

Research Paper

The Challenges of Reopening Universities in the Corona Pandemic From Students' Perspectives



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ABSTRACT

Background: Iran is one of the few countries that closed schools and universities since the beginning of the pandemic. This study examines students' views on the challenges of reopening universities.

Materials and Methods: The study is cross-sectional, and its statistical population consisted of students of Iranian universities. Data were collected by an electronic questionnaire (N=20534) based on a review of resources, interviews with stakeholders, and meetings with experts.

Results: Half of the families agreed with reopening the universities, and the other half opposed it. About 56% of the participants rated their family's economic situation moderate. During the quarantine and university closing, they faced many challenges with their family members, and 76.6% were admitted. The relationship between family agreement with the reopening of the university and sex, vaccination of family members, and history of coronavirus infection by family members is direct and strong. Students with poorer economic status had less passive attendance and less satisfaction.

Conclusion: Students and their parents have concerns about the reopening, which, if appropriately addressed, will increase reluctance and motivation.

Keywords:

Pandemic, Reopening,
Students, University

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Introduction

C OVID-19 caused a global crisis due to its rapid spread and uncontrollable characteristics. Although this crisis is purely medical and related to the health system, it is multi-dimensional and has widespread consequences, especially for the educational system [1, 2].

Opportunities and threats have accompanied these effects. These opportunities include paying more attention to the benefits of virtual education (online or offline), better monitoring the quality and quantity of courses and the quality of education, expanding the geographical scope of education, developing virtual education infrastructure in the university and the private sector, increasing stakeholder participation (students and faculty), educating actively, and participating in international research [3, 4].

In addition to these benefits, humans are forced to live separately and individually in a pandemic due to health constraints. Given that human beings are generally social beings and need to interact and communicate face-to-face with others, this separation between individuals has led to an increase in mental illness [5, 6].

Professors, students, and researchers were also affected by the restrictions. The [Berkeley University](#) study shows that in a statistical population of 30000 undergraduate students and 15000 graduate students, the symptoms of depression during the coronavirus pandemic have doubled [7, 8]. According to a survey of students who wanted to go to college, 1 in 10 said they were likely to change their plans given the current state of the coronavirus infection, and some expressed frustration with learning online [9].

Considering the advantages and disadvantages mentioned, many experts believe that e-learning best complements traditional methods and brings a more effective experience for the learner [10].

Given the progress that is being made in the field of corona vaccination around the world, there is a prospect that in the new school year, the teaching method will change to the pre-corona routine and in person. This condition requires research in this area to examine the conditions for reopening educational centers from the perspective of learners and teachers. These include research conducted by [UNESCO](#), [UNICEF](#), and the [World Bank](#).

Unfortunately, Iran is one of the few countries that has closed schools and universities since the beginning of the pandemic. For one year, education in this country was done virtually, and now, due to the prevalence of Omicron, schools and universities are held part-time. However, running this policy is challenging because of schools in remote villages, slums, and deprived areas and the lack of health facilities to prevent coronavirus infection. In some regions, 40 students have to study in a space of 12 m², which limits the possibility of proper spacing [11-13]. Quarantine and long-term closures made most countries use online exams to evaluate students. However, the students had not learned digital education beforehand, and the infrastructure of this type of education, such as facilities and public access, had not been provided.

There are similar problems with universities. For example, many students must travel from distant cities to the university where they study. However, there is a possibility of contracting the disease while traveling and attending student dormitories [9, 14].

On the other hand, the low speed of the internet in Iran has also faced many restrictions on virtual education. Frequent interruptions, especially during peak hours, limited file submission in terms of volume, and lack of proper support in webinars with over 100 people are examples of these problems. In addition to students, teachers were also justified by the challenges of online education, such as lack of technical knowledge due to lack of formal training in this field and lack of required equipment and facilities. Many teachers did not even have basic ICDL skills. Crises are considered a threat, but at the same time, they can also provide the basis for growth and change. Teachers and students developed their skills while teaching and learning, and the country's education system tried to overcome its weaknesses. In the meantime, many students suffered mental and emotional distress at home. They could not engage constructively in this transformation process [15]. Considering the human lifestyle and the spread of viral diseases in recent decades, the possibility of repeating experiences similar to the COVID-19 pandemic is not far from expected. Although the results of this study will be published after the end of the epidemic, the lessons learned can be used in various fields. What man learns from experience will be helpful one day.

