



Department of Public Health  
Independent University, Bangladesh

# **Suicidal Ideation Among Bangladeshi University Students During The COVID-19 Pandemic: A Quasi-Systematic Review**

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A thesis submitted by

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in consideration of the partial fulfillment of the requirements for the degree of

**Master of Public Health (MPH)**

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# Declaration

I, Ms. Zannati Eva declare that this quasi-systematic review is my own unaided work and that I have acknowledged all sources to the best of my knowledge. This quasi-systematic review is being submitted in partial fulfillment of the degree of Master of Public Health at the Independent University, Bangladesh. It has not been submitted before for any degree or examination at this or any other university.

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## Supervisor's Approval

This is to certify that Ms. Zannati Eva worked on “**Suicidal Ideation among Bangladeshi university students early during the COVID-19 pandemic: A Quasi-Systematic Review**” under my supervision. I have gone through the paper. It is up to mark and try to my satisfaction

---

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## ABSTRACT

**Introduction:** Suicide is a widespread psychological public health concern that affects individuals everywhere in the world, and the COVID-19 epidemic adds to the burden on mental health. The objective of this quick systematic review was to gather information on the frequency of suicidal thoughts among university students and look into the variables that affected this behavior during the COVID-19 epidemic.

**Methods:** Here we conducted a Quasi-Systematic Review across a number of databases. Here mainly used “observational, A cross-sectional” type of studies to investigated the prevalence and associated risk factors for suicidal behaviors among Bangladeshi university (including public, private, and national universities located in different administrative units of Bangladesh) students. Here completely played out the “Google and PubMed search to find out the related research paper.

**Results:** A total of 31 data was collected from where 26 data were excluded due to incomplete information, and finally 5 data were considered for final analysis. All of the 5 studies included for qualitative synthesis were original articles published in English, with a publication data range from 2017to 2022 inclusive. All of these 5 studies originated in Bangladesh.

**Conclusion:** The COVID-19 pandemic period saw a significant rate of suicide thoughts among university students, with social isolation and screen usage being related with the pandemic's new environment. According to the findings, in order to protect students' mental health throughout the pandemic, support services should be made available to them.

**Key words:** Suicidal ideation, mental health, COVID-19 Pandemic, Suicidal factors, University students, Bangladesh

# Chapter One

## Introduction

### 1.1 Background

Society has been dealing with a serious health crisis since the start of the new Coronavirus (SARS-CoV2) pandemic, whose first case was discovered in Wuhan (Hubei/China) in December 2019. This crisis is classified as a worldwide public health issue and its duration is unknown (1). The key prophylactic methods in this situation are widespread vaccination of the community, the use of masks, strict hand cleanliness, maintenance of distancing measures, and social isolation through sanitary restrictions and quarantines (2). A number of social and behavioral changes are occurring in the professional and academic spheres as a result of the physical and social distance-creating tactics used (2). March 8, 2020, Bangladesh provided data on its initial three instances of the Coronavirus. By June 10, 2021, there were confirmed instances of the Coronavirus in 171,222,477 people across 220 countries, regions, and domains, with 3,686,142 of those cases leading to death (3). On March 26, 2020, the Bangladeshi government announced a nationwide lockdown to reduce the spread of disease. Schools, colleges, and universities have been shuttered since March 17, 2020, in order to reflect the social disconnect. Thus, this ongoing pandemic directly or indirectly affects almost 40 million undergraduate students nationwide and this hazardous pandemic has infected more than 1.9 million undergraduate students in Bangladesh who attend public and private universities (3).

