

Health-Related Quality of Life among Jazan University Students during COVID-19 Pandemic, KSA: A Cross-Sectional Study

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Abstract

Background: With the rapid spread of the latest coronavirus pandemic (COVID-19) since late 2019 and its transformation into a global epidemic requiring governments to take strict measures and implement quarantine, closures, and restrictions on almost all aspects of the population's life, quality of life has been affected in all aspects. Given the importance of an individual's healthy quality of life, this study aims to assess the health-related quality of life during the COVID-19 pandemic.

Participants and Methods: A cross-sectional study was adopted, using an online survey of health-related quality of life with the involvement of 425 participants (male and female) from Jazan University students. They were chosen by convenience sampling.

Results: In this study, 54% of students reported that they have negative feelings, and female students more often have these negative feelings than male students. Our finding is that those who live in cities and student housing are more satisfied with the QoL than students who live in villages. The findings revealed that 52% of students who get support from

friends have higher satisfaction with QoL, which indicates that higher family and friend support will increase QoL for students.

Conclusion: The COVID-19 pandemic affected the health-related quality of life for Jazan University students in some domains (such as living place, friends support, and having negative feelings). The study recommends that universities should organize some recreational activities to enhance the sense of academic satisfaction and arrange counselling or psychotherapy for students needing these services.

Keywords: Quality of life, Health-related quality of life, University Students, Jazan, COVID-19 pandemic.

Introduction

The outbreak of severe acute respiratory syndrome-coronavirus2 (SARS-CoV2) pneumonia was reported in Wuhan, China, in late December 2019. Within weeks, the infection spread across China and other countries worldwide. The WHO announced this global outbreak on January 30 as a public and international emergency, and on March 11, it announced it as a pandemic coronavirus disease 2019 (1). The total number of cases has exceeded 30.2 million (2). The symptoms caused by COVID 19 vary from mild signs to severe ARDS hypoxia (3). The respiratory system is mainly affected, and other organs are also involved (4, 5). In the original case series, lower respiratory tract-related symptoms of fever, dry cough, and dyspnea were reported. Headaches, dizziness, generalized exhaustion, vomiting, and diarrhea were also observed (4, 6).

Due to the lack of vaccination trials and population immunization, governments placed limits on travel and ordered social distancing measures to reduce the risk of infection spreading during the pandemic outbreak process (7). Due to that, the quality of life has been changed. QoL refers to the perception by individuals of their role in life within the framework of value systems and culture as related to their priorities, aspirations, norms, and concerns. It includes these following dimensions; social, environmental, financial, and economic. Health-related quality of life focuses on the impact of health, either mental or physical, on the life of individuals. HRQoL represents a broad physical and psychological concept with social functioning and well-being. HRQoL is very important, as the state of health and the quality of life have a significant impact on each other. When a person is exposed to disease, it may affect the quality of their life, which may have either a negative or positive effect on the health of the individual. Quality of life can be affected by the COVID-19 pandemic, which has serious impacts on the population and the individual (8).

To the best of our knowledge, no published studies regarding this topic have been conducted in Jazan, which reflects the importance of this work. This study aimed to assess the health-related quality of life during the COVID-19 pandemic among Jazan university students.

Participants and Methods

Study design

A cross-sectional online survey of health-related quality of life among Jazan University students during the COVID-19 pandemic was conducted from October 16, 2020, to March 13, 2022.

Study setting

This study was concluded at Jazan University in Jazan, a coastal city and the capital of the Jazan region, which is located in the southwestern corner of the Kingdom of Saudi Arabia. Jazan University is a public university with 49,000 students during 2020 to 2021.

Study population

Male and female students aged 18-24 years in Jazan University, Jazan, Saudi Arabia.

Sample size

A convenient sampling method was employed to select the participants. The minimum sample size was 384, as calculated by the following equation: $n = Z^2 \times P \times Q / D^2$ assuming that the proportion was 50% with a 95% confidence interval (CI) and 0.05 margin of error (9). Inclusion criteria was participants who registered as students at Jazan University. Students who agree to participate, Students between 18-24 years. Exclusion criteria was students who refused to participate, students over 24 years old and under 18 years, and students who presented with physical or psychiatric problems.

