

# Impact on life Style Changes and Mental Health of Medical and Non-medical Students During Covid-19 Pandemic

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## ABSTRACT:

**Background:** Lifestyle is a part of the determinants of people's way of life. It is someone's way of living; the thing that person or a particular group of people usually do. The relationships of lifestyle changes with a pandemic situation among medical & non-medical should be highly considered. **Objectives:** To find out the impact of the Covid-19 pandemic on lifestyle changes and mental health among medical and non-medical students. **Methods:** A cross-sectional study was carried out among 200 respondents in between 8 November 2020 to 9 December 2020, of which 100 students were from medical and 100 were from non-medical backgrounds. A self-administrative structured questionnaire was sent randomly to the medical and non-medical students by using online google form. The informed written consent was taken from the participants and the confidentiality of data were maintained properly. **Results:** Certain degree of precautionary measures is taken by students to combat Covid-19 pandemic situation. Role & source of social media, injecting disinfectant directly into the blood, panic buying during covid-19 and problem facing while using online platform for education purpose had some association where p value is <0.05. Descriptive statistics and a chi-square test were performed. **Conclusion:** Covid-19 pandemic possesses substantial impact on life-style behavior of both medical and non-medical students. However, differences of opinion exist between medical and non-medical students on certain aspects of lifestyle behavior. Findings from this study provide a basis for policy makers to formulate lifestyle guidelines and mental health interventions for Covid19 pandemic.

**Key words:** Lifestyle and attitude, Medical and non-medical students, Covid-19 Pandemic.

## Introduction

Lifestyle means that progressive changes in the behavior, activities in individual workplaces, and changes in eating habits.<sup>1</sup> A lifestyle is also representing self-create cultural symbols that are published with personal identity. These lifestyles are impacted by many things like socioeconomic status, level of education, family, kin and social networks, gender, age, and interpersonal influences.<sup>2</sup>

The relationships of lifestyle changes with a pandemic situation should be highly considered. The noble coronavirus disease is highly contagious. The first outbreak of this pandemic coronavirus disease (Covid-19, also known as 2019 novel coronavirus), has occurred in December 2019 in Wuhan city of central Hubei province of China.<sup>3</sup> On March 11<sup>th</sup>, 2020, the WHO declared that the noble coronavirus is a pandemic and a global health emergency on 30<sup>th</sup> January.<sup>4</sup> According to WHO total of 50,407,819 confirmed cases, 1,258,359 deaths, and 35,639,301 recovered cases worldwide have been reported on 8<sup>th</sup> November 2020.<sup>5</sup> According to IEDCR, the first corona case in Bangladesh was confirmed on 8<sup>th</sup> March, 2020.<sup>6</sup> On 8<sup>th</sup> November, 2020 Bangladesh has reported a total of 420,238 confirmed cases with 6,067 deaths from covid19.<sup>7</sup>

The novel corona virus has caused extensive loss of life, break down daily activities as a result had a detrimental impact upon the lifestyle changes of affected people. Due to this pandemic, quarantine and social isolation have been attributed worldwide in countries including Bangladesh. In the world-wide quarantine and social isolation caused extensive changes

in the lifestyle of the population.<sup>8</sup> For this pandemic, people's daily activities, eating habits are changes, physical and mental health of human being significantly changes. A recent study showed that people under presuming lockdown their lifestyle and daily habits like eating habits, sleeping time are changed.<sup>9</sup>

Due to this pandemic, Bangladesh's large and diverse population also includes students like medical and non-medical students faces unique challenges like closure of educational institution, economic loss of their families. This pandemic is bringing off a huge impact on the lifestyle of the medical and non-medical students. In regular time these students are busy with their education and other activities. But in recent times due to this pandemic self-quarantined, unlimited isolation, social distancing, minimized traveling, panic for buying essential goods in bulk and excess information are also affect mental health adversely.<sup>10</sup>

Many developed countries like India, China had conducted studies which showed that this pandemic Covid19 has a remarkable impact on lifestyle changes of population. However, there is limited research on lifestyle changes of medical and non-medical students.

To summarize, the coronavirus disease can momentarily impact the lifestyle changes of the population. However, there has been no study in Bangladesh regarding this issue. Therefore, this study aims to evaluate the impact of the Covid19 pandemic on lifestyle changes between the medical and nonmedical students and eventually reach to meaningful conclusion based on statistical analysis.

## METHODOLOGY

A cross-sectional study was conducted in between 8 November 2020 to 9 December 2020 among the medical and nonmedical students across the countries ranging between <18 and >25 years. The study was carried out among 200 respondents (100 from medical and 100 from non-medical background). Study sample was selected by convenient sampling method. A standard pre-tested self-administrative structured questionnaire was prepared and the data were collected by using Google form, which was distributed in various social media platforms for a period of one week. The form consisted of twenty-nine questions. The participants were requested to participate in the study, willfully and were required to fill the questions upon receiving the link of the form. The questionnaire was prepared in English and the outreach of the study was limited to the people having an internet connection. Before the interview the purpose of the study was explained to each of the respondents. Informed consent was taken from each group of respondents.