University students have all the earmarks of being more helpless against suicidal ideation. It was found that almost 29% of university students have had suicidal ideation at some point in their lives. Although suicide refers to actually killing oneself, suicidal behaviors include having recurring thoughts of death (suicidal ideation), making plans to commit suicide (suicide plan), and actually attempting to commit suicide (suicide attempt). Extreme hopelessness, depression, or self-destructive activity (Para suicidal behaviors) are usually present alongside suicide behaviors (4). But still, suicide has developed into a global public health issue and now causes close to 800,000



fatalities annually across all age categories (4). 79% of these suicides take place in low- and middle-income nations like Bangladesh and the second-highest cause of death, after accidental injury-related deaths from accidents, is suicide, which primarily affects those aged 15 to 29 (many of whom are probably students) (4). An on-going Bangladeshi review concentrate on revealed that people matured under 30 years represent practically 61% of the all-out suicidal passing (5). Similarly, a couple of late review concentrates on utilizing media reports that have likewise investigated Bangladeshi students 'suicidal weakness. One study reported five suicides at the University of Dhaka within a ten-day period, and another reported 13 suicides by Bangladeshi medical sciences students over 23 months (6).

The number of university students in Bangladesh has gradually expanded over the past few years, yet the facilities at universities and the accompanying infrastructure for careers do not always satisfy the demands of many pupils (7). In addition, there are numerous issues with campus and academic life in Bangladesh, including inadequate housing, campus ragging (in which more senior students harass, abuse, and/or threaten freshmen or less experienced students), political violence, an unfavorable environment, and poor academic facilities (8). Alongside the previously mentioned issues, there are mental stressors connected with the absence of employer stability and vocation movement after graduation in Bangladesh (5).

The university is associated with the undergraduate programs, and the professional breadth of health services contribution for the imposed social demand drives them to enroll in a degree program in rehabilitation so they gradually notice insufficient regulation, inadequate staffing, and a reduced standard of the learning environment (10). Depressive symptoms are mostly influenced by these workplace concerns and relative inequity with other health professionals. Rehabilitation students are more likely to exhibit mental health problems or even suicidal behavior and the cause might not just be work-related, as mental health problems are becoming more common among Bangladeshi university students and Depression, anxiety, stress are examples of these common mental health symptoms (CMHS) (11). Covid- 19 pandemic was affected the mental health of university students , which are now restricted to remote learning, have changed, increasing screen time and decreasing daily social interactions (9). In Bangladesh, the prevalence of depression, anxiety, and stress is 54.3%, 64.8%, and 59.0%, respectively (12). The global population's mental health is also being threatened by the COVID-19 epidemic and the students have suffered because

of this unprecedented situation, which increases their risk of mental health issues **(13)**. According to a survey done among university students in Bangladesh, at the height of the COVID-19 pandemic, 62.9%, 63.6%, and 58.6% of students displayed signs of sadness, anxiety, and stress, respectively **(14)**.

## **1.2 Objective**

The COVID-19 pandemic rekindled concerns about university students' mental health, the risk of suicidal behaviors, and the need for awareness of suicidal ideation associated factors, which are atypical and may be directly related to the conditions imposed by the pandemic and this was due to the high number of scientific publications on suicidal behavior (ideation, planning, and attempt). As a result, the objective of this quasi-systematic review was to gather information on the frequency of suicidal thoughts among university students and look into the variables that affected this behavior during the COVID-19 epidemic. However, there is a dearth of study on suicide behavior and the factors that contribute to it among university students in Bangladesh, which is especially alarming given that the COVID-19 pandemic has been going on for a year. This study primarily sheds light on Bangladeshi students' absence of suicidal thoughts during the CoVID-19 pandemic period **(15)**.

# Chapter Two

## Methods

### **2.1 Data Sources and Search Strategy:**

The research question was developed following the primary inquiry posed was: "What is the prevalence and factors associated with suicidal ideation among university students during the COVID-19 pandemic?" The main search strategy is "Prevalence AND Suicide AND University Students AND Bangladesh (2017-2022)". Here mainly used "observational, A cross-sectional" type of studies to investigated the prevalence and associated risk factors for suicidal behaviors.

Among Bangladeshi university (including public, private, and national universities located in different administrative units of Bangladesh) students. Here completely played out the "Google and PubMed/Medline" search to find out the related research paper.

