

Original Article

Psychological Distress and Sleep Quality Due to COVID 19 Pandemic Among Higher Secondary Students

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Abstract

Background: COVID-19, a pandemic infection, causes negative effect on children and adolescent physical and mental health.

Objective: The objective of this study is to assess the psychological distress and sleep quality due to COVID -19 pandemic among higher secondary students.

Methodology: The total of 357 high school students of Nepal was included. The data was collected through online google form using K6 distress scale and sleep quality scale.

Results: The result shows mean age of the respondents was 17.1 years with 58.8 % were male. The total of 6.7% has mild level of distress and 67.2% has severe level of distress. The result shows that 31.9% has good sleep quality where as 68.1% has poor sleep quality. The relationship between sleep quality and psychological distress shows the modest negative relationship (p -value= -0.453).

Conclusion: The study concluded that there is high level of psychological distress and poor sleep quality among respondents.

Keywords: COVID-19, higher secondary students, K6, psychological distress, sleep quality.

Introduction

The COVID-19, pandemic and still alarming the world, was first identified in Wuhan city, China. Since then it is encroaching all most all countries worldwide. Nepal, Southeast Asian country, detected its first case in January 2020 and then the government declared nationwide lockdown from March 2020. These restrictions negatively affect various sectors including health, economy and education. The dealing with such effects in low and middle income countries are more challenging. (Ranjitkar et al 2022)

According to the United Nations Educational, Scientific and Cultural Organization COVID -19 causes school closure nationwide in 188 countries: affecting more than 1.5 billion children and

adolescents worldwide. They were isolated at home, along with that lock down and school closure cause negative consequences on their physical health, social health, education and mental health. (Segre G. 2021).

WHO put forward that COVID-19, a pandemic infection, has well documented that child and adolescents can have severe cases and death.(WHO 2020) . A study on effect of COVID-19 on youth mental health in China was conducted among 14-35 years of youth. The study revealed that nearly 40.4% of youth were found to be prone to psychological problems. (Liang L. 2020). The study in Italy about psychological effects of COVID-19 among 2291 respondents shows that 41.8% have high distress and 57.1% of participants reported poor sleep quality. (Casagrande M. 2020)

A study done among 206 Nepalese residents shows 33% of had sub threshold insomnia, 2.9% had moderate and 1% had severe clinical insomnia during the pandemic period. (Chandra A. 2020)

Adolescents may be anxious due to school closure, uncertain future in the face of cancelled exams and their understanding of pandemics and its consequences. So they are high change of emotional volatile including distress and even suicide. As per the report of Nepal Police the total of 149 reported case of teenage suicide from March 24 to June 6, 2020. (Dhungana S. 2020) These can pose threat to young people's wellbeing. Thus the aim of this study is to assess the psychological distress and sleep quality due to COVID -19 pandemic among higher secondary students.

Methodology

General objective:

To assess the psychological distress and sleep quality due to COVID 19 pandemic among higher secondary students.

Specific objectives:

1. To find out the psychological distress due to COVID 19 pandemic among higher secondary students.
2. To find out the sleep quality due to COVID 19 pandemic among higher secondary students
3. To examine the relationship between psychological distress and sleep quality.

Working definitions:

Psychological distress: The psychological distress in this study refers to the disturbance faced by high school students due to COVID-19 pandemic which was measured by using Kessler Psychological Distress Scale (K6+).

Sleep quality: The sleep quality in this study refers to evaluation of sleep among high school students due to COVID-19 pandemic which was measured by using Sleep Quality Scale (SQS).

Higher secondary education students: The higher secondary students in this study intended to population incorporated which include all the students who are studying in grade 12 of two school of Nepal.

Research Design: The descriptive cross sectional study design was used in this study.

Research Sample: The total enumerative sampling technique was used. The totals of 650 students were enrolled in both of the school. The total of 357 responded to the google form.

Data Collection Tools and Procedure

The data analysis tools were as follows:

Part I: Demographic profile. It includes age and gender of the sample.

