Mental Health Status of Children in Home Confinement in Nepal During Covid-19 Pandemic

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Abstract

INTRODUCTION

Since the declaration of COVID-19 as a pandemic there has been many public health strategies implemented to decrease it's extraordinarily adverse consequences. On March 18 2020, an estimated 107 countries around the world implemented national school closures and the Government of Nepal followed sooth on March 19. Children across European countries felt isolated due to the lockdown according to Save the Children, with increasing levels of feeling psychological distress. The effects of COVID-19 may be assumed to exert more negative life outcomes (depression, anxiety, domestic violence and loneliness) for children as it was more severe, unknown and fatal. This study is designed with a to assess the perspective of the child's mental health condition.

METHODOLOGY

A descriptive cross-sectional online survey was done among children from two selected schools of Kathmandu, Nepal. Emails were sent to the children via the parents, following permission taken form schools, which contained a semi-structured pro-forma and Revised Child Anxiety and Depression Scale 25, along with and informed assent form.

RESULT

In the study 29.3% of the respondents were of age 14 years, maximum age of 18 (1.1%) and minimum age 12 (8.7%) with mean age of 14.4 and sd ±1.41. More than half 58.7% of respondents were girls. Similarly, most of the respondents (35.3%) were studying in grade 10. Likewise,73.4% of respondents were living in nuclear family. Moreover, less than half 48.9 of the respondents belong to the Lower Middle Class and only 1.1% belong to the upper class of socio-economic status. The maximum number of respondents have scored between 0-64 which means that majority of the respondents were in low severity in respect to depression and anxiety.

CONCLUSIONS

We found an increase in the levels of anxiety and depression in Nepali children and adolescent compared to pre-pandemic study. Policy makers should be alerted to this fact and judicious use of technology and strength of existing communities should be used to mitigate this in the future.

KEYWORDS

Lockdown Nepal, Child Adolescent Depression Anxiety, COVID19 Mental health

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INTRODUCTION

The 2019 novel coronavirus also known as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is rapidly spreading from its origin in Wuhan City of Hubei Province of China to the rest of the world.[1] The World Health Organization (WHO) declared the COVID-19 outbreak an international public health emergency on January 30, 2020[2] and a pandemic on 11 March.[3] As of WHO report, on 12 June 2020, there have been 7,410,510 confirmed cases of COVID-19, including 418,294 deaths worldwide.[4] In Nepal, the first case of COVID-19 pandemic was confirmed on 23 January 2020. As of May 30, 2020 there are 1368 confirmed cases of COVID-19 resulting in seven deaths and 206 recovered cases. By March 2022 we have reached more than 9.7 lakh cases with almost 12 thousand deaths attributed to COVID-19 infections.[5]

In the absence of vaccines, countries around the world had implemented various forms of "social distancing" as a policy to slow the virus' spread. This social distancing takes many

forms but, at its core, its aim is to keep people apart from each other by confining them to their homes in order to reduce contact rates.[6,7]

On March 18, 2020, the United Nation Educational, Scientific and Cultural Organization estimated that 107 countries had implemented national school closures related to COVID-19, affecting 862 million children and young people, roughly half the global student population. This situation had rapidly escalated from 29 countries with national school closures a week before. School closures are based on evidence and assumptions from influenza outbreaks that they reduce social contacts between students and therefore interrupt the transmission.[8] Following the same foot step in an attempt to contain the spread of coronavirus, on 19 March, the Nepal government declared suspension of all classes and postponement of all academic examinations including the Secondary Education Examination (SEE).[9]

Since the outbreak of COVID-19 and its subsequent transformation into a pandemic, it has affected persons from every age group; children and adolescents are not indifferent to this scenario. Although the mortality rate and severity of COVID-19 are relatively low in young people, all the infection control measures and preventive strategies are equally important to this special population of "teenagers" like all other age groups. Moreover, teenagers and children are considered to be hidden carriers of COVID-19 in recent pandemic.[10]