Finally, the decision to reopen educational centers goes back to the current situation in each country, and no general decision can be made in this regard. Any decision requires research to examine the views of target groups.

Reopening universities and following the process of combined education are issues that should be considered in other situations besides critical ones. Crises threaten human life in some way every day, so the educational system, knowing its audience and beneficiaries' points of view and demands, can consider preventive programs to reduce the quality and quantity of education.

Materials and Methods

The present study is cross-sectional, and its statistical population consisted of students of Iranian universities. Data were collected by electronic questionnaire and published in virtual media by non-probability sampling methods (available and targeted sampling). Sampling was done in September 2021. The questionnaire was organized into 6 sections: 1) Demographic and educational information (gender, type of ministry, year of university entry, department, degree, experience living in a dormitory), 2) Socioeconomic status of the family, 3) Coronavirus status and prevention programs, 4) Satisfaction with virtual education, 5) Challenges of reopening universities, and 6) Students' suggestions and expectations (descriptive answers to questions). The questionnaire was designed based on a review of resources, interviews with stakeholders, and meetings with experts.

Finally, 48 questions were prepared. The questionnaire was given to five experts and specialists in the field of education to evaluate its content validity. Two virtual meetings were held with experts on the Skyroom platform, and the validity of the questions was examined. Eight experts participated in determining the content validity of the questionnaire, and the coefficient was found to be 0.78. The experts' opinion about the validity of the test was calculated using the content validity ratio, which was found to be 0.78. We used the content validity index, which was found to be 0.80, to remove irrelevant questions. To check the reliability, the questionnaire was given to 30 volunteers to complete it. The Cronbach α was calculated, which was obtained as 0.79. A total of 20534 questionnaires were completed (at the time of the research, 3.2 million students were studying in Iran). The questionnaire link was provided to the educational vice-chancellors of the two Iran ministries. They were asked to send the link to all university presidents nationwide and offer it to students through departments. In this study, considering the geographical size of Iran and the different conditions and facilities of the country's universities, we tried to consider all possible variations. All provinces of the country participated in this study. Studying and registering a student number was a criterion for entering the study. Because more students are studying in the

Ministry of Science, Research and Technology, 60% of the questionnaires were allocated to the Ministry of Science, Research and Technology, and 40% of the questionnaires were allocated to the students of the Ministry of Health and Medical Education to consider the share of each department in the study. The present study was carried out at the suggestion of the National Academy of Medical Sciences, and a Webinar was held on the same theme (Letter No. 18654/34/FAP/D; dated 06/16/1400). Questions were used to verify the respondents and ensure the students completed the questionnaires. Also, at the beginning of the questionnaire and in the completion guide section, the research objectives were fully described to ensure that the results of this study will be used only to improve their educational conditions. The data were analyzed by SPSS software, version 24.

Results

The undergraduate students in the Departments of Medical and Technical Sciences, Engineering, and Admissions from 2017 to 2020 had the highest participation. About 60% of the participants were female students. Also, 63.9% of the respondents were students trained by the Ministry of Science, Research and Technology; the rest were the Ministry of Health and Medical Education students.

According to the research findings, 96.9% of the respondents observe the preventive aspects on average very well, and 62.2% have not had COVID-19 disease. About 60.7% of students reported that at least one member of their family had the disease, but 71.4% of them have not experienced the death of family members or relatives due to coronavirus. Only 41.6% of the students participating in the study ($n=8550$) had received the COVID-19 vaccine at the time of the study, and 69.8% ($n=14330$) reported that some of their family members had received the vaccine. Most respondents had e-learning resources at their disposal. Still, more than half of them stated that their satisfaction with the e-learning system was very low, and they believed that virtual classes cover all parts of face-to-face education to a small extent. Their motivation to learn had significantly reduced.