The data was edited, coded and entered into the computer.

The entered data were analyzed. Statistical package for the social sciences (SPSS Inc. version 26, Chicago, Illinois, USA) was used for statistical analysis. Descriptive statistics and chi-square(x<sup>2</sup>) test were performed.

## Results:

**Table 1: Distribution of the respondents according to Age and Gender (n=200)**

Age of the Respondents	Medical Students	Non-Medical Students
<18	0%	4%
18-21	22%	18%
21-25	72%	71%
>25	6%	7%
Gender of the Respondents		
Male	20%	47%
Female	80%	53%

**Socio-demographic:** A total of 200 respondents participated in this study. The study group included 100 medical respondents and 100 non-medical respondents, accounting for 100% medical and 100% non-medical total respondents respectively.

**Table 2: Distribution of the respondents by their responses on precautionary measures taken for Covid-19 (n=200)**

Questions	Yes		No		P-Value
	Medical	Non-Medical	Medical	Non-Medical	
Do you wear a mask when you are outside?	99%	100%	1%	—	>0.05 (s)
Do you keep a distance of at least 1 meter from each other and avoid spending time in crowded places or in groups?	88%	83%	11%	16%	>0.05 (s)
Do you follow standard hand washing technique of 20 seconds time?	97%	93%	3%	7%	>0.05 (s)
Do you use your elbow as a safeguard during sneezing?	94%	92%	6%	8%	>0.05 (s)
Do you try to avoid travelling during pandemic?	98%	97%	2%	3%	>0.05 (s)

It can be perceived that half of the respondents fall in the age group between 22-25. Respondents aged between 18-21 are compromised 2<sup>nd</sup> highest percentage medical (22%) non-medical (18%) in this study. The age group such as <18 and >25 participated less in the study which are non-medical (4%) and medical (6%) and non-medical (7%) correspondingly.

A total of 200 respondents participated in the study. Out of this, 20% were male and 80% were female among medical

respondents and 47% were male and 53% were female among non-medical respondents correspondingly.

**Precaution:** People during the pandemic Covid-19 has followed some precautionary measures. We observed that activities like maintaining social distance by avoid traveling were performed by 98% medical respondents and 97% non-medical respondents

Hand washing is one of the common habits that everyone has tried to follow. While WHO recognized handwashing, technique followed by 97% medical respondents, and 93% non-medical respondents. Only 3% Medical respondents and 7% non-medical respondents were not followed these activities.

In the case of pre-cautions against respiratory droplets, use of elbow and use of mask were noticed among 94%, and 99% medical respondents, and 92%, and 100% non-medical respondents respectively while only 6%, medical and 8% non-medical respondents were did not use elbow. Only 1% of Medical respondents did not use mask in outside.

**Table 3: Distribution of the respondents by their responses on education during Covid-19 pandemic (n=200)**

Questions	Yes		No		P-Value
	Medical	Non-Medical	Medical	Non-Medical	
Do you think there is a possibility of session jam due to covid-19?	95%	85%	5%	15%	<0.05 (s)
Do you feel of Lack of interest in study?	89%	75%	11%	25%	<0.05 (s)
Do you use online platform for academic purpose?	91%	76%	9%	24%	<0.05 (s)
Do you face any problem while attending class?	92%	73%	8%	27%	<0.05 (s)
Is there any poor internet connection while attending class?	91%	75%	9%	25%	<0.05 (s)
Do you think there is lack of privacy while attending online class?	86%	75%	14%	25%	<0.05 (s)

**Education:** During this pandemic students' academic year was hampered most. Due to covid-19 session jam, lack of interest in study were observed among 95%, and 89% medical and 85%, and 75% non-medical respondents. During these pandemic online platforms were used for educational

purposes by 91% medical and 76% non-medical respondents. For using online platforms some problems were faced by the students. In the table we noticed that, problem facing while attending class, poor internet connection, lack of privacy was faced by 92%.91%,86% in case of medical and by 73%,75%,75% respectively in case of non-medical respondents.