### **2.2 Selection Criteria:**

The main keywords of this study are "Covid-19, Suicidal ideation, Suicidal factor, University students, Bangladesh. Study Inclusion Criteria were: (1) those study population who were in Bangladeshi university students in times of the COVID-19 pandemic here mainly investigating the prevalence and factors associated with suicidal ideation; (2) being a Bangladeshi university student; (3) aged at least 18 years or older. The main exclusion criteria adopted were: (1) papers that are an article with another study design; (2) written in another language; (3) articles that included individuals who were not university students; (4) also those articles conducted with incomplete/unavailable data.

### **2.3 Study selection, data extraction and quality appraisal:**

We carried out the following steps to decide on the studies: (1) searching the above-mentioned database using smellier search strategy (PubMed, and Google); (2) Titles and abstracts of studies were originally read and sorted in accordance with the eligibility criteria with regard to study selection; (3) The complete text was reviewed when the title/abstract did not include enough details to support the choice; (4) The chosen studies were then thoroughly studied in order to make the final decision, do a quality analysis, and extract the pertinent data. (5) The manual search process

involved all of the aforementioned selection processes as well as reading the included articles' references. Author, year, study location, sample size, participation age range, participant profile, tools and data collecting approach, prevalence data of suicidal thoughts and associated factors were among the information extracted from the chosen publications.

#### **2.4 Data Analysis:**

The nation, study design, study environment, sample size, sampling method, proportion and age range of participants, screening methods, and other specific study findings were provided. Using MS Excel, data was extracted and analyzed.

