

Original Article

Daily Activities and Anxiety among School Going Children during COVID 19 Pandemic and School Closure

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Abstract

Background: The COVID-19 pandemic has caused a worldwide crisis leading to a negative consequence on the mental health of people, even children and adolescents. It disrupt daily routine and social scaffold as a result of school closures. All schools of Nepal have been closed since 19 March 2020, forcing over eight million learners to stay home.

Objective: To assess the daily activities and level of anxiety of school closure among school going children during covid 19 pandemic and school closure

Methods: A cross-sectional study was conducted among 193 school going children of grade 7-10 at three schools of Kathmandu valley, Nepal. Online data collection was done for three weeks using self-developed structured questionnaire in google form. Descriptive statistics and Pearson correlation was used for analysis of data. Statistical Package for the Social Science (SPSS) version 16 was used for analysis. P value was set at 0.05.

Results: Regarding daily activities of school going children, 97(50.3%) respondents spent their most of the time doing school work and sometimes in cleaning/washing, 86(44.6%) respondents spent their time in extracurricular activities (art, playing music, dancing) and 83(43.0%) in cooking. Sometimes, 75(38.9%) respondents were on contact with their friends using smartphone, landline phone and 56(29.0%) respondents played video games on smartphone, mobile game system. 49(25.4%) respondents spend their time with siblings, 46(23.8%) with mother and 15 (7.8%) respondents always spend their time lonely. Out of 193 respondents, 163(84.5%) had moderate anxiety, 29(15.0%) had severe anxiety and only 1(0.5%) had no anxiety. There is significant positive correlation ($r=0.165$, $p=0.022$) between age and anxiety.

Conclusions: Respondents spent their most of the time doing school work. Majority of the respondents were in moderate anxiety and less than one fifth were in severe anxiety and the same number of respondents always spend their time lonely.

Keywords: Anxiety, Covid 19 pandemic, Daily activities, School going children

Introduction

The COVID-19 pandemic has caused a worldwide crisis leading to a negative consequence on the mental health of people, even children and adolescents are majorly affected. One of the chief concerns is the disruption from daily routine and social scaffold as a result of school closures

(Joseph et.al, 2020). In response to corona virus outbreak, all schools of Nepal have been closed since 19 March 2020, forcing over eight million learners to stay home (Education International, 2020). School closure, lack of outdoor activity, aberrant dietary and sleeping habits are likely to disrupt children's usual lifestyle and can potentially

promote monotony, distress, impatience, annoyance and varied neuropsychiatric manifestations (Ghosh et.al, 2020). A study done in Japan indicates that at least a month school closure does not have a negative impact on children's mental health. But the respondents' anxiety about whether they would be able to return to their daily lives after school resumes, could worsen their mental health (Ishimoto et. al, 2020).

Mental health problems range from the worries as part of everyday life to serious long-term conditions. The majority of people who experience mental health problems can get over them or learn to live with them, especially if they get help early on (Mental Health Foundation, 2020). An abrupt change in the learning environment and limited social interactions and activities posed an unusual situation for children's developing brains. It is essential and obligatory to assess and analyze the psychological impact caused by the coronavirus pandemic on children and adolescents, as several mental health disorders begin during childhood (shah et.al, 2020).

Objective: This study aims to assess the daily activities and level of anxiety of school closures among school going children during covid -19 pandemic and school closure

Methods; A cross-sectional study was conducted in three private schools, Sagarmatha Educational Academy, located in Saraswotnagar, Kathmandu, Progressive Secondary School, located in Mahankal and Mandu Academy, located in Budhanilkantha as per convenient. Metropolitan City has classified schools into categories A, B, C and D. The categories were made on the basis of physical infrastructure, special training and academic achievements of the schools. As per the rule, schools under category 'C' cannot charge more than Rs 2,351 from a student per month, those under category 'B' not more than Rs 2,801 from a student per month (The Himalayan Times, 2009).

Sagarmatha Educational Academy and Progressive Secondary School are in category B and Mandu Academy is in category C. In these school middle economic level respondents are studying and their activities and level of mental effect may varies. All the respondents of grade 7-10 who are having internet access were included and they are

altogether in 289 numbers. But only 193 respondents responded to online survey.

The study was approved from Institutional Review Committee- Patan Academy of Health Sciences. Self developed structured questionnaire containing two parts was used to collect data. Part I contains socio demographic characteristics and activities during school closure. Part II contains statements related to anxiety and was measured in five point likert scale in terms of Not at all, Rarely, Sometimes, Most of time and Always. Score 1 was given for Not at all, 2 for Rarely, 3 for Sometimes, 4 for Most of time and 5 for Always.