Data collection tools

The participants were given a self-reporting questionnaire (10). The participants completed the surveys using an online survey platform (Google Forms). A total of 448 students took part in the online survey. We excluded 23 participants (4 participants who refused to participate, and 19 participants who were not between 18 and 24). The final sample size was 425 participants. The questionnaire consisted of 26 questions comprised of 4 domains: demographic and personal characteristics, medical history, and the effects of COVID-19 on QoL. In our research, the QoL measure demonstrated good internal consistency (Cronbach's alpha = 0.81).

Demographic characteristics

Data on participants' demographic characteristics included age, gender, marital status, and living place.

Medical history

Participants were also asked if they suffered from any of the medical disorders indicated, such as diabetes, depression, hypercholesterolemia, migraines, etc.

Quality of life

The WHOQoL-BREF was used to assess the individuals' quality of life. The WHO Quality of Life Index is a self-administered tool used to assess QoL that may be used to compare health-related QoL across a wide range of disorders and illnesses and determines the effectiveness of various QoL interventions, (10). It has 26 items, the first of which is a general question on quality of life, while the rest are divided into four domains (physical health, psychological, social relationship, and environmental QoL). Each item is rated on a range of 1 to 5 on a Likert scale. Table 1 shows the list of items adapted to assess QoL.

Table 1: The list of items adapted to assess QoL in the context of the COVID-19 pandemic

1	How would you rate your quality of life?	14	To what extent do you have the opportunity for leisure activities?
2	How satisfied are you with your health?	15	How well are you able to get around?
3	To what extent do you feel that physical pain prevents you from doing what you need to do?	16	How satisfied are you with your sleep?
4	How much do you need any medical treatment to function in your daily life?	17	How satisfied are you with your ability to perform your daily living activities?
5	How much do you enjoy your life?	18	How satisfied are you with your work capacity?
6	To what extent do you feel your life to be meaningful?	19	How satisfied are you with yourself?
7	How well are you able to concentrate?	20	How satisfied are you with your relationships?
8	How safe do you feel in your daily life?	21	How satisfied are you with the support you get from your friends?
9	How healthy is your physical environment?	22	How satisfied are you with the conditions of your living place?
10	Do you have enough energy for everyday life?	23	How satisfied are you with your access to health services?
11	Are you able to accept your bodily appearance?	24	How satisfied are you with your transport?
12	Have you enough money to meet your needs?	25	How often do you have negative feelings such as blue mood, despair, anxiety, or depression
13	How available to you is the information you need in your day-to-day life?	26	How satisfied are you with your sex life?

Data analysis

Statistical analysis was performed using SPSS Statistical Program V.26. Participants' demographic, personal, and clinical characteristics and the effects of COVID-19 on QoL were described using descriptive statistics. Continuous variables were reported as mean and standard deviation, whereas categorical variables were provided as frequencies and percentages. The Kruskal-Wallis H test and the Mann-Whitney U test were utilized. The relationship between QoL score and demographic factors was investigated using ordinal logistic regression. The significance level was set at a p-value < 0.05. There were some missing values, and we imputed them by multiple imputations (simple linear regression) and mode imputations. One variable (How satisfied are you with your sex life?) contains 114 missing values, so we excluded it from the analysis because it was not helpful for analysis.

Ethical consideration

Ethical approval was obtained from Jazan University ethical committee for scientific research (HAPO-10-Z-001; Reference No. REC-43/05/101) and official approvals were obtained from the university campus. All participants gave informed, verbal, and written agreement and they were told that the information gathered would only be used for scientific purposes and that they may leave or rejoin the research at any moment. The confidentiality of the collected data is maintained.

Results

A total of 425 took part in the survey. Response rates were 71.5% female and 28.5% male students. Students' ages ranged from 18 to 24 years, with an overall mean \pm SD of 20.77 ± 1.476 years. More than half of the students (54.4%) live in a village. Most of the students (84%) were single. In this study, 17.9% of the students reported suffering from medical conditions. Details about the types of health conditions are described previously.

Table 2 show the percentages of students who self-reported how they were satisfied with their quality of life on a scale from 1 to 5 in some factors (physical and psychological health, social relationship, and environmental); it is clear that most of the students are satisfied with all factors except psychological health, were more than half of students (54.4%) reported that they have negative feelings such as blue mood, despair, anxiety, and depression.

Table 2: Percentages of students who self-reported satisfaction about their quality of life.