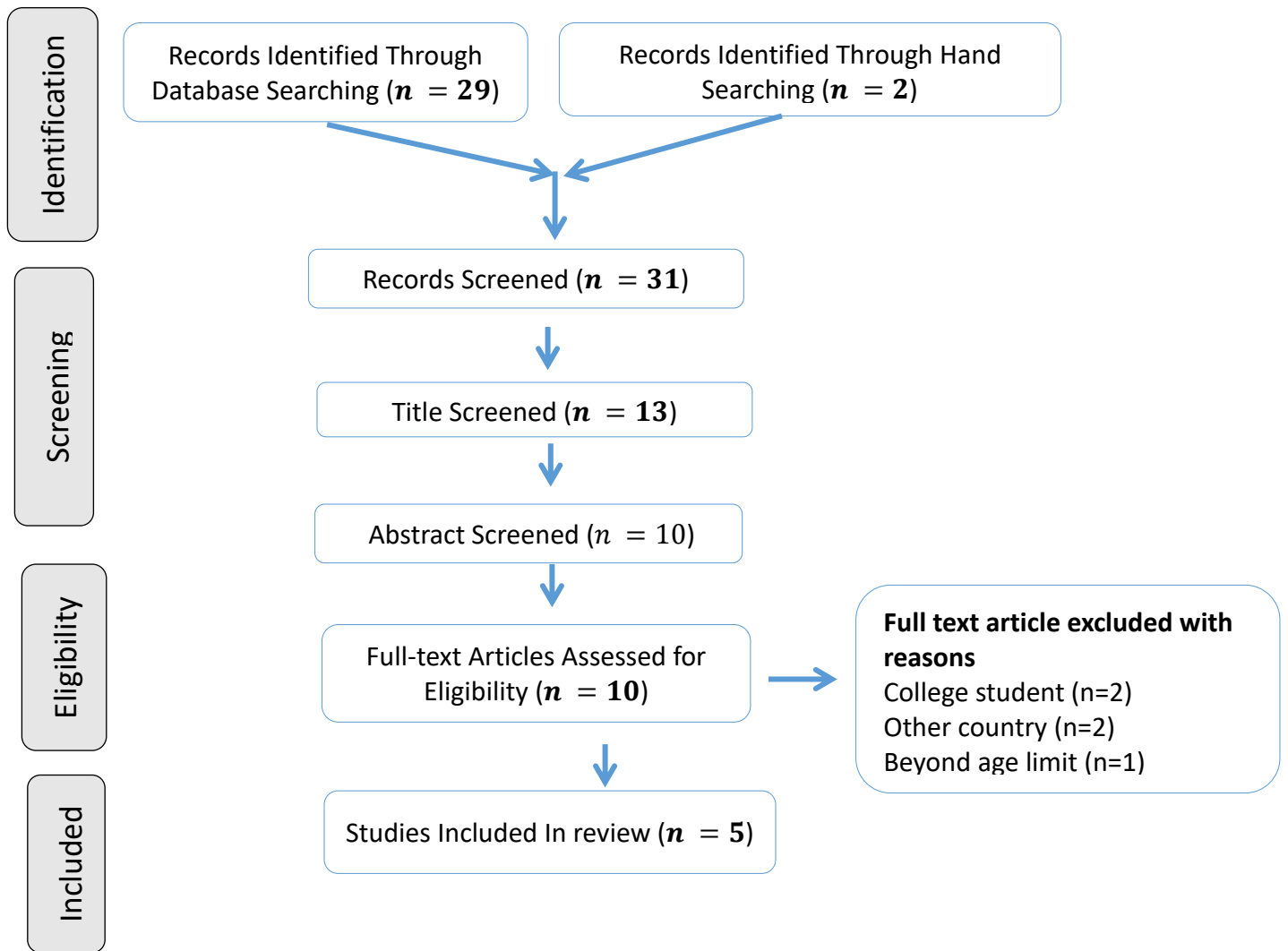


Fig-1: PRISMA flow Diagram

# Chapter three

## Results

### 3.1 Search results:

First of all, to take decision screening all title of these 31 articles. After screening all the article title take only 13 articles. Then read the abstract of these 13 articles and take only 11 articles. After all read throw the whole 11 article and take only 5 article based on the participant age range, inclusion and exclusion criteria, sample technique, risk factor etc.

So a total of 31 records was collected from where 26 data were excluded due to incomplete information, and finally 5 data were considered for final analysis. A PRISMA flow diagram has been prepared to illustrate the study selection process (as shown in figure 1)

### 3.2 Summary of the included studies:

Table 1 summarizes the characteristics of the 5 studies included. Regarding the type of study, classification Variations were identified: cross-sectional studies (n=5) and these five studies mainly use here convenience sampling technique. All studies were carried out online, at public and private institutions, in a university setting, and with the consent of the participants. The students studied law, medicine, economics, literature, art, education, history, agriculture, and engineering, among other subjects. All of the 5 studies included for qualitative synthesis were original articles published in English, with a publication data range from 2017to 2022 inclusive. All of these 5 studies originated in Bangladesh.

In this study, social isolation, excessive screen time, sleep issues, sadness, anxiety, and stress were found to be strongly correlated with suicide ideation. Other indicators included sociodemographic characteristics (female gender, age 18 to 28, less favored socioeconomic status), COVID-19 symptoms, prior suicidal ideation, a history of suicide attempts, and a family history of suicide. It was feasible to identify being male, having a lower socioeconomic level, residing in rural areas, exercising regularly, and having strong academic achievement as potential protective factors related with suicide ideation.

From April 29 to May 15, 2021, (QM Rahman, AH Khan, A Al Zubayer, M Ahmed, MT Hasan, A Rahaman, MB Islam Heliyon, 2022) was conducted among university students from Bangladesh who lived in Dhaka, Chittagong, Barisal, Khulna, Mymensingh, and the divisions of Rajshahi, Rangpur, and Sylhet (15). (S Jannath, M Sohan, MA Rahman, MR Islam Open Health, 2022) at all is a press piece from Bangladesh that was the subject of an extensive Google search to obtain data from secondary sources. In Bangladesh, 22 university students killed themselves in total between March 17, 2020, and June 10, 2021. (16).