**Table 4: Distribution of the respondents by their responses on stigma associated with Covid-19 (n=200)**

Questions	Yes		No		P-Value
	Medical	Non-Medical	Medical	Non-Medical	
Do you feel nervous seeking medical attention during the pandemic?	87%	78%	13%	16%	>0.05 (s)
Are older people are more likely to be affected by Covid-19 than younger persons?	85%	85%	15%	15%	>0.05 (s)
Do you think consumption of poultry can increase the risk of Covid-19 infection	18%	42%	82%	58%	<0.05
Can mixed herbs be used as a home remedy for of Covid-19?	76%	79%	24%	21%	>0.05 (s)
Do you think a person with Covid-19 can be presented without any symptom?	95%	92%	5%	8%	>0.05
Do you believe that Covid-19 can stick to the throat before reaching to the lungs?	84%	86%	16%	14%	>0.05 (s)
Do you think injecting disinfectant directly into the blood can kill Covid-19?	19%	43%	81%	55%	<0.05
Do you believe that Covid-19 can make our immunity system stronger?	42%	48%	58%	52%	>0.05 (s)

**Stigma:** Stigma associated with COVID-19 poses a serious threat to the lives of healthcare workers, patients, and survivors of the disease. This eventually draw an impact among the medical and non-medical students as well. We mark nervous tendency in case of seeking any medical attention by 87% of medical & by 78% of non-medical student's due to fear of getting while infected and 13% of medical, 22% of non-

medical respondents disagreed on this matter. Older people are more likely to be affected is believed by 85% medical & 85% non-medical students whereas 15% medical & 15% non-medical students are uncertain about this. A thinking of consuming poultry products can increase the rate of infection & mixed herbs can use as a cure is seen among 46%, 76% of medical & 40%, 79% of non-medical students respectively. Whereas 54%, 24% medical & 16%, 21% non-medical students disagree on this thought. Covid-19 can be asymptomatic is believed by 95% of medical & 92% of non-medical students whereas only 5% medical and 8% non-medical respondents disagreed with these matters. Coronavirus can stick to the throat for four days before reaching the lung is a common stigma among 84% medical & 86% non-medical students, on the other hand 16% of medical & 14% non-medical students are not sure about this. Some stigma like injecting disinfectant directly into the blood can kill the coronavirus & coronavirus can make our immune system stronger is also believed by 33%, 42% medical & 41%, 48% non-medical students respectively. But 81%, 58% medical & 55%, 52% non-medical students disagree upon this. statistically significant ( $p < 0.05$ ) was found on disinfectant use where p-value was  $< 0.05$ .

**Table 5: Distribution of the respondents by their responses on web and social media during Covid-19 pandemic (n=200)**

Questions	Yes		No		P-Value
	Medical	Non-Medical	Medical	Non-Medical	
Is Google reliable information?	94%	94%	6%	6%	$>0.05$ (s)
Is YouTube a reliable source of information?	72%	87%	28%	13%	$<0.05$
Is Facebook a reliable source of information for Covid-19?	89%	78%	11%	22%	$<0.05$
Do you think using social media platform reduces stigma?	74%	68%	26%	32%	$<0.05$
Do you think Facebook and other social media are helping people in getting emergency medical services during the pandemic?	97%	89%	3%	11%	$>0.05$ (s)

**Social-media;** Nowadays, social media are often seen as fast and effective platforms for searching, sharing, and distributing health information among the general population. The impact of which is also seen in the lifestyle among the medical & non-medical students throughout this study. We noticed that social

media is helping about 92% of medical & 98% of non-medical students to stay at home more. But 8% of medical respondents and 2% of non-medical respondents don't agree with this. 94%, 72%, 89% medical & 94%, 87%, 78% of non-medical students take Google, YouTube, Facebook respectively as a major source of information on social media. We also observe that 92% of medical & 98% of non-medical students think social media plays an important role in emergency medical services. 8% & 2% of medical & non-medical students were not thought social media helps on emergency medical services. Social media reduces stigma is believed by 74% medical & 68% non-medical students, disagree by 26% medical & 32% non-medical students. Statistically significant ( $p < 0.05$ ) was found on using Google and YouTube as a reliable source of information where p-value was  $< 0.05$ .

**Table 6: Distribution of the respondents by their responses on their mental health during Covid-19 pandemic (n=200)**

Questions	Yes		No		P-Value
	Medical	Non-Medical	Medical	Non-Medical	
Feeling anxious	89%	85%	11%	15%	$>0.05$ (s)
Feeling depressed	83%	86%	17%	14%	$>0.05$ (s)
Feeling helpless	77%	76%	23%	24%	$>0.05$ (s)
Sleeping difficulty	65%	69%	35%	31%	$>0.05$ (s)

**Mental health:** Due to this pandemic student's mental health was also affected. Feeling anxious, depressed, helpless, and sleeping difficulty were observed by 66%, 70%, 55%, 52% medical and by 86%, 78%, 71%, 68% non-medical respondents respectively 33%, 38%, 50%, 54% medical and 15%, 14%, 24%, 31% non-medical respondents were not feeling these conditions.

## DISCUSSION

The study focused on assessing lifestyle changes between medical and non-medical students regarding pandemic Covid19. During this pandemic people's life are unpredictable. Also, it has been observed that students are suffered the most difficult time and it also impact their lifestyle.