Satisfaction with quality of life	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
How would you rate your quality of life?	2.4%	8%	25.6%	32.5%	31.5%
How satisfied are you with your health?	3.5%	7.8%	21.9%	28.2%	38.6%
How well are you able to get around?	7.8%	17.9%	24.5%	24.2%	25.6%
How satisfied are you with your sleep?	14.4%	18.6%	25.4%	20.9%	20.7%
How satisfied are you with your ability to perform your daily living activities?	6.4%	10.1%	32.0%	31.1%	20.5%
How satisfied are you with your work capacity?	4.5%	11.3%	23.1%	36.0%	25.2%
How satisfied are you with yourself?	3.5%	7.8%	22.1%	25.2%	41.4%
How satisfied are you with your relationships?	7.1%	13.4%	23.3%	24.5%	31.8%
How satisfied are you with the support you get from your friends?	7.5%	12.7%	24.9%	24.0%	30.8%
How satisfied are you with the conditions of your living place?	5.9%	8.5%	17.9%	20.5%	47.3%
How satisfied are you with your access to health services?	7.8%	8.5%	18.8%	23.5%	41.4%
How satisfied are you with your transport?	9.6%	9.6%	19.8%	19.1%	41.9%
How often do you have negative feelings such as blue mood, despair, anxiety, depression	2.8%	13.4%	29.4%	31.1%	23.3%

On a scale of 1 to 5, students scored how they feel about their QoL in terms of physical health, financial situation, activities, and how they feel about themselves. Almost all students reported positive answers about their feelings about the quality of life factors. The percentages are shown in Table 3.

Table 4 shows that male students are less satisfied with their quality of life than females ($B = -0.247$). Single students and married students were more satisfied with the QoL than divorced students, with an estimate ($B = 0.08$ and $B = 1.237$). The ordinal regression model illustrated that students who lived in a city were significantly more satisfied with QoL than students who lived in a village ($B = 0.493$, $p = 0.004$), and the difference between the male and female students in satisfaction of QoL is not significant ($p = 0.198$). Also, the difference between single, married and divorced students in satisfaction of QoL is not significant ($p > 0.05$). The results are summarized in Table 4.

Table 3: Percentages of QoL in physical health, financial status, activity, and how they feel about themselves.

Feeling about quality of life	Not at all	Slightly	Moderately	Very	Extremely
To what extent do you feel that physical pain prevents you from doing what you need to do?	37.2%	16.5%	25.2%	13.9%	7.3%
How much do you need any medical treatment to function in your daily life?	61.6%	16.9%	13.6%	5.9%	1.9%
How much do you enjoy your life	4.5%	8.5%	32.7%	30.1%	24.2%
To what extent do you feel your life to be meaningful?	3.1%	8.7%	20.5%	23.8%	44%
How well are you able to concentrate?	4%	11.1%	32.7%	37.4%	14.8%
How safe do you feel in your daily life?	3.1%	7.1%	14.1%	21.2%	54.6%
How healthy is your physical environment?	6.6%	19.8%	36.2%	25.4%	12.0%
Do you have enough energy for everyday life?	2.4%	9.9%	28.0%	29.2%	30.6%
Are you able to accept your bodily appearance?	3.3%	6.4%	14.1%	20.2%	56.0%
Have you enough money to meet your needs?	7.5%	14.6%	24.2%	22.6%	31.1%
How available to you is the information that you need in your day-to-day life?	1.6%	7.5%	28.7%	36.0%	26.1%
To what extent do you have the opportunity for leisure activities?	11.3%	19.5%	34.8%	20.9%	13.4%

Table 4: Parameter Estimates ordinal regression model. SE = standard error.

Characteristic		Estimate	SE	Wald	df	P	95% Confidence Interval	
							Lower Bound	Upper Bound
Age		-0.085	0.058	2.110	1	0.146	-0.199	0.030
Gender	Male	-0.247	0.192	1.654	1	0.198	-0.624	0.130
	Female	Reference						
Social statuses	Single	0.208	0.670	0.096	1	0.756	-1.105	1.521
	Married	1.237	0.697	3.154	1	0.076	-0.128	2.603
	Divorced	Reference						
Living place	Student housing	-0.062	0.786	0.006	1	0.937	-1.604	1.479
	City	0.493	0.172	8.225	1	0.004	0.156	0.830
	Village	Reference						

Table 5 shows that female students more often have negative feelings than male students, with a mean rank satisfaction score of 196.16 for males and 219.70 for females. The Mann-Whitney U test shows that the difference between male and female students in how often they have negative feelings is not significant, with $p = 0.064$.