About 41.3% of students lived in student dormitories before the pandemic outbreak, of which 53.9% believed that they would use them if they followed the health protocols in the dormitories and agreed with the reduction of dormitory capacity.

Half of the families agreed with reopening the universities, and the other half opposed it. About 56% of the par-

Table 1. Students' satisfaction with virtual education

Students Satisfaction With Virtual Education	No. (%)				
	Very High	High	Medium	Low	Very Low
Satisfaction with the university education system	2538(12.4)	3486(17)	6662(32.4)	3248(15.8)	4600(22.4)
Support resources for study and learning at home	2726(13.3)	4931(24)	7171(34.9)	3411(16.6)	2295(11.2)
Support resources for virtual learning	1781(8.7)	3552(17.3)	7447(36.3)	4285(20.9)	3469(16.9)
Active and effective attendance at virtual meetings	2812(13.7)	4390(21.4)	6120(29.8)	3669(17.9)	3543(17.3)
The amount of coverage of virtual classes in relation to the total number of subjects	2175(10.6)	3024(14.7)	4302(21)	4095(19.9)	6938(33.8)
The effect of COVID-19 disease on the ability to learn	4304(21)	4010(19.5)	5378(26.2)	3638(17.7)	3204(15.6)
The negative impact of e-learning on learning motivation	6383(31.1)	3465(16.9)	3527(17.2)	3236(15.8)	3923(19.1)
Worry about getting sick due to being in class	8377(40.8)	2303(11.2)	3298(16.1)	3173(15.5)	3383(16.5)
Families agree to reopen universities	3965(19.3)	2885(14)	4061(19.8)	2430(11.8)	7193(35)
Concerns about family members becoming ill due to student attendance at university	8949(43.6)	2884(14)	3306(16.1)	2624(12.8)	2771(13.5)
Concerns about getting infected while traveling to university	8786(42.8)	2566(12.5)	3201(15.6)	2806(13.7)	3175(15.5)
Challenges with family members due to being at home	4126(20.1)	3416(16.6)	4893(23.8)	3675(17.9)	4424(21.5)
Loss of communication with fellow academics due to the virtual nature of education	7224(35.2)	4407(21.5)	4093(19.9)	2345(11.4)	2465(12)
Need treatment and quarantine in case of illness	12693(61.8)	4880(23.8)	1910(9.3)	366(1.8)	685(3.3)
Tendency to reopen and connect with friends	7342(35.8)	2706(13.2)	2838(13.8)	2012(9.8)	5633(27.4)
Total	20531			100%	

ticipants rated their family's economic situation moderate. During the quarantine and absence from universities, they faced many challenges with their family members, and 76.6% admitted that their relationships with their colleagues had diminished (Table 1).

Students were asked six questions about the challenges of reopening universities. About 30% of respondents opposed replacing face-to-face training with virtual education. Also, 34.5% of students opposed the full-time reopening, and 27.5% opposed the part-time reopening. Most respondents agreed to hold classes at half capacity and daily assessment of students (Table 2).

There is an inverse relationship between economic status and the possibility of active and effective student participation in online training sessions (-0.52) and satisfaction with virtual education (-0.62). Students with poorer economic status had less passive attendance and less satisfaction.

The relationships between the degree and the student's desire to replace face-to-face education with virtual education (0.71) and agreeing to the full-time reopening of universities (0.74) were direct and strong. Higher-level students, such as PhD and master's, are more inclined to full-time reopening of universities (Table 3).