Part II: Questions related to psychological distress using Kessler Psychological Distress Scale (K6+)

Kessler Psychological Distress Scale (K6+) is a widely used self-report measure of psychological distress. The tool is well validated in English language. It consists of 6 items to measure psychological distress among general population. (Kessler R. 2003) The question enquire how one is feeling in past 30 days with "0" means none of the time, "1" means a little of the time, "2" means some of the time, "3" means most of the time and "4" means all of the time. The total score sum to 24.

Score of ≤ 5 : mild distress; 5-13: moderate distress and ≥ 13 severe distress.

Part III: Questions related to sleep quality using Sleep Quality Scale

Sleep Quality Scale (SQS) is a self-reported question to assess sleep quality. This standard tool is well validated in English language. It consists of 28 items that are efficient to measure sleep quality. (Shin C. 2006) Some of the words were modified in few items to improve comprehension. It is a four-point, Likert-type scale; respondents indicate how frequently they exhibit certain sleep behaviors.

Rarely: None or less than 1-3 times a month

Sometimes: 1-2 times a week

Often: 3-5 times a week

Almost always: 6-7 times a week

The total scores can range from minimum 0 to maximum 84, with higher scores indicating poorer sleep quality. The scores above median obtainable score of 42 is considered as poor sleep quality.

Data collection procedure: The data was collected after following all the ethical consideration. A questionnaire was developed in English language using a

Google form. The personal email address along with date of birth of each student was collected and then form was send to each participant through personal email by researcher email address. On receiving and clicking the link the participants was auto directed to the information about the study. After they accept to take the survey, then a set of several questions appears sequentially, which the participants can answer. It took about 20 minutes to fill the Google form. The total of three days was given to fill up and submit the form. In between, reminder was given after two days. The form was set up in such a way that one participant can only submit one form with one mail account.

Data Analysis: The Statistical Package for Social Sciences (SPSS) version 16 program was used for data processing.

Ethical Considerations: Ethical approval was obtained from IRC-PAHS prior to data collection. The data in this study was kept anonymous to respect the privacy of the participants. The participants had the right to withdraw from participation in study at any time without any penalty. First page of the google form was participant's information sheet. It contains detailed information of the study procedure to the participants including objectives of the study. The submission of the filled questionnaire was considered as the voluntary consent to participate in the study. The study finding of this study was used for research purpose only. The participants have the right to withdraw from participation at any time in the study without any penalty. Students were explained that using google form for data collection will mask their identity from the researchers and students were assured that there was no any harm in their academic grade according to the response they provide.

Results

The obtained data was analysed as per objective of the study. The descriptive statistics was used to compute variables characteristics and identify level of psychological distress and sleep quality scale. The findings are presented below:

The table 1 shows characteristics of respondents, it illustrated that the mean age of the respondents is 17.1 years. The gender shows that 58.8%(210) were male and 41.2 % (147) were female. The psychological distress level was assessed among 357 respondents. The result shows 6.7% has mild level of distress, 26.1% has moderate level of stress and 67.2% has severe level of distress.

Table shows 1 characteristics of respondents, it illustrated that the mean age of the respondents is 17.1 years. The gender shows that 58.8%(210) were male and 41.2 % (147) were female.

The level of sleep quality among 357 respondents (table 4) was as following, in total of 31.9% had good sleep quality where as 68.1 % had poor sleep quality. The examination of relationship shows that there is significant modest relationship between sleep quality and psychological distress. The findings interpretation shows that increase in psychological distress causes decrease in sleep quality (p-value= -0.453).

The psychological distress level was assessed among 357 respondents. The result shows 6.7% has mild level of distress, 26.1% has moderate level of stress and 67.2% has severe level of distress. The table reflects level of sleep quality among 357 respondents. The total of 31.9% has good sleep quality where as 68.1 % has poor sleep quality.

