

# IMPACT OF COVID 19 ON ACADEMICS, MENTAL HEALTH AND SOCIAL LIFE OF MEDICAL STUDENTS

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## ABSTRACT

**Objectives:** To identify the Impact of Covid 19 on academics, mental health and social life of medical Students

**Methods and materials:** A cross sectional descriptive study was conducted from January 13, 2021 to February 15, 2021. A validated self administered questionnaire was implemented among 297 undergraduate medical students of Bacha Khan Medical College (BKMC) and Nowshera Medical College (NMC). Results were assessed by using SPSS version-28.0.

**Results:** More than 70% of students agreed to the fact that COVID-19 has affected their academics, mental health and social life. The lockdown has reduced the interest in studies of 73.7% students from BKMC and 77.9% students from NMC while 5-8% students from both colleges disagreed. The results obtained from the research study has shown that 57.6% medical students from BKMC and 64.1% students from NMC when alone during the pandemic felt a pronounced change in their mental status with 41.4% from BKMC and 35.9% from NMC noticing no change. About 23.2% BKMCites and 34.4% NMCites noticed an extensive change in their daily life while 19.2% students from BKMC and 9.9% students from NMC did not notice any change.

**Conclusion:** The present study outlined the impact of COVID-19 on education, mental state and social life of medical students. Our results call for urgent attention for setting up of psychological assistance in both government and private medical and dental colleges as an effective intervention to cope with disruption created by COVID-19.

**Key words:** covid-19, education, medical student, mental health, social wellbeing

## INTRODUCTION

Coronavirus causes diseases in both humans and animals. Over the last two decades, two highly infectious human coronaviruses were identified, including SARS-CoV-2 and MERS-CoV<sup>1</sup>. Wuhan in China reported first case of Covid 19 in December 2019. It is presented by pneumonia-like symptoms caused by

SARS-COV-2<sup>2</sup>. The coronavirus outbreaks not only affected China but 215 countries around the world<sup>3</sup>. On January 30, 2020, WHO declared the Covid-19 outbreak as an emerging public health problem.<sup>4</sup>

In Pakistan, the first case of Covid was identified from Karachi by the Ministry of Health on February 26, 2020<sup>5</sup>. The entrance of the virus is due to the crossing of the Baluchistan border by people returning from Iran, Iraq, and Syria<sup>6</sup>. Due to the high turnout of Covid -19, it was asserted as a pandemic by WHO on March 11, 2020<sup>7</sup>. During a pandemic, as per WHO instructions Government of Pakistan also implement a countrywide lockdown on 21, March

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2020 to control the exploding infection<sup>8</sup>. By mid-July 2020 Covid-19 infected 13 million people around the world and caused the death of more than 570,000<sup>9</sup>.

On 19 July 2021, globally 191 million were confirmed cases with 4.09 million deaths<sup>10</sup>. In Pakistan 991,727 confirmed cases with 22,811 deaths and in KPK 140,818 confirmed cases with 4,386 deaths<sup>11</sup>. The COVID-19 has affected medical education intensely. Worldwide, the conventional classes of MBBS students are suspended due to a covid pandemic which leads to uncertainty among the medical community<sup>12</sup>. During the tough pandemic situation, it was challenging for all medical faculty to take one step forward in creating such an environment that brings back the medical students to their studies. In Pakistan, covid was surging very tremendously, Pakistan Medical Council (PMC) instructed all medical institutions to switch towards E-learning<sup>13</sup>. Medical students faced a lot of challenges during E-learning. These include Internet connectivity issues, poor understanding of online education, and lack of practical approach toward patients, etc<sup>14</sup>.

The World Health Organization (WHO) stated: "We are not just fighting an epidemic; we are fighting an infodemic"<sup>15</sup>. The social distancing, self-isolation, complete lockdowns, personal Financial impairment due to pandemic time has caused a great impact on the mental health of students<sup>16</sup>. In general, medical students have a higher level of psychological impairment in the form of stress, anxiety and depression due to the high-pressure environment where they work and study<sup>17</sup>. But this pandemic increased the prevalence of anxiety, fear, depression, sleep disturbances, somatization and OCD disorder<sup>17</sup>. Students with these changes show a passive attitude in their academics such as loss of interest, poor performance and a disturbed routine<sup>18</sup>.