(MS Islam, MSH Sujon, MT Sikder, MN Potenza - Children and youth ..., 2020 – Elsevier) at all University students who were enrolled in a variety of topic areas at several universities in Bangladesh made up the target group for the third study. Throughout April and May 2020, a cross-sectional online survey was carried out utilizing the Google form (Google survey tool) (17). In the months of October and November 2019, (Rasheduzzaman M, al-Mamun F, Hosen I,Akter T, Hossain M, Griffiths MD, et al. (2022)) was carried out among undergraduate students at the University of Dhaka in Bangladesh. (18). In Bangladesh, between August and December 2019, (ME Rahman, M Saiful Islam, MA Mamun, MS Moonajilin, S Yi Archives of suicide research, 2022) performed the fifth study among students at Jahangirnagar University (19).

A brief description of this selected studied has been provided in table 1

**Table 1: Brief description of the selected studies**

| <b>Reference</b>        | <b>Study Information</b>  | <b>Prevalence</b>  |
|-------------------------|---|--|
| Rahman et al., 2022     | Study Design: cross-sectional study<br>Sampling: Convenient Sampling<br>Sample Size: 2100 | 47.90% of students were at high risk   |
| Jannath et al., 2022    | Study Design: cross-sectional study<br>Sampling: Convenient Sampling<br>Sample Size: 731  | 17.5% of respondents had suicidal thought and 4.9% tried to commit suicide   |
| Tasnim et al., 2020     | Study Design: cross-sectional study<br>Sampling: Convenient Sampling<br>Sample Size: 3331 | Prevalence estimate of suicidal ideation was 12.8%   |
| Zaman et al., 2022      | Study Design: cross-sectional study<br>Sampling: Convenient Sampling<br>Sample Size: 1844 | 13.4% total participants had past year suicidal ideation, 6.0% reported having lifetime suicidal plans and 4.4% had at least one lifetime suicidal attempt |
| Moonajilin et al., 2022 | Study Design: cross-sectional study<br>Sampling: Convenient Sampling<br>Sample Size: 384  | 13.8% reported having suicidal ideation during the past 12 months  |



**The factors associated with suicidal ideation are listed below-**

|                                   |                               |
|-----------------------------------|-------------------------------|
| • Social Isolation                | • Sleep disorder              |
| • Excessive screen time           | • Family history of suicide   |
| • Burden of families              | • Past suicidal thought       |
| • Being stressed of lockdown      | • History of suicidal attempt |
| • History of psychiatric disorder | • Low self esteem             |
| • Sexual abuse                    | • Cigarette smoking           |
| • Domestic violence               | • Depression                  |
| • Financial crisis                | • Anxiety                     |
| • Nuclear family                  | • Post-traumatic stress       |

**3.3 Participant characteristics:**

All the studies involved males and female’s age ranged between 18 to 30. According to every study, students aged 22 to 24 had a lower probability of engaging in suicidal conduct than those aged under 21. According to every study, there were more suicidal symptoms among university students between the ages of 18 and 24 during the COVID-19 pandemic. Additionally, it was discovered that female students were more likely than male students to engage in suicide conduct.

(QM Rahman, AH Khan, A Al Zubayer, M Ahmed, MT Hasan, A Rahaman, MB Islam Heliyon, 2022) From April 29 to May 15, 2021, 2100 university students in Bangladesh who were at least 18 years old participated in an online cross-sectional survey. (15)

(S Jannath, M Sohan, MA Rahman, MR Islam Open Health, 2022) at all Bangladeshi institution students will participate.

The sample size was 731, and the median age (SD = 2.33) was used. 22 examples of university student suicide were finally included for research after a meticulous review of the news, which excluded reports of suicides involving anyone other than Bangladeshi university students. (16)

(MS Islam, MSH Sujan, MT Sikder, MN Potenza - Children and youth ..., 2020 – Elsevier) at all total of 1979 (59.4%) men and 1352 (40.6%) women participated. The respondents ranged in age from 18 to 28 (mean age 21.4 years; SD = 1.9). (17)

(Rasheduzzaman M, al-Mamun F, Hosen I, Akter T, Hossain M, Griffiths MD, et al. (2022)) a total of 2,000 students were asked to take part in the poll; however, only 1897 did (94.6% response rate). Participants' median age was 20.92; the standard deviation was 1.72 years. (18) .