In Part II, Anxiety related questions are divided in three domains. In first domain, anxiety over changes in lifestyle was measured which is divided in ten sub-points. Likewise, the second domain, anxiety over current situation of covid and the third domain, anxiety over falling behind scholastically have three sub-points. Therefore, Score 1 – 16 denotes No anxiety, Score 17 – 48 denotes Moderate anxiety and Score 49 – 80 denotes Severe anxiety (Kothari, 2004).

The validity of the instrument was maintained by reviewing related literature and consulting with subject experts.

Permission was obtained from the school authority of each school. After obtaining permission, e-mail address of each student was collected from class teachers. Respondents of grade 9 and 10 have their own email address. Then each student was informed about the study and its purpose with the help of class teachers in their online classes on zoom. Questionnaire in the goggle form was sent in the individual mail address of the student. The e-mail address of parents (either father or mother) was collected of the respondents of grade 7 and 8. Parents were informed about the study and sent the goggle form in their mail. Assent was taken from the respondents who were given permission by their parents. The duration of data collection was three weeks, 4/8/2077 (19/11/2020) – 25/8/2077 (10/12/2020). The reminder mail was sent on the third day of sending first mail; the second reminder was sent on fifth day and waited till a week. After a week another reminder was sent and waited for response. By the end of third week of sending the first mail, no response was received.

Anonymity of the respondents was maintained by not receiving back their email IDs and not making them to type their names on the goggle form.

Descriptive statistics in terms of frequency and percentage was used to measure daily activities and level of anxiety and Pearson co-relation test was used to assess co-relation between age and anxiety. Statistical Package for the Social Science (SPSS) version 16 was used for data analysis.

Results

Out of 193 respondents, the mean age was 14.60 ± 1.24 years. 64(33.2%) were in the age of 15. 111(57.5%) were female and 82(42.5%) were male. Regarding person with whom respondents spend their time during covid 19 pandemic and school closure, 15 (7.8%) respondents always spend their time lonely, 49(25.4%) spend their time with siblings, 46(23.8%) with mother, 28(14.5%) with father, 12(6.2%) with friend and only 9(4.7%) and 3(1.6%) with grandmother and grandfather, respectively.

Overall anxiety were measured in three related domains that are anxiety over changes in life-style, anxiety over the current situation of Covid 19 and anxiety over falling behind scholastically. Among them, respondents were more worried over changes in life-style with mean 22.18 ± 6.05 . The mean score of anxiety over current situation is 8.20 ± 3.42 and anxiety over falling behind scholastically is 8.52 ± 2.97 . In the context of anxiety over changes in life-style, 175(90.7%) had moderate anxiety, 17(8.8%) had severe anxiety and 1(0.5%) had no anxiety. Regarding anxiety over the current situation of Covid, 98(50.8%) had moderate anxiety, 70(36.3%) had severe anxiety

and 25(13.0%) had no anxiety. Likewise, 110(57.0%) had moderate, 70(36.3%) had severe and 13(6.7%) had no anxiety over falling behind scholastically.

Regarding anxiety over the current situation of Covid, 17(8.8%) respondents were always worried over infection to self, 29(15.0%) were worried most of the time, 53(27.5%) were worried sometimes, 21 (10.9%) were rarely worried and 73 (37.8%) were not worried. Likewise, 17(8.8%) respondents were always worried over infection to relatives. 31(16.1%) were worried most of the time, 75(38.9%) were worried sometimes, 22 (11.4%) were rarely worried and 48 (24.9%) were not worried. Similarly, 33(17.1%) respondents were always worried over the disease and death all over the world. 38(19.7%) were worried most of the time, 63(32.6%) were worried sometimes, 17 (8.8%) were rarely worried and 42 (21.8%) were not worried.

Regarding anxiety over falling behind scholastically, 17(8.8%) respondents were always worried over rejoining and adjustment in school. 24(12.4%) were worried most of the time, 48(24.9%) were worried sometimes, 33 (17.1%) were rarely worried and 71 (36.8%) were not worried. Likewise, 22(11.4%) respondents were always worried over not effective learning. 35(18.1%) were worried most of the time, 67(34.7%) were worried sometimes, 30 (15.5%) were rarely worried and 39 (20.2%) were not worried. Similarly, 44(22.8%) respondents were always worried over loss of a year. 50(25.9%) were worried most of the time, 46(23.8%) were worried sometimes, 22(11.4%) were rarely worried and 31 (16.1%) were not worried.