Table 5: Mean rank satisfaction score for gender

How often do you have negative feelings such as blue mood, despair, anxiety, depression?	Gender	N	Mean Rank
	Male	121	196.16
	Female	304	219.70

A Kruskal-Wallis H test showed that there was a significant difference between living place in satisfaction about transport, $p = 0.00$, with a mean rank satisfaction score of 251.70 for students who live in students' housing, 242.13 for students who live in the city, and 188.33 for students who live in a village (Table 6). This indicates that students who live in cities and student housing are more satisfied than students who live in villages.

Table 6: Mean ranks satisfaction score for living place

How satisfied are you with your transport?	Living place	N	Mean Rank
	Students housing	5	251.70
	City	189	242.13
	Village	231	188.33

Discussion

This study investigated the QoL of Jazan university students during the pandemic in association with the specific effects of the COVID-19 pandemic on the various dimensions of QoL. Social distancing and lockdown were implemented between February and June 2020 to reduce the spread of coronavirus. However, the prolonged lockdown has likely had psychological repercussions, as COVID-19 significantly changed many individuals' daily lives. So, it is important to identify the factors that affected health-related QoL during the COVID-19 pandemic.

In this study, the response rates of students' negative feelings like (blue mood, despair, anxiety, and depression) were 54%, which may have led to lower the QoL. These findings agree with those of another study (11) which reported that QoL levels were relatively low, whereas the physical health and environmental QoL levels were comparable with those in population in non pandemic status (12). This finding was not surprising as the prevalence rates of depression, anxiety and stress among participants in another study were remarkable, which may have led to lower psychological QoL in the COVID-19 pandemic status (11, 13), also the loss of students' daily academic routines during the pandemic, including their customary courses and clinical sessions, might cause these negative feelings.

Regarding the social relationship QoL, the present study findings revealed that the students were satisfied with their social life, in contrast with the finding of another study which reported that, social distancing and restrictions on organising and attending social activities as preventive measures to curb the spread of COVID-19 may have contributed to lower social relationship QoL (11). Furthermore, it was found in several studies that only a greater number of hours of online classes attended per week and higher family and friend support significantly predicted an increase in physical health QoL among the participants. The literature points out that chronic absenteeism from class is associated with a higher risk of engaging in health risk behaviours, such as cigarette smoking, chronic alcohol use and risky sexual behaviours.

In contrast, a sense of academic achievement is associated with a higher level of general health (14, 15).

The descriptive statistics show that female students more often have negative feelings than male students and although male students are less satisfied with their QoL than female students, we found that this difference had no significant effect on QoL. These findings disagree with those of other study which concluded that there are gender differences related to better QoL. Females with good physical and psychosocial health are more likely to have a better QoL. For males, the best QoL was associated with high socioeconomic conditions and good physical and psychosocial health (16).

Regarding the residence area, our finding revealed that students who live in cities and student housing are more satisfied with their QoL than students who live in villages, probably because there are difficulties in transportation, and that is consistent with the finding of another study which reported that Quality of life scores in subjects vary between areas. Psychological distress in subjects in rural areas may account for the poorer scores of quality of life in rural areas (17).

We found that students who get support from friends have higher satisfaction with QoL. This indicates that higher family and friend support will increase QoL for students. A study of 316 students in Malaysian universities reported that supporting family and friends increases students' QoL (11).

Limitations of the study:

We cannot fully represent the results for the Jazan university student community since there was a group of students who live in areas that do not have internet, and we had difficulty providing the questionnaire to them.

Conclusion

The COVID-19 pandemic affected the health-related quality of life for Jazan University students in some domains. The domains that affected QoL during COVID-19 are living place, friends support and having negative feelings. Our study was able to clarify some of the positive and negative factors that affected the quality of life of Jazan university students during the pandemic. It is not possible to generalize our results to all students in Jazan. However, future studies should investigate attitudes among other Saudi universities to determine the generalizability of the study's results. Based on the study findings we may highlight a few self-founded recommendations to enhance the QoL of Jazan University students. To improve academic satisfaction and eliminate negative attitudes among university students, the institution should focus on attempts to organize certain leisure events. Also, if university students require counselling or psychotherapy, these services can be arranged. The transportation problem should be solved for students who live in villages and have transportation difficulties.

Conflicts of Interest

The authors declared no conflict of interests.

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