The current cross-sectional study assessed the lifestyle changes of medical and non-medical students in Bangladesh regarding the Covid19 pandemic. It was the first of its kind to our knowledge conducted in Bangladesh with an adequate sample size.

During covid-19 pandemic situation students followed some precautionary measures to protect themselves from virus. WHO recommended hand washing at least 20 sec.<sup>11</sup> In current

situation we observed that 97% medical students followed hand washing technique compare to 93% of the non- medical students who followed these hands washing technique.

A study conducted in India where they saw that most of the participants in their study used hand washing measurements during these pandemics.<sup>9</sup> In our study we also observed that use of mask medical respondents was 99% where non-medical respondents was 100%. Maintaining 1-foot safe distance from each -other and avoid spending time in crowded places or groups medical respondents 88% and non-medical respondents 83%.

A study conducted in Jordan where they saw 9,7% medical students used mask.<sup>12</sup> We compare those study we saw that in case of Bangladesh medical and non-medical students precaution measure level were close to each other where in case of Jordan medical students there was high gap of knowledge to take precaution measures during the pandemic.

In this study we observed the medical students suffered from anxiety, depressed, helpless, sleeping difficulty by 89%, 83%,77%,65% where compare to non-medical students suffered these problems by 85%, 86%, 76%, 69% respectively. A study conducted in USA where they saw that college students suffered from anxiety and depression states where 38.48%, 48.14%.<sup>10</sup> We compared those study we noticed that Bangladeshi students were suffered more mental health issues than USA students.

In this study we noticed that medical students were suffered most academically than non- medical students. A vast majority of medical students indicated that facing session jam problem, face problem while attending class, poor internet connection and lack of interest in study. In addition, and we also found statistically significant effects in all issues about educational purpose.

During a time of pandemic and limited contact with others, social media became one of the important platforms. The impact of Covid-19 pandemic on social media by world's general population, students, world leaders and professionals are alike and grossly effect on lifestyle. Social media have been used to spread information, entertainment, emergency medical attention which is sometimes cause distraction from the pandemic via internet. This is now a prominent source of information as 68% of American adults report retrieving news from social media platforms.<sup>13</sup> Also, in-case of finding the reliable source of information on social media regarding Covid-19 pandemic among the medical and non-medical students was a bit challenging. This study conducted among the medical and non-medical students we found that about 72% of medical students and 87% of non-medical students thought YouTube

as a reliable source of information. As YouTube is one of the most used social media in Bangladesh, students found it as a good source about any queries of the pandemic.

A study conducted by Basch evaluated the 100 most viewed videos in YouTube with the word "coronavirus", these together had more than 168 million views as of March 5, 2020. But most of the videos were found lack of recommendation of preventive measures, sign symptoms regarding Covid-19 where 90% of those videos found full of anxiety, deaths and quarantine status. 89% of medical and 78% of non-medical students thought that Facebook is a reliable source of information during this pandemic. Facebook is one of common social site throughout the world.<sup>14</sup> And we saw that medical students are more into Facebook than other sites. This can be because during this pandemic Facebook became one of the most common sources of telemedicine in Bangladesh.

A systemic review of research in America found that twitter is the most frequently used platform followed by YouTube and Facebook.<sup>15</sup> Also, these social media platforms helped students a lot to get destructed and stay at home. Instead of increase social distancing virtual communication make it easier to stay at home. In this study we found that about 92% of medical students and 98% of non-medical students thought social media helps them more to stay at home. Besides this there are many studies showed that social media has opened a new door to the world by social interaction. In Indonesia they used social sites as a source of public information.97% medical and 89% non-medical students recommended that social media helps to get emergency medical services during this pandemic. The increase rates of emergency calls by social media helps to assess the global condition as well.<sup>16</sup> Besides 3 in 4 Americans have gone to internet for seeking medical health information regarding any sort of health care issues.<sup>15</sup> Other side, according to the 2014 Digital Health Literacy Survey among European Citizens, 59% of Europeans used the Internet to check for health information.<sup>17</sup> In this study we clearly assess the strengths of social media and its multiple perspective. In spite of having so many drawbacks the objective of the study was showing how students are taking social media throughout the pandemic.

#### CONCLUSION:

This study showed that the Covid-19 pandemic may have positive and negative impacts on different aspects of lifestyle behaviors. In this research, we found that some similarities of basic precautionary measures between medical and non-medical students, and we also noticed that some dissimilarity of believing stigma between medical and non-medical students there for, the research data provided through this study will be helpful in decision making on public mental



health interventions during the COVID-19 outbreak. Further follow-up studies should collect relevant data to promote healthy lifestyles in pandemic times.

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**DATA AVAILABILITY STATEMENT:** The data presented in this study are available on reasonable request from the corresponding author.

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