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## **A Qualitative Analysis Evaluating How Medical Students Perceive COVID-19 Pandemic and Its Impact on Their Lives: Life in the Pandemic**

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**Abstract:** One of the groups experiencing the pandemic's effects were students. This study was aimed to evaluate the effects of the COVID-19 pandemic on the lives of medical students and also to see their perspectives about the pandemic. This study is designed as a qualitative study. In-depth interviews were conducted with 30 medical students on an online platform in February 2022, at the end of the third peak period. A semi-structured question guide used as a data collection tool. First, questions about individual characteristics then open-ended questions about their COVID-19 pandemic perception and its impact on their lives were asked. The thematic analysis method was used and "Life in the pandemic" were grouped into two main themes: 1. Perception of the Pandemic and Consequent Impact on Life and 2. Pandemic Period and Its Impact on Life. The median age was 22. Half of the participants have been diagnosed with COVID-19. All of the participants were vaccinated. In this study it has been observed that the majority of the medical students have perceived the COVID-19 pandemic as a difficult period and also as a new, uncertain and adverse situation. Another adverse effect perceived by the majority was restriction of social life. Fear and anxiety were most commonly used to express their mood during the pandemic. During the pandemic students individual, mental and social lives are highly affected. While negative effects are generally seen during the social isolation process, this situation has eased with the normalisation of the process.

**Keywords:** COVID-19, Medical students, Pandemic, Qualitative study.

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## Introduction

The first coronavirus case in Türkiye was seen on March 11, 2020 (Turkish Academy of Sciences, 2020; World Health Organization, 2020). After that day the number of cases has increased rapidly in the country. Therefore, some precautions were taken by the government like closing borders, travel restrictions, and curfews. On March 16, 2020, another measure was taken to control the spreading virus: suspending education. Due to the rapid progress of the pandemic, it has been decided that the 2020 spring semester will be carried out with distance education (Council of Higher Education, 2020). All of these measures had effects on peoples' lives not just facing a new disease (Wang et al., 2020; Koçak & Harmancı, 2020). One of the groups experiencing social and mental effects of the pandemic was students. They had to face a major challenge: the stress of adapting to following online lessons and preparing for the exams (Jena, 2020). There are several studies about this novel COVID-19 disease's impact on students' life in the literature. Some of these studies showed that the students were under stress and discussed the actual reasons of this stress and how they coped with it (Ceviz, 2020; Parra, 2020).

On January 13, 2021, inactivated vaccines started to be administered in Türkiye by prioritising risk groups; older adults and healthcare workers (Republic of Türkiye Ministry of Health News, 2021; Republic of Türkiye Ministry of Health COVID-19 Vaccination Platform, n.d.). After the advent of the mRNA vaccine, vaccination continued with two types of vaccines. As the vaccination rate increased, the number of cases decreased; thus normalisation steps started to be taken in Türkiye (Republic of Türkiye Ministry of Internal Affairs, 2021).

The virus experienced a variant change within two years. The latest "omicron" variant caused a new wave all over the world and the number of cases started to increase again. The omicron variant started to be seen in Türkiye in the last months of 2021, the number of cases peaked at the beginning of February 2022. After the decrease in omicron cases approximately in the middle of spring 2022, the effect of the pandemic started to ease in Türkiye (Republic of Türkiye Ministry of Health News, 2021; Turcovid 19, n.d.). Medical students also took advantage of the diminishing pandemic. A study carried out at Thomas Jefferson University, it was found that the medical students had tried to find a way to deal with the period of pandemic time in their own way (Dworkin et al., 2021).

In this study, it is aimed to qualitatively evaluate the perception of medical students about the COVID-19 pandemic and its impact on their lives at a public university in Istanbul, Türkiye.

## Methodology

This qualitative study was planned in accordance with the principles of the Declaration of Helsinki and with the approval of the local ethics committee (09.2022.292). All data were analysed and presented anonymously.

