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**COMPARATIVE CHARACTERISTICS OF COMPLIANCE
WITH WHO RECOMMENDATIONS REGARDING INFECTION
CAUSED BY CORONAVIRUS (COVID-19) AMONG STUDENTS
(INCLUDING FOREIGN STUDENTS) OF THE MEDICAL FACULTY
OF THE KYRGYZ-RUSSIAN SLAVIC UNIVERSITY**

¹Abdygulova I.B., ²Abdyrahmanova Zh.O., ³Kasymova R.O., ³Azhimatova M.R.

¹*Scientific and Production Centre for Preventive Medicine of the Ministry of Health
of the Kyrgyz Republic, Bishkek, e-mail: indiraabdygulova@yandex.ru;*

²*Kyrgyz-Turkish University «Manas», Bishkek, e-mail: jiparkul.abdyrahmanova@manas.edu.kg;*

³*B.N. Yeltsin Kyrgyz-Russian Slavic University, Bishkek,
e-mail: npopm@mail.ru, merimazhimatova@mail.ru*

COVID-19 is a new viral disease that differs from other diseases caused by coronaviruses. It is attributed to the group of quarantine and especially dangerous infections due to the ability to cause pandemic spread and high mortality. The COVID-19 pandemic was disastrous and had huge negative consequences for individuals, families, populations and communities around the world. There continues to be a risk of the return or repeat waves of COVID-19, and there is a need to constantly monitor and suppress the transmission of the virus among the population by taking appropriate measures. Citizens should protect themselves and others by observing the necessary hygiene measures, that is, washing their hands, avoiding touching their face, and observing proper "respiratory etiquette", social distance keeping individually, isolation in institutions or at home in case of illness, if necessary, reporting contact with a confirmed case and promoting the use of physical distancing measures. In this context, a study was conducted on the level of awareness of students and the implementation of preventive measures against the spread and transmission of SARS-CoV-2, recommended by WHO, among students in the 3rd year of the Medical Faculty of the B.N. Yeltsin Kyrgyz-Russian Slavic University, including students from India. Comparison is made between the faculties regarding the implementation of preventive measures against COVID-19 infection. A brief description of the epidemic process of COVID-19 is given.

Keywords: COVID-19, preventive measures, awareness of students, viral infection, epidemic process, spread of the virus, educational process

Today, the topic of infectious pathology is becoming especially relevant. This explains the constant interest shown in this topic not only by health authorities, but also other branches of science. The key to successful realization of the main tasks of public health is integrated approach to the study of this problem. Without this, it is impossible to count on a quick solution to the issues of prevention and control of viral infections, which cause not only harm to health, but also enormous damage to the economy [1]. COVID-19, a socially significant infectious disease posing danger to people, is caused by the new coronavirus SARS-CoV-2, first identified in December 2019 (Wuhan, China). The novel coronavirus is from a family of viruses that cause respiratory infections. The SARS-CoV-2 virus whose infection was declared by WHO to be a pandemic on 11 March 2020 has undergone considerable mutational changes since the appearance of the original Wuhan variant, and is placed under various classification categories of strains subdivided by WHO: UK (alpha), South Africa (beta), Brazil (gamma), India (delta). At the same time, by mid-March 2020, COVID-19 was recorded in more than 150 countries; according to information, at that time there were already more than 200,000 cases in the world and more

than 7,000 deaths. At the meeting of the WHO Emergency Committee on 30 January 2020, the coronavirus outbreak was recognized as a Public Health Emergency of International Concern [2].

In the Kyrgyz Republic, the first cases of COVID-19 were diagnosed in citizens on March 18, 2020 among the pilgrims who had been to Saudi Arabia to perform a small Hajj [3]. Accordingly, restrictive measures were introduced and, in accordance with Art. 18 of the Constitutional Law of the Kyrgyz Republic "On the Government of the Kyrgyz Republic", an Operational Headquarters was created to combat the spread of a new coronavirus infection and eliminate its consequences in the country [4]. On March 22, 2020, the Government of the Kyrgyz Republic introduced a state of emergency in a number of territories of the republic for a period of one month, and for the cities Bishkek, Osh and some areas of the south (March 25, 2020) an emergency situation was declared which imposed strict quarantine measures prohibiting public events [5]. Educational institutions of the country at all levels (preschools, schools, colleges, universities, etc.) were quarantined and transferred to online learning. However, the measures taken were not effective enough to counter

the increasing spread of COVID-19 among the population. Problems with the organization of the work of hospitals, the Centers for State Sanitary and Epidemiological Surveillance, laboratory diagnostics, social mobilization of the population at the population and individual levels, the lack of personal protective equipment led to an uncontrolled increase in the number of people infected and sick with a new coronavirus infection [July-August 2020]. To date, the number of cases of COVID-19 in the world has reached 185 million, with a daily increase of about 300-400 thousand, incl. more than 4 million deaths (6-8 thousand per day) according to WHO [6]. 1.5 years have passed since humanity on a planetary scale has been living in a pandemic caused by the new coronavirus SARS-CoV-2 with a fatality rate of less than 2%.