Table 1. Respondents' characteristics N=357

Characteristics	Frequency	Percentage
Mean age	17.1 years	
Minimum age : 15		
Maximum age: 19		
Gender		
Male	210	58.8
Female	147	41.2

Table 2. Level of psychological distress N=357

Level of psychological distress	Frequency	Percentage
Mild level of distress (≤ 5)	24	6.7
Moderate level of distress (5-13)	93	26.1
Severe level of distress (≥ 13)	240	67.2

Minimum: 0, maximum:24, Mean=14.03+5.44

Table 3. Level of sleep quality N=357

Sleep quality	Frequency	Percentage
Good sleep quality (>42)	114	31.9
Poor sleep quality (≤ 42)	243	68.1

Table 4. Relationship between level of distress and sleep quality N=357

	Psychological distress	Sleep quality scale
Psychological distress	1	-.453**
Sleep quality scale	-.453**	1

** . Correlation is significant at the 0.01 level (2-tailed).

The examination of relationship shows that there is significant modest relationship between sleep quality and psychological distress. The findings interpretation shows that increase in psychological distress causes decrease in sleep quality (p-value= -0.453).

Discussion

The study was carried out among 357 high secondary school students to assess the psychological distress and sleep quality level. The result of findings of psychological distress level of the current study shows 6.7% has mild level of distress, 26.1% has moderate level of stress and 67.2% has severe level of distress. This high level of distress may be due to the fact that this group of students have been through two year of continue pandemic period, social distancing and academic as well as personal affect.

The comparable finding to this study was seen in a study done in Italy among 82 children to assess the impact of COVID-19 on psychological distress and changes in routine shows that there was psychological distress among 64 (78 %) children and adolescents had anxiety symptoms, findings also shows that 43.9 % of the students reported significant mood symptoms. (Segere G. 2021)

Also the findings of another study carried out in Nepal among 556 resident shows that 69.8% perceived moderate stress, 6.7% perceived high stress and remaining 23.6% only perceived low stress due to COVID-19 pandemic. The study concluded that poor mental well being was more prevalent among younger participants. (Shrestha C. 2021)

The further assessment of present study sleep quality level shows that the total of 31.9% has good sleep quality where as 68.1 % has poor sleep quality.

A study carried out among 6695 Chinese students shows that males with poor sleep quality accounted for 69.0% and females accounted for 73.5%. This study also showed that compared with college students with poor sleep quality, the detection rate of depressive symptoms was higher than that of college students with better sleep quality. (Bi C 2022) The meta analysis done shows the prevalence of insomnia 38.9% among health

care worker during the pandemic conditions. (Papa S. 2020). The study done in China among 7236 individuals show that 18.2% had poor sleep quality and 81.8% had good sleep quality. (Huyang Y. 2020)

The study conducted in Nepal among medical college students to assess sleep quality due to COVID-19. Out of 168 students, 51 of them (30.36%) were having poor sleep quality. The study concluded that poor sleep quality is common among students. (Shrestha D. 2021)

The examination of relationship between sleep quality and psychological distress shows that there is significant modest relationship between sleep quality and psychological distress. The findings interpretation shows that increase in psychological distress causes decrease in sleep quality (p-value= -0.453). A study was done in Saudi Arabia to assess the impact of isolation on sleep quality and psychological distress during the COVID-19 pandemic among 353 individuals. The result shows that there was a significant positive correlation between the PSQI and the K-10 scores (r coefficient: 0.35; P= 0.001) which reflects that individuals with high psychological distress have poor sleep quality. (AlRasheed M. 2021)

The finding of systemic review and meta-analysis conducted on finding the magnitude of sleep problems during the COVID-19 pandemic and its relationship with psychological distress. The review concluded that sleep problems were found to be associated with higher levels of psychological distress. (Alimoradi Z. 2021)

Conclusion: The study concluded that there is prevalent of high psychological distress and poor sleep quality among high school students. Also participants with poor sleep quality perceived high psychological distress. More studies are needed on a larger scale to address further determinants and correlates so that effective intervention can be given to this vulnerable population. Also there is time to incorporate and coordinate various discipline of society to mitigate the challenges of pandemic and ensure safe growth of adolescents and youth.

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