Using a convenience sample method, (ME Rahman, M Saiful Islam, MA Mamun, MS Moonajilin, S Yi Archives of suicide research, 2022) at all gathered information from 407 students at Jahangirnagar University (Dhaka, Bangladesh) who were between the ages of 18 and 27. (19)

### **3.4 Study Characteristics:**

All the included studies were cross-sectional in nature, 3 of them have convenience sampling technique.

(QM Rahman, AH Khan, A Al Zubayer, M Ahmed, MT Hasan, A Rahaman, MB Islam Heliyon, 2022) at all being a university student in Bangladesh, being at least 18 years old, having internet access, and residing in Bangladesh for the duration of the study time were taken into consideration as inclusion requirements. Participants who didn't fit the requirements were taken out of the study. This research is cross-sectional. (15)

(S Jannath, M Sohan, MA Rahman, MR Islam Open Health, 2022) at all 22 incidents of university students committing suicide over the course of a year were documented in Bangladesh. (16)

(MS Islam, MSH Sujan, MT Sikder, MN Potenza - Children and youth ..., 2020 – Elsevier) at all 3366 volunteers initially participated and filled out the survey. After deleting questions that were incomplete, 3331 surveys were eventually included in the analysis. (17)

(Rasheduzzaman M, al-Mamun F, Hosen I, Akter T, Hossain M, Griffiths MD, et al. (2022)) took place between October and November 2019, convenience sampling was used to perform a cross-sectional study with a total of 1844 university students. (18)

(ME Rahman, M Saiful Islam, MA Mamun, MS Moonajilin, S Yi Archives of suicide research, 2022) at all based on the following assumptions: a 50% predicted prevalence of suicidal ideation, a 95% confidence interval, and a 5% margin of error, the minimum sample size was 384. Convenience sampling was used to select the participants. If participants were registered as regular students at the chosen university, they were eligible for the study. (19)

### **3.5 Accepted studies**

(QM Rahman, AH Khan, A Al Zubayer, M Ahmed, MT Hasan, A Rahaman, MB Islam Heliyon, 2022) at all data were collected through convenience sampling technique via an online structured questionnaire through Google survey tool (Google Forms). In this study, a structured questionnaire along with an informed consent form, questions regarding socio-demographic information, COVID-19 related physical and psychosocial factors (CRPPF), preventive response to psychological stress, and Suicidal Behaviors Questionnaire Revised (SBQ-R) scale were used to assess suicidal behavior-related factors among the study respondents. (15)

(S Jannath, M Sohan, MA Rahman, MR Islam Open Health, 2022) at all used research papers, online newspapers (both in Bengali and English), and online news portals as secondary data sources in addition to conducting an extensive Google search to discover relevant articles. (16)

(MS Islam, MSH Sujan, MT Sikder, MN Potenza - Children and youth ..., 2020 – Elsevier) at all used Google's survey tool. With the Google survey link distributed through various online platforms accessible to university students (such as student Facebook groups, online forums, and university blogs), an internet-based survey was carried out. This investigation primarily counts The survey was conducted using a self-reported virtual questionnaire with informed consent and four sections examining socio-demographic, behavioral, suicidal, and psychological aspects. (17)

(Rasheduzzaman M, al-Mamun F, Hosen I, Akter T, Hossain M, Griffiths MD, et al. (2022)) at all used PHQ screening tool, in the research team delivered a "paper-and-pencil" survey throughout lectures in all university departments to gather data. Data collection from participants was done using a convenience sample technique. Data were gathered based on sociodemographic

information, perceived health-related questions, stressful life events that occurred in the previous year, family mental health history, and suicidal behaviors (i.e., SI, SP, and SA). (18)

In the fifth study Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder (GAD-7) tools are used. The PHQ-9 scale, which consists of nine items, is a straightforward and accurate self-report tool for assessing depression. The validated Bangla version of the PHQ-9 scale was utilized in this study to gauge participant depression.