The social relationships of humans were greatly affected by pandemic spread of the Covid-19 virus and the increase of social distancing measures. A New York University sociologist, Eric Kleinberg stated that "we've also entered a new period of social pain. There's going to be a level of social suffering related to isolation and the cost of social distancing that very few people are discussing this yet"<sup>19</sup>.

The purpose of our study was to investigate the potential consequences of the COVID-19 pandemic on the education, mental health, and social wellbe-

ing of medical students in Pakistan. this study will provide baseline information for future researches.

## MATERIALS AND METHODS

A Cross-sectional descriptive study was conducted among two medical colleges of Khyber Pakhtunkhwa namely Bacha Khan Medical College and Nowshera Medical College from July 2021 to October 2021, consisting of a total population of 903 (336 from BKMC, 567 from NMC).

Our sampling methodology was a probability type. In the first step the whole population (903) was divided into ten strata's 1st Year(124), 2nd Year(120), 3rd Year(112), 4th Year(105) and Final Year(101) of NMC and 1st Year(106), 2nd Year(63), 3rd Year(65), 4th Year(54) and Final Year(52) of BKMC by using the stratified probability method. In the 2nd step 32.8% of NMC and BKMC students were selected through systematic probability sampling. The sample size calculated online by a website (surveysystem.com) was 270, assuming the response rate of 50%, 95% confidence interval, and margin of error of 5%. A further 10 %(27) was added to counteract any errors in completing the questionnaires, resulting in the final sample size of 297.

1st, 2nd, 3rd, 4th and final year students from BKMC and NMC were eligible for participation in the survey. BDS, MBBS and other students outside the premises of BKMC and NMC were excluded. prior to data collection ethical approval was granted by the IREB committee of the institute.

Questionnaires were distributed among students and in order to ensure confidentiality a box was placed outside the lecture theaters where students would drop the filled questionnaire. Data were analyzed by using SPSS version 28.0. Frequencies and percentages were calculated and presented through charts and graphs. A p-value of less than 0.05 was considered statistically significant. The subjects under the study were reassured that their info will remain confidential and will not be shared with anyone. The data was collected after informed consent.

## RESULT

The students included in the research study through sampling from BKMC showed a 93.39% response which consisted of 81.8% male students

and 18.2% female students. The students of NMC had a 68.6% response with 53.4% male students and 45.8% female students. Almost 68% of the students were fully vaccinated from both of the colleges.

The results indicated that the study pattern of the students from both colleges (BKMC and NMC) has changed while a smaller proportion did not notice any change. The lockdown has reduced the interest in studies of 73.7% students from BKMC and 77.9% students from NMC while 5-8% students from both colleges disagreed. Almost 80% students preferred self study during the pandemic while 14-16% preferred E-learning and 3-4% preferred group discussion. A significant number of students, 45.8% from NMC and 40.4% from BKMC reported an increase in their study workload while some proportion of students 26.7% from NMC and 29.3% from BKMC reported no change in their study workload. A smaller increase in workload was reported by 27.5% of students from NMC and 29.3% from BKMC.

On evaluating impact of COVID-19 pandemic on the mental health of the medical students, 57.6% medical students from BKMC and 64.1% students from NMC when alone during the pandemic felt a pronounced change in their mental status with 41.4% from BKMC and 35.9% from NMC noticing no change. About 47.5% BKMCites and 64.1% NMCites coped with their mental status through seeking help from family members while 8.1% students from BKMC and 6.9% students from NMC vented out the stress on others indicating anxiety among them. A small proportion of medical students, 4-5% from both colleges took help from a medical therapist while 8.1% students from BKMC and 3.8% students from NMC indulge themselves in recreational drugs to reduce stress. The sleep pattern of the majority of the medical students, 65.7% BKMCites and 55.7% NMCites, was increased and more than 8 hrs daily which reflected depressive symptoms among them. Approximately, 22-27% medical students from both colleges had a normal sleep time. About 10.1% BKMCites and 15.3% NMCites had a disturbed sleep pattern while 2% of the students faced reduced sleep time of less than 5 hrs. The increased publication and news based on COVID-19 circulating on the social media has led to more fear in about 70.7% students from BKMC and 77.1% students from NMC while 7% of the medical students from both colleges did not develop any fear

from the news.

