

Original Research Article

A CROSS-SECTIONAL STUDY ON IMPACT OF COVID-19 PANDEMIC ON THE MENTAL HEALTH OF SCHOOL CHILDREN IN KANYAKUMARI DISTRICT

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ABSTRACT

Background: The COVID-19 pandemic declared as a global health emergency by World Health Organisation on March 24 2020, had many impacts on the health of the people especially mental health of children.

Objectives: To find the impact of COVID-19 pandemic on mental health and to determine the associated factors among children studying in various schools of Kanyakumari District of Tamil Nadu.

Material and Methods: A cross-sectional study was conducted among 400 school children selected through convenient sampling studying in selected schools of Kanyakumari District. A questionnaire covering 4 different domains with minimum score as 0 and maximum as 41, grouped as normal (> 30), borderline (15-30) and abnormal (<15) was used for data collection. The data collected was entered into MS excel and was analysed using SPSS version 26.0.

Results: Among the study participants 14 % of adolescents had abnormal mental health status, which was more among girls (15.7%) and around 67.5% of the adolescents had Borderline mental health status, which was more among boys (70.45%) and this association was found to be statistically significant ($p < 0.001$). Physical health factors domain was the most affected among girls (20.56%) and educational factors were affected the most among boys (19.54%) and these associations were found to be statistically significant.

Conclusion: Effective mental health promotion strategies that are tailored to the needs of boys and girls has to be in place starting from schools.

Keywords: Mental health, school children, Kanyakumari.

INTRODUCTION

The novel Coronavirus disease 2019 (COVID-19) is an illness caused due to Coronavirus-2 (SARS-CoV-2). The first case of COVID 19 was identified in Wuhan, China, during December 2019. The disease got quickly spread worldwide, resulting in the COVID-19 pandemic. Owing to its spread, on 24th April 2020, the World Health Organization (WHO) has declared this outbreak as a global health emergency. There have been 48,196,862 confirmed cases of COVID-19, including 1,226,813 deaths, reported to WHO since 2019.^[1] As a control measure to stop the spread of the disease, lockdown measures were instituted in many countries including India.

During lockdown, children were forced to stay home for extended periods due to closure of schools. Children were the most affected ones by the harmful effects of these measures, as they were unable to interact with their friends and other physical activities were restricted.^[2] All these have harmful impact on children's mental health and welfare which eventually leads to anxiety, stress, depression, and sleeping difficulties. It is necessary to follow-up the school children and to do comprehensive assessments for early detection of these health issues and appropriate management of their psychological, physical, and social function.^[3] Yet, there are no relevant literature available in Tamil Nadu on the long-term impact of COVID-19 pandemic on

children's mental health.^[4] Thus, it becomes important to determine how extended school closures, social distancing and the pandemic itself have impacts on the mental health status of children.^[5] Therefore, this study is aimed at finding the impact of COVID-19 pandemic on mental health and determining the associated factors among children studying in various schools of Kanyakumari District of Tamil Nadu.

Aim

To find out the impact of COVID-19 pandemic on mental health of school children studying in selected schools of Kanyakumari District.

MATERIAL AND METHODS

A Cross-sectional study was conducted among school children studying in selected schools in nine blocks of Kanyakumari District from 1 July 2021 to 31 December 2021. The sample size was scientifically calculated to be 400, based on the formula,

$$\text{Sample size (n)} = (Z\alpha/2PQ)/d^2$$

$$= 396 \quad Z\alpha/2= 1.96$$

$$P=20\% \quad Q= 80\%$$

$$\text{Relative precision (d)}= 20\%$$

With 10% non-response rate, n=399.96 approximated to a sample size of 400. The study participants belonged to the age group of 10-15 years (5th to 10th standard), studying in Government/Private/Aided schools, selected through convenient sampling method. Students and parents who were not willing to participate and give consent for the study, were excluded from the study.

A predesigned pretested semi structured questionnaire consisting of sections for collecting socio-demographic details and a section for assessment of mental health status which consisted of 41 questions, covering 4 different domains were used for data collection. It included questions on Educational factors like scholastic performances, extracurricular activities, Physical health factors like physical appearance, sight or hearing problems, appetite, Emotional factors like aggressive behaviour, substance abuse, mood swings, often feeling lonely, disinterest and Social factors like social interactions, conflicts with friends, family or neighbours. After getting Institutional Human Ethical Committee clearance (2624/ME2/2019),

consent was obtained from students and their parents prior to data collection. The questionnaire was given to the participant and were asked to respond to the questions based on their experience in the last one month. The minimum score was 0 and the maximum was 41. The scores were grouped as normal (> 30), borderline (15-30) and abnormal (<15), overall and also under each domain. Privacy and confidentiality were maintained throughout the conduct of the study. The data collected was entered into MS excel and was analysed using SPSS version 26.0. The results are expressed in percentages. The association between two proportions was tested using chi square test and a p value less than 0.05 was considered statistically significant.

RESULTS

Out of 400 participants, more than half of them (55%) were boys and the rest were girls. The mean age of the study participants was 12.6 years and most of them belonged to the age group of 10-15 years. Majority of them were Hindu by religion. When the educational status of parents was analyzed, around 55% of the girls' parents and 35% of the boys' parents were well-educated (degree holders or post graduate and above).