### Sample/Study Group

In-depth interviews were conducted with 30 students studying at a medical school in Istanbul, in February 2022, at the end of the 3rd peak of the omicron dominant period in Türkiye. The participants were reached among the invited medical students agreeing to be

included in an in-depth interview, after a prior quantitative research study carried out by the same researchers on a similar subject at the same medical school.

**Table 1**  
**Participants' characteristics**

	Gender	Grade	Age	COVID-19 Diagnosis	COVID-19 Vaccination	Chronic Disease	Living Conditions
P1	Male	Grade 6	24	COVID-19 (-)	2 inactive 2 mRNA	None	With his friend
P 2	Male	Grade 6	24	COVID-19 (-)	2 inactive 1 mRNA	None	With his friend
P 3	Male	Grade 1	18	COVID-19 (-)	2 mRNA	None	With his family
P 4	Male	Grade 1	19	COVID-19 (+)	2 mRNA	None	With his family
P 5	Male	Grade 1	20	COVID-19 (-)	2 mRNA	None	In dormitory
P 6	Male	Grade 1	20	COVID-19 (-)	2 mRNA	None	Alone
P 7	Male	Grade 6	26	COVID-19 (+)	2 inactive 1 mRNA	None	Alone
P 8	Male	Grade 3	23	COVID-19 (+)	2 mRNA	None	With his family
P 9	Female	Grade 3	22	COVID-19 (-)	3 mRNA	None	With her friend
P 10	Male	Grade 3	22	COVID-19 (-)	3 mRNA	None	Alone
P 11	Female	Grade 3	22	COVID-19 (+)	2 mRNA	Aortic Valve Disease	With her family
P 12	Male	Grade 4	28	COVID-19 (-)	3 mRNA	None	With his sibling
P 13	Female	Grade 5	23	COVID-19 (-)	2 inactive 2 mRNA	None	—
P 14	Male	Grade 5	24	COVID-19 (-)	3 inactive	None	—
P 15	Female	Grade 5	24	COVID-19 (-)	2 inactive 3 mRNA	PCOS	—
P 16	Male	Grade 5	24	COVID-19 (+)	2 inactive 3 mRNA	None	—
P 17	Female	Grade 5	22	COVID-19 (+)	2 inactive 2 mRNA	None	With her friend
P 18	Male	Grade 4	23	COVID-19 (-)	2 inactive 2 mRNA	None	With his friend
P 19	Female	Grade 3	21	COVID-19 (-)	3 mRNA	None	—
P 20	Female	Grade 1	19	COVID-19 (+)	2 mRNA	None	In dormitory
P 21	Male	Grade 2	19	COVID-19 (-)	3 mRNA	None	With his family
P 22	Female	Grade 2	20	COVID-19 (-)	3 mRNA	None	With his family
P 23	Female	Grade 2	22	COVID-19 (+)	2 mRNA	None	Alone
P 24	Male	Grade 6	24	COVID-19 (+)	2 inactive 1 mRNA	None	Alone
P 25	Female	Grade 6	24	COVID-19 (+)	2 inactive 2 mRNA	Asthma, Obesity	Alone

P 26	Male	Grade 2	20	COVID-19 (+)	2 mRNA	None	In dormitory by himself
P 27	Female	Grade 2	20	COVID-19 (+)	3 mRNA	None	With her family
P 28	Female	Grade 4	22	COVID-19 (+)	3 mRNA	None	With her friend
P 29	Male	Grade 4	22	COVID-19 (+)	2 mRNA	None	Alone
P 30	Male	Grade 4	23	COVID-19 (+)	3 mRNA	None	Alone
P: Participants							

### Data Collection

A semi-structured question guide used as a data collection tool. First, questions about individual characteristics then open-ended questions about their COVID-19 pandemic perception and its impact on their lives were asked. This semi-structured questionnaire was prepared in the light of a quantitative research study priorly carried out by the researchers at the same medical school on a similar subject.

### Process

This qualitative study was conducted on an online platform via in-depth interviews, after obtaining the oral consent of the participants. Each interview lasted around 30-40 minutes. The interviews were recorded after participants gave verbal permission and then transcribed verbatim by the interviewers. Personal information, images, or sound recordings of the participants are not shared with third parties or institutions. Data collection was ended after the participants' responses reached saturation, that is after 30 interviews.