Almost one in four children living under COVID-19 lockdowns, social restrictions and school closures are dealing with feelings of anxiety, with many at risk of lasting psychological distress, including depression. In recent surveys by Save the Children of over 6000 children and parents in the US, Germany, Finland, Spain and the UK, up to 65 per cent of the children struggled with boredom and feelings of isolation.[11] As per The United Nations Organization the present secenrio may lead to severe psychological distress, domestic violence, child abuse, neglect and exploitation for children (UNO, 2020). The longer inactivity of children due to school closures, strict social distancing and fear of COVID-19 may have a deleterious effect on the well-being of children.[12] The effects of COVID-19 may be assumed to exert more negative life outcomes (depression, anxiety, domestic violence and loneliness) for children as it was more severe, unknown and fatal.[13] According to a UNESCO report, 1.6 billion children across 191 countries have been severely impacted by the temporary closure of the educational institutions.[14]

Children are particularly vulnerable because of their limited understanding of the event. They are unable to escape the harms of the situation physically and mentally as they have limited coping strategies. They may not be able to communicate their feelings like the adults. Closure of schools and separation from friends can cause stress and anxiety in children.[15-17]

Within the current circumstances, children are experiencing fears, uncertainties, and physical and social isolation and they may miss school for a prolonged period. Understanding their reactions and emotions is essential to properly address their needs. Nevertheless, parents are the key persons to identify the child's physical and psychological state. Hence, this study is designed with a perspective to assess the perspective of the child's mental health condition.

MATERIALS AND METHODS

A descriptive cross-sectional design was adopted to complete the study. The study was carried out among students of selected schools in Kathmandu metropolitan city via online portals. The sample size of the study was calculated in reference to a longitudinal study done in China with an objective to assess the mental health of the general population during the COVID-19 epidemic. The prevalence of anxiety and depression in given study was 28.8%[20], Determining 10% non-response rate with five percent allowable error, the calculated sample was a minimum of 111 students. Those children who already had a visited psychiatrist or psychologist before lockdown and those students whose parents do not provide consent to proceed for the study were not included in this study.

Data collection was done through the medium of online portals using a reliable and valid predesigned, pretested, semi structured and structured self-administered questionnaire and rating scale. After receiving the ethical clearance from the IRC-BMCTH; and getting permission the school, the school administration and concerned teachers of the respective schools were approached personally on phone. The set of online questionnaires along with an informed assent were disseminated to only those students whose parents gave permission to participate their child in the study. Prior to proceeding towards the questionnaires, the students were asked to fill up the assent form. Once the students complete the questionnaires and select the 'send' icon, the responses will automatically be saved in the researchers' Google account.

Same process of data collection was repeated in all the selected schools for four weeks. The data collection will be done using a predesigned, structured and semi-structured questionnaire, and a Revised Child Anxiety and Depression Scale 25. Revised Child Anxiety and Depression Scale 25 was developed to assess the anxiety and depressive among the children aging 8 to 18 years. The RCADS-25 broad anxiety scale demonstrated a sufficient structural validity (CFI = 0.98, TLI = 0.99, RMSEA = 0.03, SRMR = 0.03), internal consistency (alpha = 0.82), test-retest reliability (ICC = 0.73), criterion validity (AUC = 0.79) likewise The RCADS-25 MDD scale demonstrated a sufficient test-retest reliability (ICC = 0.70) and confirmed construct validity.[21]

RESULT

We sent out 325 of emails to students of the above mentioned schools, we received 190 responses of these 6 were excluded for incomplete responses, and 184 were included in this study. Almost 59% of the participants were female, with a mean age of 14.4±1.41, most (30%) were aged 14 years. About 35% students were in grade ten at the time of

the study and 60% lived in urban areas with almost three fourths from nuclear families and about 49% from lower socio-economic status and only 1% belonged to upper class [Table 1].

Table 1: Socio- Demographic Information of Respondents

Variables	Frequency (f)	Percent (%)
Age in Years		
12	16	8.7
13	34	18.5
14	54	29.3
15	36	19.6
16	30	16.3
17	12	6.5
18	2	1.1
Mean Age	**Std. Deviation**	**P-value of Shapiro-Wilk**
14.4 ±1.41		**< 0.001**
Sex		
Boy	76	41.3
Girl	108	58.7
Place of Residence		
Rural Area	71	38.6
Urban Area	113	61.4
Grade		
7	35	19
8	37	20.1
9	49	26.6
10	63	34.3
Type of Family		
Nuclear	135	73.4
Joint	39	21.2
Extended	10	5.4
***Socioeconomic Status**		
Lower Middle Class	90	48.9
Lower Upper Class	37	20.1
Upper Middle Class	55	29.9
Upper Class	2	1.1

According to RCADS-25 among 184 respondents about 90% of children scored below clinical threshold for depression and anxiety. Only about 5% and 4.5% had a score at borderline clinical threshold for depression and anxiety respectively and 4.8% had a borderline score for both. Whereas 6.5% of children had an anxiety score of above clinical threshold, 4.8% had an above clinical threshold for both anxiety and depression and this was true for only 3.3% in case of rating for depression [Table 2]. On doing a multivariate analysis we found no significant association between mental health status and different socio-demographic variables [Table 3].