Table 2. Reopening challenges

Reopening Challenges	No. (%)				
	I Quite Agree	I Agree	I Agree to Some Extent	I Disagree	I Completely Disagree
Replacing face-to-face training with virtual training	6410(31.2)	2182(10.6)	3071(15)	2596(12.6)	6275(30.6)
Reopen full time	5519(26.9)	2129(10.4)	2909(14.2)	2889(14.1)	7088(34.5)
Part-time reopening	2523(12.3)	3704(18)	5379(26.2)	3282(16)	5646(27.5)
Form a class with a half-capacity	3872(18.9)	4904(23.9)	5457(26.6)	2729(13.3)	3572(17.4)
Combined education (face-to-face and virtual)	3087(15)	3453(16.8)	4882(23.8)	3765(18.3)	5347(26)
Daily medical evaluation of students	5928(28.9)	5429(26.4)	5135(25)	2058(10)	1984(9.7)
Total	20531		100%		

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Table 3. Relationships between research variables (the Spearman correlation)

Economic Status and Access to Virtual Education	Correlation Coefficient	P	N
Degree and replacement of face-to-face education with virtual	0.71	0.001	20531
Degree and full-time reopening	0.74	0.001	20531
Economic status and satisfaction with e-learning	-0.62	0.001	20482
Economic status and active participation in training sessions	-0.52	0.001	20534

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Table 4. Relationships between research variables (using the chi-square test)

Variables	The Chi-square		df	P		
Sex	848.566 ^a	-	1	-	0.001	-
Family agreement with the reopening of the university	-	3372.769 ^b	-	4	-	0.001
Family agreement with the reopening of the university	3372.769 ^a	-	4	-	0.001	-
Vaccination of family members	-	12370.352 ^b	-	2	-	0.001
Family agreement with the reopening of the university	3372.769 ^a	-	4	-	0.001	-
History of coronavirus infection by family members	-	934.275 ^b	-	1	-	0.001
Department of education	10410.709 ^a	-	5	-	0.001	-
Agree to full-time reopening	-	4312.681 ^b	-	4	-	0.001

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^a0 cells (0.0%) have expected count <5, ^bComputed only for a 2.2 table.

The relationships between family agreement with the reopening of the university and sex, vaccination of family members, and history of coronavirus infection by family members were direct and strong. Also, the relationship between the Department of Education and “agree to full-time reopening” was direct and strong (Table 4).

Discussion

More than half of the respondents agreed with the full-time reopening, and the other half with the part-time reopening of the university along with e-learning. Still, there were challenges in this field that were related to health and economic issues caused by this reopening. About 25% of the world's population are children, adolescents, and young people affected by the COVID-19 pandemic in terms of education. Therefore, the possibility and availability of learning through home education and e-learning have been one of their needs [16]. Social distancing policies and mobility restrictions have significantly disrupted traditional teaching practices. Although in the current situation, a large part of education is done online and remotely, some teachers and professors are unfamiliar with new technology; the online teaching infrastructure is unsuitable, and the student's relationship with the educational environment is non-participatory [17].

Not all students have a favorable and equitable family environment. Economic problems, domestic violence, and communication challenges between children and parents negatively affect learning. In many countries, such as Iran, bandwidth is limited to the use of the internet, which reduces the quality of virtual education. It is difficult for some families to afford the internet [18]. Khlaif et al [19] concluded that students' different access to devices and high-speed internet is one of the challenges of the electronization of the educational system in Palestine. Also, the difference in women's and men's access to technology creates a social gap [19]. In many villages and underprivileged areas of Iran, students do not have access to mobile phones and the internet, which causes them not to attend classes on time and receive the course content completely, significantly impacting their grades. This condition motivates students and increases the probability of them dropping out. They highlighted that a key challenge of implementing e-learning in the Palestinian educational system was students' differential access to devices and high-speed internet. A significant aspect of the digital divide in developing countries is the difference between men's and women's access to and use technology [20, 21].

Also, many educational fields such as sports and physiology, laboratory training, and internships that require presence in practice and communication training that require face-to-face and two-way interaction have faced many problems in providing accurate course content [18, 22, 23]. The degree of support and positive participation of families in educating their children varies from one to another. It is also difficult to evaluate and monitor student's performance in these situations [24].