### Analysis of Data

Thematic content analysis was used for the subjective interpretation of the content of the textual data in the process of coding and determining the themes. After the interviews were transcribed, each transcript was evaluated separately by the researchers who conducted the interviews and coded with the Atlas.ti program. After consecutive discussions, the researchers validated the contents. Data analysis was performed by reading all data line by line repeatedly. The Excel program was used for thematic analysis. After all coding was completed, themes and sub-themes were created according to the codes obtained from the research. Relationships were determined by comparing the similarities and differences between the themes and subthemes by the research team among whom there were Public Health professors experienced in qualitative studies. "Life in the pandemic" were grouped into two main themes: 1. Perception of the Pandemic and Consequent Impact on Life and 2. Pandemic Period and Its Impact on Life.

## Findings

This study was completed by interviewing 30 medical school students. Among all participants, 18 of them were males and 12 of them were females. The median age was 22 (min-max: 18-28). Half of the participants were preclinical students (Grade 1, 2, 3) and other half of them were clinical students (Grade 4, 5, 6). Half of the participants were diagnosed with COVID-19 (Table 1).

**Table 2**  
**Themes and sub-themes**

Theme	Perception of the Pandemic and Consequent Impact on Life	Pandemic Period and Its Impact on Life
	Perception of an adverse situation	Normalisation of the pandemic period
<b>Sub-themes</b>	Individual effects of the pandemic	The course of the pandemic and its impact on life
	Mental health effects of the pandemic	
	Social effects of the pandemic	

### **Main theme 1: Perception of the Pandemic and Consequent Impact on Life**

#### **Sub-theme 1.1: Perception of an adverse situation**

The predominant view among the participants was that the pandemic was an adverse situation. The uncertainty of this new situation and the potential inadequacy of the science regarding the virus treatment were the most prominent causes underlying this adverse perception. Furthermore the presence of the virus could not be fully perceived since it was invisible, resulting in not taking the necessary precautions.

"At the beginning of the pandemic, as a medical student, facing a pandemic which is not necessarily a good thing, but it is something that excites a person because it's something that will happen once in a lifetime... It was something I could tell in the future. That was my thought in the beginning; however later on it turned into regret, I wish it hadn't happened." (P8, M, G3, COVID-19 +)

"For two years, our life has been very restricted. It's somewhat an adverse situation. Science is rather inadequate, the virus is constantly mutating, and there is no proper solution anywhere." (P22, F, G2, COVID-19 -)

"I was really in conflict when I just listened to the news and sat at home. But then when you go out, I don't know, you relax and since the virus is invisible to the naked eye, even if you try to convince yourself how dangerous it is, since you cannot see any armed enemy around you don't take your guard against him, I don't know, I think I can't follow the rules." (P25, F, G6, COVID-19 +)

Some of the participants stated that pandemics were seen at certain intervals in the world throughout history, therefore the current pandemic could be perceived as an expected but an adverse situation.

"Just as there were plague pandemics in the past, the Spanish virus, that is, just as these happened, this virus coincided in our time. We are living it right now." (P27, F, G2, COVID-19 +)

"The COVID-19 pandemic is a pandemic that affects the world in terms of health, economic, social and various aspects, and it is a process that needed to follow the measures since it can adversely affect even a healthy individual. " (P15, F, G5, COVID-19 -)

Besides the negativity, some students mentioned that they saw advantages in this process, for example technological developments were kept up in the process and this resulted in both time and economic savings.

"In the technological environment, people have actually saved time and money from things such as time and transportation. Judging from the full side of the glass, this is an undeniable thing, I think it has provided a lot of conveniences." (P4, M, G1, COVID-19 +)

### **Sub-theme 1.2: Individual effects of the pandemic**

Most of the participants were thinking that the pandemic affected them negatively. Staying indoors at a young age was perceived as a loss. Some of the participants stated that they got used to the pandemic some time later, and they were no longer affected that much. Some of them mentioned the negative effects like gaining weight due to being at home all the time during the shutdown period. Some stated that they benefited from the shutdown period by sparing valuable time for themselves.