Table 1. Daily activities of school going children during covid 19 pandemic and school closure N = 193

Activities	Not at all	Rarely	Sometimes	Most of the time	Always
I wake up late in the morning	43(22.3%)	37(19.2%)	69(35.8%)	25(13.0%)	19(9.8%)
I spend time doing school work.	11(5.7%)	20(10.4%)	53(27.5%)	97(50.3%)	12(6.2%)
I spend time in extracurricular activities (art, playing music,	20(10.4%)	18(9.3%)	86(44.6%)	41(21.2%)	28(14.5%)

dancing).					
I spend time playing with friends.	58(30.1%)	46(23.8%)	57(29.5%)	25(13.0%)	7(3.6%)
I spend time playing with siblings.	40(20.7%)	35(18.1%)	68(35.2%)	32(16.6%)	18(9.3%)
I spend time listening to music.	21(10.9%)	18(9.3%)	65(33.7%)	46(23.8%)	43(22.3%)
I spend time in cleaning/washing.	19(9.8%)	23(11.9%)	97(50.3%)	39(20.2%)	15(7.8%)
I spend time in cooking.	40(20.7%)	45(23.3%)	83(43.0%)	23(11.9%)	2(1.0%)
I eat my meals alone.	106(54.9%)	36(18.7%)	31(16.1%)	10(5.2%)	10(5.2%)
I play video games on my smartphone, mobile game system.	39(20.2%)	36(18.7%)	56(29.0%)	44(22.8%)	18(9.3%)
I contact my friend(s) using my smartphone, landline phone.	37(19.2%)	36(18.7%)	75(38.9%)	27(14.0%)	18(9.3%)
I watch the news on the novel coronavirus on TV, smartphone.	36(18.7%)	41(21.2%)	73(37.8%)	25(13.0%)	18(9.3%)
I am physically active, such as taking walks, doing exercise, playing outdoor games.	25(13.0%)	36(18.7%)	72(37.3%)	31(16.1%)	29(15.0%)
I sleep most of the time.	94(48.7%)	55(28.5%)	37(19.2%)	5(2.6%)	2(1.0%)
I stay up late at night.	67(34.7%)	44(22.8%)	49(25.4%)	24(12.4%)	9(4.7%)

Table 2. Respondents' overall level of anxiety N = 193

Level of Anxiety	Frequency	Percentage
No Anxiety	1	0.5
Moderate Anxiety	163	84.5
Severe Anxiety	29	15.0

Table 3. Anxiety over changes in life-style N = 193

Items	Not at all	Rarely	Sometimes	Most of the time	Always
No suitable place to take online classes	104(53.9%)	28(14.5%)	43(22.3%)	15(7.8%)	3(1.6%)
Lack of peer/classmate contact	92(47.7%)	32(16.6%)	47(24.4%)	13(6.7%)	9(4.7%)
Physically less active resulted in excess weight	102(52.8%)	38(19.7%)	38(19.7%)	14(7.3%)	1(0.5%)
Have much prolonged screen time	47(24.4%)	46(23.8%)	46(23.8%)	46(23.8%)	8(4.1%)
Have to be dependent in internet for learning	27(14.0%)	30(15.5%)	57(29.5%)	36(18.7%)	43(22.3%)
Low access to computer and laptop	87(45.1%)	24(12.4%)	53(27.5%)	11(5.7%)	18(9.3%)
Having less favorable diets	102(52.8%)	36(18.7%)	35(18.1%)	15(7.8%)	5(2.6%)
Irregular sleep schedule	95(49.2%)	35(18.1%)	44(22.8%)	9(4.7%)	10(5.2%)
Missing school play, extra-curricular activities	41(21.2%)	20(10.4%)	47(24.4%)	37(19.2%)	48(24.9%)
Misbehaved by parents (shouting, beating, shows aggressive behavior)	142(73.6%)	30(15.5%)	19(9.8%)	1(0.5%)	1(0.5%)

Table 4. Correlation between age, overall anxiety and its related domains N = 193

	Age	Overall Anxiety	Anxiety over changes in life-style	Anxiety over current situation of Covid	Anxiety over falling behind scholastically
Age	1				
Overall Anxiety	0.165* (p = 0.022)	1			
Anxiety over changes in life-style	0.112 (p = 0.121)	0.821 (p = 0.000)	1		
Anxiety over current situation of Covid	0.73 (=0.316)	0.643 (p = 0.000)	0.195 (p = 0.007)	1	
Anxiety over falling behind scholastically	0.196** (p = 0.006)	0.660 (p = 0.000)		0.426 (p = 0.000)	1