(ME Rahman, M Saiful Islam, MA Mamun, MS Moonajilin, S Yi Archives of suicide research, 2022) at all used Generalized Anxiety Disorder (GAD-7) scale, which consists of seven items, is a valid and accurate self-reported tool for assessing anxiety. Here utilized the Bangla version of the GAD-7 scale (19).

In all study there is a similarity that PHQ google screening tool mainly used in Bangladesh.

# Chapter Four

## Discussion

### 4.1 Key findings

In this regard, this Rapid Systematic Review appears to be the first to map the literature on suicidal ideation in the university students during the COVID-19 pandemic period. We observed a high combined prevalence in the studies, which is associated with several key factors. University students are particularly vulnerable to mental health problems.

The main finding from this research was that students aged 22 to 24 were less likely than those aged 21 or younger to engage in suicidal conduct. It was shown that female students were more likely than male pupils to engage in suicide conduct (20).

The results of this study are congruent with findings from other studies and Bangladeshi suicide patterns (i.e., females had higher prevalence rates among all types of suicidal behavior).

Also, it has been discovered that the disparity between males and girls in suicide rates is bigger as a result of interpersonal issues, financial difficulties, and academic failure (21). The ongoing COVID19 pandemic is having an effect on students' mental health, as are the COVID19 responses and future uncertainties (22). Also, because of the increased screen time, online learning makes mental discomforts worse. As a result, a lot of students expressed loss of focus, anxiety, mental tension, and dissatisfaction with their academic courses (23).

Students are more at risk for suicide because of mental health issues, financial difficulties, and discontent with their future academic and professional aspirations, in addition to all the COVID-19-related reactions. Suicide is a serious manifestation of poor mental health. Because they were prevalent in numerous prior illness outbreaks, mental health issues were anticipated to be present during the COVID-19 pandemic. The dread of getting the virus, social isolation, stories of deaths and rising rates of new cases, familial or financial difficulties, or interpersonal connection issues all contributed to a rise in psychological issues and levels of fear, sadness, and anxiety among people. Suicidal risk is elevated during the pandemic due to these poor mental health circumstances (24). Moreover, family, friends, members of society, as well as governmental and non-governmental organizations, should step up to help them and address their risky behavior in order to adopt effective suicidal prevention techniques.

### 4.2 Research Gap and Future Direction

According to a number of studies, being cut off from friends or family, struggling in relationships, feeling like a burden to one's family, and experiencing lockdown stress were some

of the factors significantly linked to an increased risk of suicidal behavior among university students (15).

To reduce the risk of suicide, the relevant authorities, such as researchers, governmental, and non-governmental organizations, should develop and put into practice effective preventive strategies addressing suicidal behavior among university students (15).

Future research should follow changes over time, assess the effectiveness of mental health therapies, and specifically explore any potential relationships with COVID-19. Students should attempt to follow the COVID-19 pandemic health recommendations in the meantime and to promote improved mental and general health (25). Larger scale community-based research should be encouraged to examine the phenomena and determine the means to avoid it (3).

### **4.3 Limitations**

Despite my best efforts, there were several limitations to this study. There was limited article published on this topic. In this study I only take those students whose age range 18-30 but other age's students I excluded from my study. This is a quasi-systematic review because

We only do two bibliography analysis for this whole systematic review. We couldn't address as many standard databases as we need in public health or clinically systematic review.

Our team is just having two people. A good systematic review is one that has a good reviewer team, but we didn't have a good reviewer team.

We have not been able to start working on publishing the protocol in Prospero.

# **Chapter Five**

## **Conclusion**

The prevalence and correlates related to suicidal thoughts among college students during the COVID-19 pandemic have been identified and documented in this study. The included studies showed a high prevalence of suicidal ideation and a number of associated factors, with a focus on excessive screen time, sleep disorders, social isolation, depression, anxiety, post-traumatic stress, sociodemographic factors (female gender, young adults, less favored socioeconomic class), previous suicidal thoughts, history of suicide attempt, and history of suicide in the family, showing that supportive measures should be made available to unemployed people. The authorities must take action based on the latest reports in order to battle this scenario and prevent suicide both during and after the COVID-19 pandemic.

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