Purpose of the study: The study is aimed at determining the level of awareness and observance of preventive measures against the spread of and transmission of SARS-COV-2 recommended by WHO, among 3rd year students at the Faculty of Medicine of the B.N. Yeltsin Kyrgyz-Russian Slavic University, including students from India.

Materials and methods of research

A survey was carried out among 3rd year students at the Faculty of Medicine of the B.N. Yeltsin Kyrgyz-Russian Slavic University from the faculties of General Medicine for foreign students (GMF) where students from India are taught and of General Medicine (GM) where students from the Kyrgyz Republic and CIS countries are taught.

The number of respondents was 200 students: 32% boys and 68% girls at GM, at 45% boys and 55% girl at GMF.

The sociological method included the use of a valid WHO-recommended questionnaire consisting of 26 questions. The questionnaire included questions to assess students' awareness of measures to prevent coronavirus infection and their observance (use of disinfectants, use of a mask in the environment of other people, avoiding visiting public places, keeping social distancing, rules of conduct when coughing and sneezing, about touching eyes, mouth nose), etc. The data were processed using the SPSS 16.0 statistical package.

Results of the research and discussions

According to the Department of Disease Prevention and State Sanitary and Epidemiological Surveillance [3] of the Ministry of

Health of the Kyrgyz Republic (May 2021), the sequence analysis showed 85.7% British strain and 14.2% South African strain. Of the above mutations, from the point of view of epidemiology, the most significant and dangerous for the human community today is the more contagious delta strain (the S protein fragment is changed). The current epidemiological situation calls for closer engagement with the general population in order to strictly adhere to SARS-COV-2 public health recommendations [1]. Studies have shown that the best way to prevent and slow down the transmission of the virus among the population is to disseminate information about the viral pathogen of COVID-19, the disease it causes and the mechanisms of its spread, as well as measures to prevent it among the population [7]. According to the School of Data on confirmed cases of COVID-19, in Kyrgyzstan as of June 21, 2020, the largest number of infected people were registered at the age of 20-35 years – 1142 cases, in the age group of 16-35 – 1270 cases, which is 40.3% of the total number of recorded cases in the country [7]. Students of medical universities are a separate group of young people. Medical school students are the most vulnerable medical level. Of the 8,000 students in medical faculties, 70 students and residents worked in temporary hospitals during the first wave of the pandemic. Volunteers included both public sector students and contractors. Junior students work as paramedics, higher than 3rd year students – as nurses. Kyrgyzstan exports educational services in the form of higher education. According to the National Statistical Committee of Kyrgyzstan, at the beginning of the 2020/2021 academic year, more than 63,000 foreign students, or about 29% of the total number of students, were studying in higher professional educational institutions of the republic. At the same time, there was a significant increase in the number of students from Uzbekistan, whose share in the total number of students increased from 7% to 86%. Simultaneously, there was a decrease in the number of students from Kazakhstan, whose share, in comparison with the beginning of the 2016/2017 academic year, on the contrary, decreased from 57% to 5%. The growth trend in the number of students is also observed among students from countries outside the CIS, whose share over the past five years has increased from 6 to 19 thousand people, or 3 times. In turn, whereas during this period the share of students from India

decreased from 73% to 63%, the share of students from Pakistan, on the contrary, increased from 6% to 31% [8]. For the future it is planned to study offline, with arrivals of foreign students from India and Pakistan. And an opportunity helping the strengthening of hospitals and polyclinics by senior students cannot be excluded. In order to prevent the spread of COVID-19 among the population of the Kyrgyz Republic, to ensure the protection of life and health during the transition to offline education of students in schools and colleges, it is necessary to obtain information on the level of knowledge and skills on COVID-19 counteraction among students of medical faculties in order to prevent the spread of the virus among the population of the Kyrgyz Republic regarding their engagement in delivering medical care during internship, as well as in the educational process itself.

The study included 3rd year students of the faculty of General Medicine of the B.N. Yeltsin Kyrgyz-Russian Slavic University.

The gender ratio of the sample was 32% boys and 68% girls at the General Medicine (GM) faculty and 45% boys and 55% girls at the GM faculty for foreign students (GMF).