*Correlation is significant at the 0.05 level (2-tailed) **Correlation is significant at the 0.01 level (2-tailed)

Discussion

Regarding daily activities of school going children during Covid 19 pandemic and school closure, 97(50.3%) respondents spent their most of the time doing school work and spent sometimes in cleaning/washing and in cooking were 83(43.0%). The respondents who spent their time in extracurricular activities (art, playing music, dancing) sometimes were 86(44.6%) and 75(38.9%) respondents were on contact with their friends using smartphone, landline phone. 73(37.8%) respondents sometimes watch the news on the novel coronavirus on TV, smartphone and 72(37.3%) respondents made them physically active by taking walks, doing exercise, playing outdoor games sometimes.

In this study, out of 193 respondents, 163(84.5%) had moderate anxiety and 29(15.0%) had severe anxiety. There is significant positive co-relation ($r=0.165$ in, $p= 0.022$) between age and anxiety. However, in a cross-sectional study done in China among 8079 junior and senior high school respondents aged 12 -18 years showed that 27% respondents had mild anxiety and 7.4% had moderate anxiety. In terms of grades, senior high school was a risk factor for depressive and anxiety symptoms meaning that higher the grade, the

greater the risk of depressive and anxiety symptoms (OR= 1.32, 95% CI 1.04–1.67) (Zhou et.al, 2020). These findings show that school going children also had effect of Covid pandemic and may effect on their mental health. Therefore, these groups should not be neglected and awareness of parents regarding symptoms of anxiety is needed. A significant positive co-relation between age and anxiety shows that the focused should be given as age increases as there is the chance of having high anxiety.

In this study 49(25.4%) respondents spend their time with siblings, 46(23.8%) with mother and 15 (7.8%) respondents always spend their time lonely. Similar to these findings, a study done in Japan showed that many spent most of their time with siblings or mother (Ishimoto et. al, 2020).

In the context of 3 related domains of anxiety, respondents were more worried over changes in life-style with mean 22.18 ± 6.05 . All the three domains of anxiety that is changes in life-style, current situation of covid and falling behind scholastically were significantly positively correlated with overall anxiety ($r = 0.821$, 643 and 660 respectively, $p = 0.000$). Similarly, the study conducted in 3 primary schools of Japan among 295 respondents showed that anxiety about the

current situation and the future, anxiety about whether they will be able to return to their usual life was moderately positively correlated with the total difficulties score ($r = 0.41$, $p = 0.000$). Anxiety about infection and falling behind in studies were also positively associated with total difficulty score ($r = 0.02$ and 0.25 , $p = 0.000$) (Ishimoto et. al, 2020).

Regarding anxiety over changes in life-style, in current study, 43(22.3%) respondents were sometimes worried of not having suitable place to take online classes. 47(24.4%) were sometimes worried of lack of peer/classmate contact. 38(19.7%) respondents were sometimes worried because of excess weight due to physically less active. Most of the time 46(23.8%) respondents were worried because of much prolonged screen time and 36(18.7%) were worried to be dependent in internet for learning. Because of low access to computer/laptop, 53(27.5%) were sometimes worried. 35(18.1%) and 44(22.8%) respondents were sometimes worried of having less favorable diets and irregular sleep schedule respectively. 48(24.9%) were always worried of missing school play, extra-curricular activities. Due to misbehaved by parents (shouting, beating, shows aggressive behavior) 19(9.8%) were sometimes worried. Similar to these findings, a population-based COPSYP study conducted in Germany among 735 children and adolescents showed that home schooling and learning was more difficult (64.4%), 82.8% reported fewer social contact and nearly two fifth (39.3%) children and adolescents stated that their relationships with their friends had been impaired. About a fourth (27.6%) reported that arguments had increased in the family (Ravens-Sieberer et.al, 2020).

Likewise, an observational study conducted in Italy among 41 children and adolescents showed that time spent in sports activities decreased by 2.30 (SD4.60)h/wk ($p=0.003$), sleep time increased by 0.65 (SD 1.29) h/d ($p=0.003$) and screen time increased by 4.85 (SD 2.40) h/d ($p < 0.001$) (Pietrobelli et. a, 2020).