"I think that part of our lives is wasted during quarantine periods, I mean, I spent my youngest 20-21 years old at home, those parts are a bit sad, to be honest, but now I feel like I'm used to it, I feel like it is slowly becoming a part of life." (P29, M, G4, COVID-19 +)

"A time passed like this, it was very stressful, at home, there was also weight gain, eating and listening to the news all the time" (P12, M, G4, COVID-19 -)

"It increased my free time, my studies for my own goals. For example, I was thinking of studying abroad, but I did not know what I was thinking. I was better able to make my own decisions in the void. I studied for foreign study courses and passed step 1 during this time. (P24, M, G6, COVID-19 +)

"...I had the opportunity to do some sports or something during my stay at home, I may have felt a little better physically." (P9, F, G3, COVID-19 -)

"I couldn't go to school for about a year and a half, so I'm unhappy because I wish I could spend the most productive times of school in a good way. I had an opportunity to improve myself like I learned how to play the piano. If there was a school, I couldn't have learned it. I started reading psychology books at that time. I did these in a year and a half. " (P30, M, G4, COVID-19 +)

### **Sub-theme 1.3: Mental health effects of the pandemic**

When expressing their mood during the pandemic, the most commonly used words were fear and anxiety. Those who were acquainted with a healthcare worker, thought that struggling with the disease was going to the front of the war. Some stated that they felt empty or overwhelmed during this pandemic. In general, the participants emphasised staying at home as the leading factor affecting their mental health. The majority of the participants mentioned that these negative feelings decreased over time. While some participants stated that the pandemic did not affect their mood; besides some stated that they even felt good during this process. The participants tried to reduce the negative effects of the pandemic by using protective measures, especially the mask.

"My family was also health workers, so I was very emotional at first. For the first time in my life, I told my mother something she was very much touched by, you know, it was like saying farewell to a soldier (my parents) going off to fight in front of a war, I had such a feeling every day that am I going to lose them, I wonder if they will catch the disease, that was something I was concerned about." (P18, M, G4, COVID-19 -)

"I thought that if there was an earthquake in Istanbul, I would have to take my brother and run away. In that case you should have to take the masks with you, so I couldn't be able to sleep." (P23, F, G2, COVID-19 +)

"I was in a panic attack state at the beginning of the pandemic, I didn't even want to take my feet out, I was always at home, I never went out. I feel more normal now like I'm back to my old life." (P13, F, G5, COVID-19 -)

"I was happy. It was very educational for me, I did not waste it, I learned. I took time for myself." (P18, M, G+, COVID-19 -)

"For example, wearing a mask was a very good precaution for me. I felt safer when going out or something, I feel like I'm naked without a mask now." (P13, F, G5, COVID-19 -)

#### **Sub-theme 1.4: Social effects of the pandemic**

The dominant thought among the participants was that their social life was adversely affected. Their social activities were restricted during the pandemic and not being able to see their friends, negatively affected them. The majority stated that as the effect of the pandemic diminished, its restrictive effect on social life also decreased. They expressed that vaccination played a major role to return to their social lives. Some participants stated that they were not very social before the pandemic, so the pandemic period did not affect their social life meaningfully.

"Because there is already a quarantine process I couldn't see most of my friends. But of course, online meetings have increased, such as, we had even met online with my relatives during the holidays." (K9, F, G3, COVID-19 +)

"I feel myself more settled, my character, my communication with people is better. After returning to this social life, I think that I can communicate more effectively with people. I started to show empathy, like when I saw a lonely friend, I started to take care of him more." (P30, M, G4, COVID-19 +)

"I used to love watching the match in the stadium, I don't go, there is nothing to do, there is no need for willing ignorance, so the measures I take for myself are protective equipment, but I will say it again, the vaccine is the most important one for me." (P18, M, G4, COVID-19 -)

"I'm not a person who goes out and does something every day, I'm more of a house-bird. So it didn't do much for me, but at least it's good to know that I can go out whenever I want." (P11, F, G3, COVID-19 -)

### **Main theme 2: Pandemic Period and Its Impact on Life**

#### **Sub-theme 2.1: Normalisation of the pandemic period**

The majority of the participants are now used to the pandemic and more relaxed than at the beginning. Many of them mentioned that they took extreme measures at the beginning of the pandemic and that they overreacted, but they could no longer remain as sensitive as before. This could be due to all of our participants having been vaccinated against COVID-19.