Regarding social life, the day-to-day life of medical students affected to some extent from BKMC was 57.6% and NMC was 55%. About 23.2% BKMCites and 34.4% NMCites noticed an extensive change in their daily life while 19.2% students from BKMC and 9.9% students from NMC did not notice any change. Being alone at home affected their relationships with friends and relatives in about 39.4% students from BKMC and 42.7% students from NMC. Other students (about 33.3% students from BKMC and 35.1% students from NMC) had no effect on their relation with friends and relatives. There were 27% of students from both colleges who had a little impact of the pandemic on their personal relations. The proportion of students indulging in physical activities from BKMC was 23.2% and from NMC was 18.3%. Approximately, 61-62% medical students from BKMC and NMC would sometimes participate in physical activities. Besides, 15.2% BKMCites and 19.1% NMCites would not participate in any kind of physical activities. The results indicated that almost 41-42% students from both colleges suffered economically during the lockdown period while a similar proportion did not suffer at all. About 12.1% students from BKMC and 15.3% students from NMC suffered severely during the pandemic crisis.

Table-III: Frequency Distribution of responses by the participants of the survey section-3 (Impact on Social life) (n=297). Human mental health and social well being are discreetly rooted in being surrounded by a functioning society. The corona-virus (COVID-19) pandemic has led to devastating impacts on medical academics, mental health and social life of medical students all over the world. With the current worldwide trend of social isolation and e-learning due to COVID-19 outbreak, medical students all over the world face a lot of challenges

**Table 1. vaccination status**

		NMC (n)	NMC (%)	BKMC (n)	BKMC (%)
Valid	Yes	89	67.9	67	67.7
	No	38	29.0	26	26.3
	Total	127	96.9	93	93.9
Missing	System	4	3.1	6	6.1
Total		131	100	99	100

**Table 2. Frequency Distribution of responses by the participants of the survey section-1 (Impact on Academics) (n=297).**

Questions	Responses	NMC (n)	NMC (%)	BKMC (n)	BKMC (%)
Do you feel that lockdown affected your interest in studies?	Agree	102	77.9	73	73.7
	Neutral	22	16.6	18	18.2
	Disagree	7	5.3	8	8.1
What was your way of studying during the pandemic?	Self-study	105	80.2	79	79.8
	Group discussion	5	3.8	4	4.0
	E-learning	19	14.5	16	16.2
What do you think your study work-load over the lockdown has been?	Smaller	36	27.5	29	29.3
	The same	35	26.7	29	29.3
	Larger	60	45.8	40	40.4

**Table 3. Frequency Distribution of responses by the participants of the survey section-2 (Impact on Mental health) (n=297)**

Questions	Responses	NMC (n)	NMC (%)	BKMC (n)	BKMC (%)
Do you think being alone during a pandemic has affected your mental status?	Yes	84	64.1	57	57.6
	No	47	35.9	41	41.4
If yes, how did you manage to improve your mental health problems?	By seeking help from a therapist	6	4.6	5	5.1
	By seeking help from family members	84	64.1	47	47.5
	By venting out the stress on others	9	6.9	8	8.1
	By indulging in recreational drugs	5	3.8	8	8.1
What was your sleep pattern during the pandemic?	Less than 5 hour	2	1.5	2	2
	6-8 hours	36	27.5	22	22.2
	More than 8 hours	73	55.7	5	65.7
	Random disturbed sleep	20	15.3	10	10.1
Do you think publishing more news on social media about COVID has caused fear and panic among people?	Agree	101	77.1	70	70.7
	Disagree	9	6.9	7	7.1
	To same extent	20	15.3	22	22.2

**Table 4. Frequency Distribution of responses by the participants of the survey section-3 (Impact on Social life) (n=297)**

Questions	Responses	NMC (n)	NMC (%)	BKMC (n)	BKMC (%)
How much did covid-19 impact your day to day life?	Extensively	45	34.4	23	23.2
	To some extent	72	55.0	57	57.6
	Not at all	13	9.9	19	19.2
Do you think being alone at home has affected your relationship with your college colleagues, friends & relatives?	Yes	56	42.7	39	39.4
	No	46	35.1	33	33.3
	A little	27	20.6	27	27.3
How often were you indulging in physical activities?	Most often	24	18.3	23	23.2
	Sometimes	82	62.6	60	60.6
	Not at all	25	19.1	15	15.2
Did you and your family suffer economically during the pandemic?	Yes a lot	20	15.3	12	12.1
	Somehow	54	41.2	42	42.4
	Not at all	56	42.7	44	44.4

in the form of mental stress and study overload in a limited number of resources.