Table 2: Mental Health Status of Respondents

Mental Health Status	0-64 Low Severity	65-70 Medium Severity	> 70 High Severity
	Frequency (%)	Frequency (%)	Frequency (%)
Depression	169 (91.8)	9 (4.9)	6 (3.3)
Anxiety	164 (89.1)	8 (4.4)	12 (6.5)
Anxiety and Depression	166 (90.4)	9 (4.8)	9 (4.8)

Table 2 depicts the mental health status of the respondents. The maximum number of respondents have scored between 0-64 which means that majority of the respondents were in low severity in respect to depression, anxiety and anxiety depression.

Table 3: Association between Mental Health Status and Variables

Variables		Borderline and High Low Severity f (%)	Severity f (%)	*p* Value
		Depression		
Sex	Boy	68 (89.5)	8(10.5)	.324
	Girl	101(93.5)	7(6.5)	
Type of Family	Nuclear	123(9.2)	12(8.8)	.963
	Joint or extended	45(91.2)	4(8.2)	
Socioeconomic status	middle class	116(91.3)	11(8.7)	.914
	upper class	51(89.5)	6(10.5)	
Place of Residence	Urban	106 (91.8)	7 (6.2)	.271
	Rural	63(88.7)	8 (11.3)	
Variables		Borderline and High Low Severity f (%)	Severity f (%)	*p* Value
		Depression		
Sex	Boy	68 (89.5)	8(10.5)	.324
	Girl	101(93.5)	7(6.5)	
Type of Family	Nuclear	123(9.2)	12(8.8)	.963
	Joint or extended	45(91.2)	4(8.2)	
Socioeconomic status	middle class	116(91.3)	11(8.7)	.914
	upper class	51(89.5)	6(10.5)	
Place of Residence	Urban	106 (91.8)	7 (6.2)	.271
	Rural	63(88.7)	8 (11.3)	
		Anxiety		
Sex	Boy	65 (85.5)	11(14.5)	.188
	Girl	99(91.7)	9(8.3)	
Type of Family	Nuclear	118(91.2)	17(12.6)	.445
	Joint or extended	45(91.2)	4(8.2)	
Socioeconomic status	middle class	112(88.2)	15(11.8)	.934
	upper class	51(89.5)	6(10.5)	
Place of Residence	Urban	103(91.2)	10(8.8)	.221
	Rural	61(85.9)	10(14.1)	
		Depression Anxiety		
Sex	Boy	69(90.8)	7 (9.2)	.440
	Girl	97(89.8)	11(10.2)	
Type of Family	Nuclear	120(88.9)	15(11.1)	.551
	Joint or extended	46(93.8)	3(6.2)	
Socioeconomic status	middle class	116(91.3)	11 (8.7)	.199
	upper class	50(87.7)	7(12.3)	
Place of Residence	Urban	61(85.9)	10(14.1)	.298
	Rural	105(93)	8(7)	

DISCUSSION

State imposed school closure to reduce the transmission of COVID-19 were sanctioned in most countries around the world including Nepal. In young children and adolescents, the pandemic and lockdown have a greater impact on emotional and social development compared to that in the grown-ups. In a recent national pilot survey of mental disorders in Nepal, investigators found rate of anxiety to be around 4% in children and depression was just more than 2%[21] whereas in our study we found these rates to be higher (anxiety about 11% and depression 8%.) from this we can postulate that there has definitely been some negative effect in the mental state of Nepalese children during the lockdown. A systemic