"I feel so used to it, at the beginning of the epidemic, everything seemed so strange, so extreme. I don't know, masks, prohibitions, deaths, number of diseases, number of deaths, you know, even when one or two people died, we were giving a lot of reactions. But now, unfortunately, we accept cases and deaths as normal." (P9, F, G3, COVID-19 -)

"... even in the queues, I used to put 1 metre between people. I can't be that much cautious anymore. Especially since we have to use public transportation regularly, I get on the bus even if it's full because I have to go to school somehow." (P29, M, G4, COVID-19 +)

"I used to be very careful about social distance, for example, I didn't hug people, but after I got covid, I started to hug people from time to time. I am vaccinated and as long as I know that I don't have the disease, I am not keeping my social distance as much as I used to do." (P30, M, G4, COVID-19 +)

### **Sub-theme 2.2: The Course of the pandemic and its impact on life**

The majority of the participants thought that the pandemic would continue but decrease in intensity. Nearly half of the participants stated that the severity of the disease will decrease via vaccination and it will turn into a seasonal viral infection. Also, they predicted that the pandemic would end on its own, due to the mild course of the omicron variant with herd immunity eventually being established. Some participants abstained from making predictions about the next course of the pandemic.

"The flu virus was also deadly before the vaccine. That's why I believe after a while we will get over it like a normal virus... In my own opinion, various variants are emerging all the time. I think they will stop at one point and become permanent." (P20, F, G1, COVID-19 +)

"Maybe it's a bad thought, yes, but the virus killed what it was going to kill. Now it has started to slow down even more because of the natural balance...thanks to the omicron, the pandemic will end faster because it spreads faster and infects faster." (P8, M, G3, COVID-19 +)

"My thought is that first vaccination will increase, and then the virus itself mutates, I think we will overcome it by gaining immunity in society." (P12, M, G4, COVID-19 -)

"I think it will end like this, I think it will gradually move away from the world agenda. But I'm not sure if it's over or not, but it's over for me." (P24, M, G6, COVID-19 +)

While there were participants who thought booster doses would be needed and protective measures would continue to be applied, there were also participants who thought that the effect of the pandemic would continue for a while, but that isolation/quarantine practices and the obligation to wear masks would be ended.

"I hope it ends but I think it will continue like this for a few more years, at least like this year, with booster doses and occasionally getting sick." (P21, M, G2, COVID-19 -)

"So it seems to me that it will never end. Because viruses can change themselves. I have a thought that vaccines will work and everyone will be immune somehow after they are vaccinated. I think maybe it will last for years or it will become normal like the flu, maybe we'll let go of the masks after a while, the one who gets caught gets caught, I think it goes that way." (P17, F, G5, COVID-19 +)

## **Discussion / Conclusions and Suggestions**

The COVID-19 pandemic has affected the whole world at various levels. This study qualitatively evaluates the perception of medical students about the COVID-19 pandemic and its impact on their lives at a public university in Istanbul, Türkiye. This study was carried out at a public medical school in Istanbul province of Türkiye, in February 2022, at the end of the third peak period in which the omicron variant was dominant.