To assess the level of awareness of students at GMF with students from India and GM with students from CIS countries and Kyrgyzstan, students were asked the question “Are you informed about a WHO recommendation for the population regarding the infec-

tion caused by SARS-CoV-2 (COVID-19)?” and the assessment was based on the answers:

1. Yes
2. No

The results of the study showed a high level of awareness of WHO recommended preventive measures against the spread and transmission of SARS-COV-2, the vast majority of students (98%) being aware of some measures at preventing COVID-19 in both study groups, including by gender (Fig. 1).

When asked about the effectiveness of mask use, storage, treatment and disposal, the knowledge was positive: GMF – 100%, GM – 97%, boys – 100% and girls – 98%; rules for using masks: GMF -100%, GM – 98%, boys – 98% and girls – 100%; the highest observance rates were with the following measures: the use of antiseptics after visiting public places: GMF – 100%, GM – 91%, boys – 98% and girls – 94%; observing rules of conduct while staying in the same room with people who have visible signs of acute respiratory viral infection: GMF – 100%, GM – 98%, boys – 100% and girls – 98%; observing personal hygiene: GMF – 96%, GM – 96%, boys – 96% and girls – 95%; observing rules for coughing and sneezing: GMF – 92%, GM – 92%, boys – 91% and girls – 95%. However, regarding other questions on WHO recommendations there were significant differences, by the gender and faculty, in adherence to preventive measures.

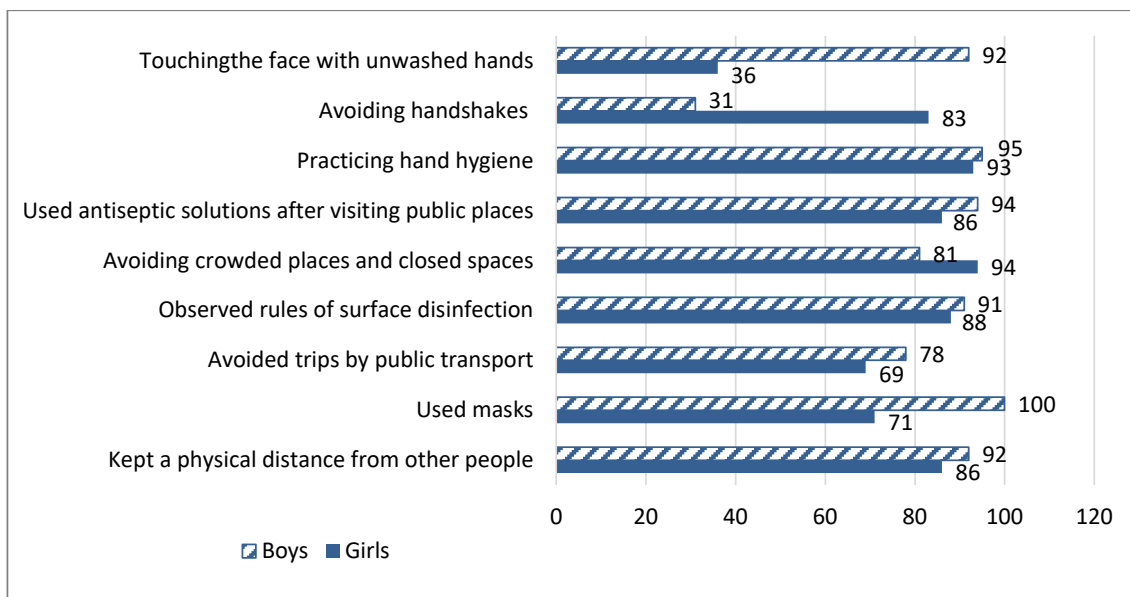


Fig. 1. Observation of preventive measures against COVID-19 by GMF and GM students by gender, %

