заполнили 178 участников из 4 различных медицинских университетов Тбилиси. Ответы сравнивались с результатами исследования, проведенного на местном уровне среди населения Грузии, относительно знаний и отношения к COVID-19, а также с опросом, проведенным среди иранских студентов-медиков.

Полученные результаты показали, что большинство участников обладали высокой степенью знаний о путях передачи коронавируса (100% правильных ответов), большая доля студентов (76,4%) сообщили о том, что практикуют социальное дистанцирование, большинство студентов были осведомлены о развличии между инфекциями коронавируса и гриппа (94,4%). Это первое исследование, оценивающее знания студентов-медиков о инфекции COVID-19. Результаты проведенного исследования диктуют необходимость продолжить исследования в этом направлении с использованием обновленной версии опросника.

რეზიუმე

ინფორმირებულობა და დამოკიდებულება COVID-19-ის მიმართ თბილისის სამედიცინო უნივერსიტეტების სტუდენტებს შორის

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2019 წლის 31 დეკემბერს დაავადება,ახლა უკვე ცნობილი როგორც COVID-19, რომელსაც კორონავირუსი იწვევს, აღმოაჩინეს ჩინეთის ერთ-ერთ ქალაქ უჰანში. ამ ფაქტის შემდეგ, COVID-ის ახალი შემთხვევები მსოფლიოს მრავალ ქვეყანაში გავრცელდა. შემთხვევათა ნაწილს ლეტალური გამოსავალი აქვს, განსაკუთრებით ინდივიდებში, რომლებიც მიეკუთვნებიან მაღალი რისკ-ჯგუფებს. დაავადების გავრცელების პრევენციის მიზნით შესაბამისი უწყებების მიერ სხვადასხვა ქვეყნებში დაწესდა გარკვეული რეგულაციები, მათ შორის საქართველოშიც,სადაც პირველი შემთხვევა დადასტურდა თბილისში 2020 წ. 26 თებერვალს.

პანდემიის პერიოდში აუცილებელია წვდომა სარწმუ-ნო საინფორმაციო წყაროებთან დააკავდებისა და მისი გავრცელების შესახებ როგორც მოსახლეობისათვის, ასევე ჯანდაცვის სფეროს წარმომადგენლებისთვის და სტუდენტ-მედიკოსებისათვის.

კვლევის მიზანს წარმოადგენდა თბილისის სამედი-ცინო უნივერსიტეტის სტუდენტებში ცნობიერების და დამოკიდებულების შეფასება COVID-19-ის მიმართ. Google forms-ის გამოყენებით ჩატარდა ონლაინ გამო-კითხვა, რომელიც გამოქვეყნდა Facebook ჯგუფებში. კითხვარი მოიცავდა 18 შეკითხვას ქართულ ენაზე. ჩართულობის დონის ასამაღლებლად თითოეული კითხვა მონიშნული იყო როგორც „სავალდებულო". კითხვარი შესებული იყო 178 რესპონდენტის მიერ თბილისის 4 სხვადასხვა სამედიცინო უნივერსიტეტი-დან. მიღებული შედეგები შედარებული იყო ქართველ

პოპულაციაში და ირანელ სამედიცინო სტუდენტებში ჩატარებულ კვლევებთან ზემოხსენებულ თემაზე.

მიღებულმა შედეგებმა აჩვენა, რომ სტუდენტ-თა დიდ ნაწილს ჰქონდა ცოდნა კორონავირუსის გავრცელების გზების შესახებ, უმრავლესობა (76.4%) იცავდა სოციალურ დისტანციას, სტუდენტების 94.4%-მა პროცენტმა სწორად აღნიშნა განსხვავება კორონა-ვირუსსა და გრიპის ვირუსს შორის.

ჩვენ მიერ ჩატარებული კვლევა წარმოადგენს CO-VID-19-ის შესახებ ცოდნის შეფასების პირველ ცდას საქართველოს სამედიცინო უნივერსიტეტების სტუ-დენტებში. ავტორებს მიზანშეწონილად მიაჩნიათ მო-მავალში გაგრძელებული კვლევის ჩატარება სხვა სა-მედიცინო უნივერსიტეტებში,რათა უკეთესად აისახოს აღნიშნული დაავადებისადმი ცოდნის და დამოკიდებუ-ლების ზოგადი სურათი.

ЭФФЕКТИВНОСТЬ ПРИМЕНЕНИЯ КОМБИНАЦИИ ВЫСОКОЧАСТОТНОЙ ЭЛЕКТРОСТИМУЛЯЦИИ И ФИБРИНОВОГО КЛЕЯ В ЛЕЧЕНИИ ДЕКУБИТАЛЬНЫХ ЯЗВ У ПАЦИЕНТОВ ПОСЛЕ ПОВРЕЖДЕНИЯ ГОЛОВНОГО МОЗГА: ПИЛОТНОЕ ИССЛЕДОВАНИЕ

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Значимой проблемой системы здравоохранения у пациентов, перенесших тяжелое повреждение головного мозга, являются пролежни или декубитальные язвы (ДЯ) [1,2]. Риск развития ДЯ существенно повышается при наличии тяжелой сопутствующей патологии (спастические парезы, сахарный диабет, деструктивная пневмония, тяжелая белково-энергетическая недостаточность) [3,4]. В случаях, когда пациент находится в хроническом критическом состоянии (ХКС), частота развития пролежней, несмотря на проводимые профилактические мероприятия, иногда достигает 80% [5].

Состояние пациентов с поражением головного мозга достаточно специфично в плане возможностей терапии ДЯ. На фоне тяжелого состояния и декомпенсации сопутствующей патологии хирургическое лечение невсегда возможно. Консервативная терапия при этом может занимать длительное время, что усугубляется нерешаемой проблемой иммобилизации пациента, микроциркуляторными нарушениями в тканях, «хронизацией» гнойно-воспалительного процесса [6-8]. Большинство авторов и практикующих врачей склоняются к комбинированному подходу в лечении ДЯ с одновременным использованием новых физических методов воздействия, современных раневых покрытий, фармакологических составов с целью создания оптимальных условий

для заживления раневого дефекта [9-11].

В настоящее время медицинская наука направлена на поиски дополнительных методов стимуляции репаративных процессов [12,13]. Одним из подобных физических методов является высокочастотная электростимуляция (ВЧЭС). Однако, несмотря на оказываемый положительный эффект и значимый вклад в процесс заживления ДЯ, однозначного мнения о включении методики в рекомендации консервативной терапии пролежневых дефектов на настоящий момент у исследователей нет имеется ввиду малого объема выборок [14,15].

Другим вариантом стимуляции репаративных процессов в тканях ДЯ является применение специализированных покрытий лекарственных составов. Интересным в этом аспекте видится использование фибриновых композиций, полученных методом криоприцепитации. Помимо общеизвестных факторов коагуляционного ряда, данный состав содержит значительное количество остро-фазных медиаторов разнонаправленного действия, за счет чего может быть использован в качестве комплексного иммунорегуляторного агента и стимулятора регенерации, являясь одновременно источником и индуктором синтеза разнонаправленных медиаторов и первичным пласти-