In this study, it has been observed that the majority of the medical students have perceived the COVID-19 pandemic as a difficult period and also as a new, uncertain and adverse situation; although some participants perceived some positive aspects of the pandemic such as time and economic savings, and sparing time for several course, sports and hobbies. Uncertainty of a newly emerging and rapidly spreading infection in the world is a stressor for

people (Topuzoğlu, 2020). In a study conducted with medical students in Korea, it was found that they experience confusion and stress due to sudden and rapid changes, and they feel stressed and under pressure (Park et al., 2022). Medical school students, whose health literacy is higher than the general population having difficulty in perceiving the pandemic process and the concept of virus, can adapt better to an invisible concept like a virus and an inapparent pandemic condition and also can develop better coping strategies (Abdel-Latif, 2020).

The COVID-19 pandemic, which has had negative effects on humanity worldwide, has also negatively affected the lifestyles of medical students; staying indoors at a young age was perceived as a loss by some of them. In this study, some of them mentioned that their eating habits have changed and they have gained weight during the shutdown period; none of them have mentioned losing weight; whereas in several studies losing weight is also reported. In general, people stopping to order meals because of the fear of contamination, some of them having sleep disorders due to the stress experienced, changing eating habits, losing weight, and some eating more during pandemic are reported (Bozkır, 2021; Siddique et al., 2021; Yanık, 2021).

As other lifestyle changes of medical faculty students, increased screen time, electronic device use, and screen viewing times emerged to increase significantly, and loss of motivation and proficiency anxiety also emerged in some studies (Alsoufi et al., 2020; Bozkır, 2021). In this study, increased screen time and electronic device use were not mentioned. Studies have shown that there are different findings in overall life style changes. It is expected that different effects will be seen according to the social environment, culture and personality traits of the people.

In this study, fear and anxiety were commonly mentioned when expressing their mood during the pandemic; particularly those who had health personnel acquaintances felt fear of losing them. It is inevitable to see psychological effects, especially when curfews are long-term (Topuzoğlu, 2020). In a study conducted with medical students in Türkiye, 88.1% of the students stated that they felt more anxious during the COVID-19 process, particularly as their stay at home was prolonged and their social activities were limited (Bozkır, 2021). In this research, some of the participants defined their mood during pandemic to be conflicting, as such although they tried to convince themselves about how dangerous the virus was, due to the invisibility of the virus, they felt relaxed outdoors and could not abide by the rules.

Another adverse effect of the pandemic perceived by the majority of the participants in this study was restricted social life. In a similar study conducted on medical students during the pandemic in Türkiye; 93.3% stated that they spent 1-3 hours outside the home, 45.7% reported that they had little social life, and 45.7% stated that they had no social life (Bozkır, 2021). In this research, over time the participants got more or less adapted to the adverse aspects of the pandemic, especially by using masks and also being vaccinated. All of the participants declared that they were vaccinated. The majority of them stated that they felt more normalised and relaxed nowadays and that they were no longer that much sensitive about protective measures anymore. Most of them thought that the pandemic would continue but decrease in intensity due to the mild course of the omicron variant and development of herd immunity.

This study has some limitations. First, study sample was relatively small. Furthermore, since this study is a qualitative study, the findings cannot be generalised to all the medical students of the concerned university, the lack of face-to-face meetings due to the COVID-19 pandemic may have prevented the participants from fully expressing their feelings and attitudes. Third, the researchers may not have been able to fully interpret the body language of the participants who might not have felt comfortable because of the online interviews. Limitations

can be balanced by the strength of this study which is inclusion of a wide range of participants belonging to different phases of medical education and having had COVID-19 or not.

As a result, it is seen that the lives of students during the pandemic process are highly affected in individual, mental and social dimensions. While negative effects are generally seen during the social isolation process, this situation has eased with the normalisation of the process. In this context, medical students during a pandemic, can experience fear and ignorance leading to panic and uncontrollable behaviours such as extreme protection or isolation. Negativities resulting from social distance can be reduced by social media and smartphone opportunities; furthermore, it is expected that different effects will be seen according to the social environment and personality traits of the people.

To manage the adverse effects, health authorities should stay in contact with students and constantly inform them about the situation and the course. Managing fears and anxiety at the local community and broader public level become as important as treating individuals (Huremović, 2019). This process reveals the importance of social support for students as well as for all humanity.

### Contributors

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