These findings showed that changes in life style were the most anxious part, therefore, the schools can modify the class schedules, e.g., introducing more extra curricular activities, student teacher and

parent teacher interaction, counseling class by psychologist, psychiatrist etc.

Regarding worry over the current situation of covid, 17 (8.8%) was always worried over the infection to self and relatives. 33(17.1%) respondents were worried over the disease and death all over the world. Similarly, the study done in Italy and Spain showed that 23.3% were afraid of covid 19 infection and 23.1% were more worried when someone left the house (Orgiles, 2020).

Conclusion and Recommendation: Majority of the respondents were in moderate level of anxiety and less than one fifth of the respondents always spend their time lonely. The respondents who spend their time lonely may have severe anxiety. Therefore, it is recommended that further study can be done on relation between mental health effects and with whom they spend their time. Respondents were more worried over changes in life-style followed by worried over current situation of covid and falling behind scholastically. Thus, it is important to keep priority for respondents' mental health during such pandemic situation.

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3.Sagarmatha Educational Academy Chabahil, Saraswatinagar, Kathmandu Email: info@sageacademy.edu.np

References

Ghosh, R., Dubey, M. J, Chatterjee, S., & Dubey, S. (2020 July). Impact of covid-19 on children: Special focus on psychological aspect. *Minerva Pediatrica*, 72(3), 226-235.

- Ishimoto, Y., Yamane, T., Matsumoto, Y., & Kobayashi, K. (2020 June 2). The impact on children's mental health of school closures to prevent the spread of the novel coronavirus (COVID-19). Retrieved from doi: 10.20944/preprints202006.0006.v1.
- Joseph, S. J., Bhandari, S.S., Ranjitkar, S., & Dutta, S. (2020). School closures and mental health concerns for children and adolescents during the covid-19 pandemic. *Psychiatria danubina*, 32 (2), 309-310.
- Kothari, C.R. (2004). Research methodology methods and techniques. New age international (P) limited publishers. New Delhi. India. ISBN (13): 978-81-224-2488-1.
- Mental Health Foundation. (2020). What are mental health problems? Retrieved from <https://www.mentalhealth.org.uk/your-mental-health/about-mental-health/what-are-mental-health-problems>.
- Nepal: education unionists mobilise during covid-19 lockdown. (2020.05.11). Education International. Retrieved from <https://www.ei-ie.org/en/detail/16779/nepal-education-unionists-mobilise-during-covid-19-lockdown>.
- Orgiles, M., Morales, A., Delvecchio, E., Mazzeschi, C., & Espada, J.P. (2020 Nov.6). Immediate psychological effects of the covid 19 quarantine in youth from Italy and Spain. *Frontiers in Psychology*, Volume 11. Doi: 10.3389/fpsyg.2020.579038. Retrieved from <https://www.researchgate.net/publication/345383561>
- _Immediate Psychological Effects of the COVID-19 Quarantine in Youth From Italy and Spain.
- Pietrobelli, A., Pecoraro, L., Ferruzzi, A., Heo, M., Faith, M., Zoller, T., et.al. (2020 April 30). Effects of COVID-19 Lockdown on Lifestyle Behaviors in Children with Obesity Living in Verona, Italy: A Longitudinal Study. *Obesity, A research Journal*. Retrieved from <https://doi.org/10.1002/oby.22861>.
- Ravens-Sieberer, U., Kaman, A., Otto, C., Erhart, M., Devine, J., Schlack, R. (2020 Nov). Impact of the covid-19 pandemic on quality of life and mental health in children and adolescents. Doi:10.13140/RG.22.12848.58884. Retrieved from: <https://www.researchgate.net/publication/345172543>
- _Impact of the COVID-19 pandemic on quality of life and mental health in children and adolescents.
- Shah, K., Mann, S., Singh, R., Bangar, R., & Kulkarni, R. (2020 Aug 26th). Impact of COVID-19 on the Mental Health of Children and Adolescents. *Cureus*, 12(8), e10051. doi:10.7759/cureus.10051.
- The Himalayan Times. (2009 April 11th). Kathmandu Metropolitan City fixes tuition fee for private schools. Retrieved from <https://thehimalayantimes.com/kathmandu/kmc-fixes-tuition-fee-for-private-schools/>
- Zhou, S- J., Zhang, L-G., Wang, L-L., Guo, Z-C., Wang, J-Q., Chen, J-C et.al. (2020) Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of covid-19. *European Child and Adolescent Psychiatry*, 29:749-758.