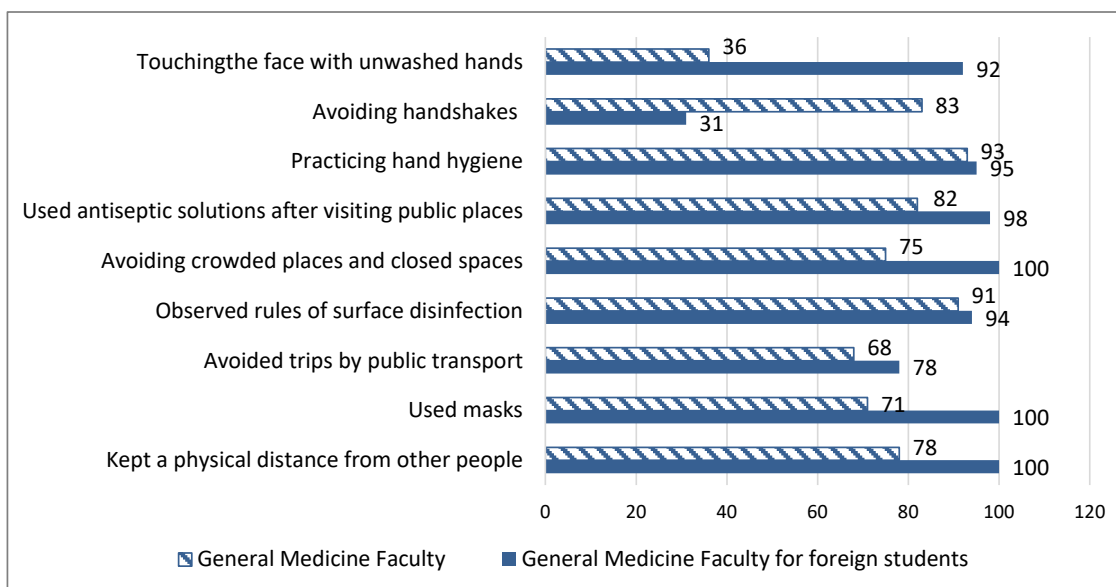


Fig. 2. Observation of preventive measures against COVID-19 by GMF and GM students, %

Use of personal protective equipment (PPE): GMF -97%, GM - 68%, boys - 82% and girls - 81%; keeping physical distance: GMF - 100%, GM - 78%, boys - 92% and girls - 86%; avoiding use of public transportation: GMF - 78%, GM - 68%, boys - 78% and girls - 69%; compliance with the rules for treatment of surfaces: GMF - 94%, GM - 91%, boys - 91% and girls - 88%; use of antiseptic solutions when visiting public places: GMF - 98%, GM - 82%, boys - 94% and girls - 86%; organizing natural ventilation: GMF -86%, GM - 92%, boys - 94% and girls - 94%; avoidance of crowded places and closed spaces: GMF - 100%, GM - 75%, boys - 81% and girls - 94%; use of antiseptics after visiting public places: GMF - 100%, GM - 91%, boys - 98% and women - 94%; use of disposable medical masks (respirators): GMF - 100%, GM - 71%, boys - 81% and girls - 80%; respondents who perform hand hygiene on coming back from the street: GMF - 95%, GM - 93%, boys - 88% and girls - 98%; avoiding hugs and handshakes in greeting: GMF - 31%, GM - 83%, boys - 35% and girls - 31%; use of antiseptics at the entrance to their house: GMF - 94%, GM - 79%, boys - 93% and girls - 85%, avoiding touching objects in public places: GMF - 84%, GM - 74%, boys - 80% and girls - 76%; avoidance of crowded places: GMF 75%, GM - 62%, boys -61% girls - 76%; use of the hygienic hand treatment algorithm: GMF - 90%, LD - 76%, boys - 83% and girls - 83%; touching the

face with unwashed hands: GMF - 92%, GM - 36%, boys - 67% and girls - 59%.

Conclusions

1. The sociological survey showed a high level of awareness of the preventive measures against the spread and catching of SARS-COV-2, recommended by WHO, in both study groups and amounted to 98%, including by gender.

2. GMF students are more alert to this infection and demonstrate a higher level of observance of the WHO recommendation at 91% compared to 75% among GM students.

3. There were no significant differences in the observance of recommendations for preventing the spread and catching of SARS-COV-2 by gender, the difference being 4%.

4. Despite the fact that both study groups had the same awareness of COVID 19 preventive recommendations, they showed significant differences in their observance.

The educational process at a medical university, unlike universities in other sciences, has a number of features that form its own specific factors of the learning process, especially during the COVID 19 pandemic, which must be taken into account when making a decision to close, partially close or reopen higher educational institutions. The stress associated with being in a hospital environment and the risk of COVID 19 infection, mental and physical stress, the daily time budget that has changed during the period of online training, changes in

the quality of nutrition, significant time spent on travel, the implementation of anti-epidemic recommendations against COVID 19, repeated use of antiseptic solutions can have adverse impact on the health status of medical students [9]. In this regard, it must be remembered that the organization of the educational process in a pandemic should be based on risk assessment in order to create the most favorable conditions for learning, to protect the well-being and health of students, faculty, staff and the local population, and to contribute to the prevention of new outbreaks of COVID -19 in the population, given the still high virulence of the virus.

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