review of 61 studies, found most studies reported an increase in anxiety and depression prevalence, but the range of prevalence for both varied greatly in different studies. Range of anxiety prevalence found in different studies was from 1.8% to 49.5% and for depression was 2.2% and 63.8%. The differences in this rates could be due to the difference in the age groups in which the studies were conducted, the study with the highest prevalence was conducted among students in the last year of their high school[22] and in the study with the lowest prevalence the mean age of children was seen to be 10.5 years.[23] Younger age was seen as a protective factor for better mental health during the lockdown. Other reasons for the differences could be the type of rating scales used for screening for mental health problems and the different definitions used.[24] Studies that were done during the beginning of the pandemic and in areas where COVID affected more of the population, there was higher rates of mental health problems in both children and adults.[25,26] Another reason for differences in rates could be due to whether the rating scales were parent rated or by the child themselves.[27] This variation it could important when policies are being set for managing mental health problems during epidemics in the future, we should act more promptly and with greater vigour in areas which have higher cases and focus more one non-pharmacological public health measures as most of the issues of anxiety and depression could subside once the epidemic is under control.

Panchal et al have found lack of routine, female sex, older children, excessive exposure to information about COVID, previous mental health problems, community case frequency and relative with front-line jobs during the pandemic as risk factors for higher rates of mental health problems in children. Though we found higher rates of depression and anxiety in boys, symptoms of both anxiety and depression was higher in girls. Other studies have found no gender differences.[28,29] More children from nuclear families and rural areas were seen in our study, in previous studies some have shown increases risk in urban while others in rural areas. We didn't find any differences in the rates of anxiety or depression between children living in rural or urban population. Tiwari et al from their qualitative analysis concluded that joint families carry more resources to engage positively with children in creativity, studies, exercise and entertainment. Joint families could also better manage play behaviours, sleep habits, television watching and other activities, hence it would be easier for members of a joint family to quell worries of children regarding the pandemic.[30] If children are engaged in reading and exercise as a daily routine, it will protect them from mental disturbances. Having grand-mothers involved in care is one of the strongest predictors of normal social and emotional adjustment, grandmothers are important as a maternal advisor, social support and socialisation agent.[31] In times of crises open communication between parent and child is important, discussing the pandemic was found to be a protective factor decreasing severity as well as a protective factor against depression, anxiety and stress.

Anxiety and depression increased in children and adolescents from Nepal during home confinement due to COVID-19 pandemic in comparison to pre-pandemic rates. It was seen from many previous studies that lack of routine, adolescence, female sex, excessive exposure to COVID information, children with relatives as first line workers and those with previous health problems were more at risk.[32] Hence, health authorities need to be aware of the mental health implications of epidemics on children. The positive aspect of COVID-19 has been the rise of remote and virtual therapies for mental health. For a country like Nepal where access of mental health services is severely lacking, this could be seen as a boon. Promotion of tele-psychiatry has the potential to help many people living in remote areas where even when the pandemic ends. From a public health perspective, governments need to work with professional psychiatry and allied bodies to help develop plans for the future to mitigate mental health impacts of epidemics. Creating a plan wherein public offices incorporates the help of communities and schools to disseminate information about need for routine, exercise and adequate sleep for children as well as the need for adequate and appropriate communication between parent and child to protective mental health of children.

There were few limitations in our study, firstly this cross-sectional design was unable to find the relationship between risks and protective factors with mental health outcomes. In this study we collected data from students who were studying in Kathmandu, the capital of Nepal. Even though students were residing in different towns and cities of Nepal during the lockdown, we cannot negate the fact that there are many children who lived in rural areas. The plight of these more underprivileged children could not be explore by our study. We could not explore whether there were any parental factors, especially the relationship between parent and child, as a contributor to the mental health outcomes. These could have better informed policy makers to construct interventions. Furthermore, this being a self-rating we cannot ignore response bias being present. Our study only screened for depression and anxiety, whereas there are many children suffering with various other mental health problems, e.g. ADHD, Autism etc., even prior to the pandemic. An exploration to the consequences of pandemic and lockdown in their lives should be explored as well.

CONCLUSION

Engulfed by the effects of the COVID-19 pandemic humans have had to face many drastic repercussions. From a mental health stand point from our study we found an increase in the levels of anxiety and depression in Nepali children and adolescent. However, we could find any other associated factors to this rise. Policy makers should be alerted to this fact and judicious use of technology and strength of existing communities should be used to mitigate this in the future.

FUNDING SOURCE

Self-funded

CONFLICT OF INTEREST

None

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