The results of this study show that half of the students agree with the reopening of universities, and vaccination of students should be a priority. In Iran, immunization of people under 18 years of age using appropriate vaccines has started since October 2021. All students were also vaccinated, and some received boosters. Students suggestions for reopening include maximizing the participation of students and their family members in the planning and implementation stages, developing indigenous programs, screening students at home, pilot reopening or step-by-step universities, and holding preparatory programs before starting face-to-face classes, especially for new students. Also, during this period, students' social and communication skills have decreased due to social distances, which should be considered in educational programs. Students learn greatly from their learning environments and peer and professor interactions [25-27].

It is necessary to plan the cultural field and student counseling centers to promote students' mental and social health. Given that 20% of students are in poor financial condition, it is necessary to provide facilities for using the e-learning system and, in case of reopening, health facilities (alcohol, masks, health insurance, nutritional supplements).

This research has found an inverse relationship between economic status, the possibility of active and effective student participation in online training sessions, and satisfaction with virtual education. Students with poorer economic status had less passive attendance and less satisfaction. This is because the cost of transportation, stationery, clothing, and food is difficult for this group of students, who may come from low-income families. The coronavirus pandemic has had a negative impact on families' economies through job losses and widespread unemployment. The cost of treatment, the high cost of medicines, and the limited health insurance coverage increase these problems [28, 29].

The relationships between the degree and the student's desire to replace face-to-face education with virtual education and “agree to the full-time reopening of universi-

ties” are direct and strong. Higher-level students, such as PhD and Master’s, are more inclined to reopen full-time because higher education students must interact with professors and the research team to complete their research dissertations.

The relationships between family agreement with the reopening of the university and sex, vaccination of family members, and history of coronavirus infection by family members are direct and strong. Also, the relationship between the Department of Education and “agree to full-time reopening” was direct and strong. Families with female students are less inclined to reopen, and concerns about this group are greater than others, which may be due to cultural issues. Because vaccination promotes relative immunity in individuals and reduces the incidence of severe disease cases, widespread vaccination promotes a greater tendency to reopen universities. Social Sciences and Arts students showed a greater desire to reopen universities. Voluntary activities were more prevalent during the pandemic among students in supportive professions such as social work and psychology [30-32].

There are no accurate statistics on the prevalence of students in educational settings, and it is impossible to accurately determine whether they are infected at family parties or in the classroom. Sometimes, getting infected in non-educational environments causes the spread of the disease in educational environments, increasing fears and worries. People’s responsibility and commitment to health protocols are different, and some people pay the price for the irresponsibility of others. On the other hand, the closure of universities and the virtual provision of education have promoted a culture of laziness among some students and even their parents. However, despite all its strengths, virtual education also has its weaknesses. Virtual education is less difficult for people who do not want to study and are just looking for a degree.

Cheating is more likely to happen in virtual exams, and monitoring is purely mechanical. Also, assessing students’ skills, abilities, and capabilities is more difficult. If there is no feedback, questions, or answers in the classroom, some students will be engaged in extra-curricular activities after entering the virtual classroom. This means the student is apparently in class but does not use the educational content. Homework may also be done by someone other than the student. Teachers’ level of educational commitment also affects the quality of virtual education. For example, one responsible instructor uses various methods to provide instructional content and feedback to students, while another may have

the least instructional benefit to the audience. The type of platform used in holding classes can also affect the quality of education. In some platforms, the possibility of exchanging opinions and providing feedback between the teacher and the student is well established. In others, there is not the necessary quality for the two-way exchange of information.

In some educational centers, large sums of money are taken from students to buy platforms, which sometimes is impossible for the student to pay. Also, many users can reduce the quality of virtual education. At some hours of the day, due to high traffic, the quality of education is lower. Therefore, the educational hours are changed to evenings and nights, which may not be suitable for all students due to their work or family conditions.

The final evaluation of exams in e-learning is either very strict or very easy. Sometimes, to prevent cheating, the exam time is limited and short, and the student loses the exam if he or she encounters a sudden internet outage. Some students take exams in partnership and help each other answer, which makes the assessment unfair.

Debra Burhan University has established rules and regulations to reduce the transmission of the general COVID-19 virus. These regulations include restrictions on the number of students and the duration of meetings, the use of masks and gloves, proper and frequent hand washing, proper ventilation of classrooms, and group sports activities are prohibited. This protocol was in accordance with the [World Health Organization \(WHO\)](#) guidelines for preventing and controlling infection from COVID-19. In addition, a similar scheme was established at the University of Minnesota and Saudi Arabia [33].