## DISCUSSION

Our research showed that a large number of students 77.9% from NMC and 73.7% from BKMC had agreed to decrease interest in study during lock down. while 16.8% from NMC and 18.3% from BKMC remained neutral. On the contrary, an Observational study "Impact of Quarantine on Medical, Mental Wellbeing and Learning Behaviour" conducted by Sultan Ayoub showed that more than 80% of students lost interest in the study<sup>34</sup>. The results have shown that majority of the students (approximately 80%) from both colleges had preferred self study during pandemic while 14-16% preferred E-learning, and only a small group (3-4%) chose group discussion over the other two methods. While an international cross-sectional study was done on medical learners, exploring the global impact of Covid-19 pandemic on medical education. Contrary to our study it showed that more than half of students spent their time in online learning while most of the remaining pursued self directed learning<sup>35</sup>. The students were asked to compare the workload before onsite classes were canceled with the new circumstances after the lockdown. A significant number of students, 45.8% from NMC and 40.4% from BKMC reported increase in their study workload while some proportion of students 26.7% from NMC and 29.3% from BKMC reported no change in their study workload i.e. their workload remained the same as before Covid. A smaller increase in workload was reported by 27.5% of students from NMC and 29.3% from BKMC. A study conducted by Aristovnik et al. in Aug 2020 reported similar results where the largest proportion of students reported that their workload was larger or significantly larger<sup>36</sup>.

During our research students were asked if loneliness during pandemic had affected their mental health. Majority of students i.e 57.6% of BKMC students and 64.1% of NMC students felt a change in their mental status when were being alone during the pandemic while 44.4% of BKMC students and 35.9% of NMC students observed no effect of loneliness on their mental health. Similar results were obtained in research conducted by Yuval Palgi et al. which shows majority of the population agreed upon loneliness being a major risk factor for change

in mental status during covid 19 pandemic<sup>37</sup>.

The results of our study shows that the majority of students i.e. about 64% students from NMC and 47% students from BKMC sought help from their family members. Only 4% students from NMC and 5% students from BKMC consulted a therapist for help. About 6-8% students from both colleges vented out stress on others which indicates mental stress among them. A small proportion of the students had indulged in recreational drugs which include 3% students from NMC and 8% students from BKMC. A study conducted by Syeda Rubaba Azim shows that awareness regarding mental health and access to therapists reduced depression and anxiety disorders among the majority of medical students<sup>38</sup>.

An online cross sectional study was conducted from January 13, 2021 to February 15, 2021 among students of a medical college in Kathmandu, Nepal. The goal of the survey was to study the sleep quality and sleeping habits of medical students during the pandemic and how the pandemic affected the mental health of medical students. The questionnaire was distributed among students online via google docs and a total of 168 students filled out the questionnaire with a response rate of 88.2%. According to the research 30.36% of respondents had a poor quality of sleep during the pandemic<sup>39</sup>. However according to our study 10.1% BKMCites and 15.3% NMCites had a disturbed sleep pattern and 22-27% students had a normal sleep pattern from both the colleges while 65.7% BKMCites and 55.7% of NMCites experienced an increased or more than 8 hours of daily sleep during this period.

An email-based survey among medical and pharmacy students of the University of Liberia College Of Health Sciences between July and October 2020 was conducted in order to find out the impact of the covid mitigations strategies on the socioeconomic life of the students. It was found out that most of the students were worried about that financial status during covid and 67.3% reported income losses as a result of the pandemic<sup>40</sup>. Our research showed similar results with 57.9% of the students reporting that their families economically suffered "greatly" or "somewhat" during the pandemic. In a study conducted in Austria it was found that the main negative impacts of covid-19 pandemic were on social connectedness. The students were worried about the uncertainty of

returning to normal life and about their graduation. As there was social isolation it diverted the attention of students to video chats, social media, exercise and hobbies<sup>41</sup>. Our research showed similar concerns about social connectivity with 65.35% of the students reporting that being alone at home has affected their relationship with their colleagues, friends & relatives. 20.6% of the students reported that they most often indulged in physical activities, 62.28% students occasionally did physical activities and 17.5% were living complete sedentary life.

## CONCLUSION

Our study concluded that Covid 19 had adversely affected not only studies of medical students but also had negative effects on social well being of students and thus affecting their mental health, which is very important for a healthy life. Therefore, there is an urgent need for setting up of psychological assistance in both government and private medical and dental colleges as an effective intervention to cope with disruption created by COVID-19.

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