The mental health status among the study participants revealed that, overall, 14 % of adolescents had abnormal mental health status, which was found more among girls (15.7%) when compared to boys (12.74%). Around 67.5% of the adolescents had Borderline mental health status, which was more among boys (70.45%) as compared to girls (63.88%) and the p value was found to be statistically significant (p < 0.001). [Table 1]

Among the 4 major Domains assessed, physical health domain was affected the most (17%), among the students followed by educational (16.25%) and emotional factors (13.5%). [Table 2]

The gender wise distribution of mental health status revealed that, physical health factors were affected the most among girls (20.56%) as compared to boys and educational factors were affected the most among boys (19.54%) when compared to girls and these associations were found to be statistically significant. For emotional and social factors, both boys and girls were almost equally affected. [Table 3]

Table 1: Gender-wise distribution of mental health status among adolescents

Mental health status	Girls (n=180)	Boys (n=220)	Total n (%)	p value
	Frequency (%)	Frequency (%)		
Normal	37 (20.55)	37 (16.81)	74 (18.5)	
Borderline	115 (63.88)	155 (70.45)	270 (67.5)	p <0.001
Abnormal	28 (15.7)	28 (12.74)	56 (14)	

Table 2: Domain-wise distribution of mental health status among adolescents

Domain	Frequency (%) (n= 400)
1. Educational factors:	
Normal	124 (31)
Borderline	211 (52.75)

Abnormal	65 (16.25)
2. Physical health factors:	
Normal	104 (26)
Borderline	228 (57)
Abnormal	68 (17)
3. Emotional health factors:	
Normal	106 (26.5)
Borderline	240 (60)
Abnormal	54 (13.5)
4. Social factors:	
Normal	128 (32)
Borderline	249 (62.25)
Abnormal	23 (5.75)

Table 3: Gender-wise distribution of mental health status under different domains

Domain	Girls(n=180) Frequency (%)	Boys (n=220) Frequency (%)	p value
1. Educational factors:			
Normal	67 (37.23)	57 (25.92)	p <0.05
Borderline	91 (50.55)	120(54.54)	
Abnormal	22 (12.22)	43 (19.54).	
2.Physical Health Factors:			
Normal	26 (14.44)	78 (35.46)	p <0.001
Borderline	117 (65.)	111 (50.45)	
Abnormal	37 (20.56)	31 (14.09)	
3.Emotional factors:			
Normal	38 (21.11)	68 (30.90)	0.746
Borderline	116 (64.44)	124(56.36)	
Abnormal	26 (14.45)	28(12.74)	
4.Social factors:			
Normal	50 (27.7)	78 (35.45)	0.96
Borderline	120 (66.6)	129 (58.63)	
Abnormal	10 (5.7)	13 (5.92)	

DISCUSSION

The current study points to the fact that abnormal mental health status was more among adolescent girls (15.7%), which is similar to a study conducted by Apoorva,^[6] et al and Puwar et al 14 wherein prevalence of mental health disorders among adolescent girls was found to be 15.5% and 12.6%. This could be because, boys may have more difficulties in accepting their mental health problems and tend to mask their mental health problems by acting out their difficulties in the form of aggression, resulting in more externalising disorders that are problematic for others such as antisocial personality disorders and substance abuse or dependence.

Our study revealed that physical factors are the most common domain affected among the adolescents constituting to 17 % followed by educational factors, which is similar to a study conducted in Karnataka where the physical factors constituted about 17.3%, followed by educational factor (15%).^[6] These results were similar to another study conducted by Nair et al,^[10] wherein one tenth (10%) and 15% of the adolescents had the similar domains affected.

In the current study, when gender wise distribution of mental health status under different domains was assessed, it was found that, Educational factors were most affected among boys(19.54%), while physical factors were more affected among girls (20.56%) and these findings were similar to a study conducted in Karnataka where educational domain was most

affected among boys (17.7%) and physical health domain among girls (20.2%)⁶ Another study by Nair et al,^[10] also states that conduct disorders, peer problems and hyperactivity were more predominant among boys. The lower self-esteem of adolescent girls when compared to boys in the same age group, and their anxiety over their body-image is known to result in a higher prevalence of internalizing disorders such as depression, anxiety and eating disorders. This explains why physical health factors were most affected among girls as compared to boys.

Emotional factors were equally affected among both the genders, although the difference is not statistically significant and these findings were in contrast to a study by Nair et al,^[10] which states that emotional problems were found more common among girls. Girls are expected to be more emotionally sensitive, suffer more from stressors which involve significant others such as the death of friends or relatives, experience more family violence, abuse and school performance pressure.^[11,12,13]

CONCLUSION

A policy for improving the mental health of school students is the need of the hour considering the higher prevalence of mental health problems among school children. Effective mental health promotion strategies that are tailored to the needs of boys and girls has to be in place starting from schools.

Different societal expectations towards boys and girls which can lead to stress, eventually leads to mental health problems among adolescents, as they are at an emotionally vulnerable stage of life. It is necessary that the Integration of childhood and adolescent mental health in primary health care should be done. Mental health should be given more importance in Adolescent Reproductive and Sexual Health (ARSH) clinics. In school-based intervention programs life skill-based education (LSBE) in the regular curriculum, counseling services, mentorship program and health education along with Teachers' orientation programs should be provided.

Limitation of the study

As this study was done among the school students in kanyakumari district, the generalizability of the study may vary according to the age group studied. Recall bias is another important limitation confronted as the study was done among school students.

Recommendation of the study

School-based intervention programs like life skill-based education (LSBE) in the regular curriculum should be given. Counseling services, mentorship program and health education along with Teachers' orientation programs to adopt techniques which can help in improving the mental health should be provided.

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