Ultimately, the safe reopening of universities requires a combination of screening and quarantine strategies that include students and their families, faculty, and public and educational spaces. According to the findings of this study, future studies should consider methods of recovery and compensation for educational damages. The country’s education system must identify vulnerable students, such as students with inadequate access to electronics and the internet, those living in rural areas, students who have lost a close family member due to the COVID-19 pandemic, students with family economic problems, and students with psychiatric disorders. This group of students has faced many issues in terms of learning and continuing education due to a lack of active participation, mental conflicts, and inability to perform homework.

It is suggested that short-term intensive courses be developed in the reopening stage based on students' real needs and student representatives' participation. In the recovery program, the implementation of recovery and evaluation indicators should always be paid attention to. Continuation of the recovery program until the appropriate conditions are reached, can be followed by educational officials with the participation of students.

Since the students are scattered in 33 provinces of the country and it was difficult to reach them, to maintain the maximum dispersion, the link was distributed through the student and educational vice-chancellors of the universities. In addition, appropriate information was provided in the virtual space and student channels. For this reason, we tried to make the explanations related to the questionnaire completely clear and far from ambiguity. Another limitation of the research was the uncertainty of completing the information by the students. Questions were used to check the validity of the information and control this issue.

In this study, confidentiality of information was considered during the entire collection, analysis, and reporting process. The objectives of the study were explained to the participants. Necessary permits were obtained from the [Ministry of Science, Research and Technology](#) and the [Ministry of Health and Medical Education](#).

Conclusion

Students and their parents have concerns about the reopening of universities, which, if appropriately addressed, will increase their motivation. However, vaccination and reopening of universities do not mean the end of the coronavirus pandemic or non-compliance with health protocols, and the new student period requires continuous evaluation and plans to improve students' academic performance. Three of the researchers in this study are social workers and tried to look at the social, economic, cultural, educational, communication, and family dimensions of reopening schools and universities from the participants' point of view. Considering all the points mentioned about the strengths and weaknesses of e-learning, it is necessary to make the necessary plans to improve the quality of e-learning and use this method as a complementary method alongside face-to-face training. Improving educational platforms, using multiple assessment methods, involving students in the learning and teaching process along with feedback, and strengthening students' scientific and practical skills can be provided by improving virtual complementary education. Students were less exposed to the virus due to

demographic characteristics, co-morbidities, social media, and information sources. Television and domestic and foreign social networks were sources of information, and the [WHO](#) was considered a key source. The results showed that the [Ministry of Health and Medical Education](#) should monitor high-risk communication and increase students' readiness for future risks. Specialized protocols for educational environments should be developed. These findings can be used as baseline data for future large-scale studies.

The analytical review of the questionnaires showed that students have demands that should be considered in other non-critical cases:

- Pay more attention to the health needs of students, especially girls, in the university environment.
- While maintaining a fair distribution of facilities and resources, universities should equip educational spaces for virtual education.
- There should be special support packages for needy students in all universities.

According to the results of this study, the Social Health Department of the [Academy of Medical Sciences](#) should prepare policy summaries for use in critical situations for universities and students, and necessary training in this field should be provided to all stakeholders.

Ethical Considerations

Compliance with ethical guidelines

The present study was carried out at the suggestion of the [Iranian Academy of Medical Sciences](#), and a Webinar was held on the same theme (Letter No. 18654/34/FAP/D; dated 06/16/1400). All ethical principles were considered in this research. At the beginning of the questionnaire, the objectives of the research were explained to the participants. Information was collected in a completely confidential manner. Confidentiality was also considered in the entire process of data collection and analysis.

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Authors' contributions

Data collection: Seyed Mohammad Hosein Javadi; Data analysis: Majid Saffarnia; Writing: Seyed Hasan Emami

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Conflict of interest

The authors declared no conflict of interest.

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