

# Effect of Corona Pandemic (Covid-19) on Mental Health and Behavior in Children (Cross Sectional Study)

Corona on  
Mental Health  
and Behavior in  
Children

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## ABSTRACT

**Objective:** To detect the effect of corona pandemic (COVID-19) on mental health and behavior in children.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was conducted at the Doctor Hospital Gujrat Pakistan from January 2020 to April 2021.

**Materials and Methods:** Total 162 children from age group 01 to 12 years were selected for study who had heard about the corona pandemic (COVID-19) through media or any other source. Families who approached the hospital for check-up of a child were requested to ask few questions from their children to assess the change in mental health and behavior of children due to corona virus infection in the world. Healthy children accompanying the child who came for check-up were also included in the study. After detecting the risk factors and changes in mental health and behavior in children, immediately counseling and behavior therapy was started. The examination of risk factors associated with changes in mental health was conducted to identify potential influences.

**Results:** Numerous factors have been identified as potential contributors to changes in children's mental health and behavior including loneliness, leaves from school, delay of examination schedule, both electronic and social media, discussion in community and newspaper. One child might be affected by more than one risk factor as well. Children may experience various unwanted changes in mental health and behavior, including sleep and appetite disturbances, anger, difficulty concentrating, fatigue, physical complaints, feelings of hopelessness, increased sensitivity and irritability, and thoughts of death.

**Conclusion:** Many risk factors brought great unwanted changes in the mental health and behavior of the children during corona pandemic (COVID-19). Most important risk factors were social distancing and campaign on electronic and social media. Fearful, awful and frightening coverage on electronic and social media about corona pandemic may be the reason. Proper control and reduction in risk factors may be helpful in controlling such unwanted changes. Proactive and timely intervention, as well as counseling for both parents and children, can effectively mitigate adverse changes in children's mental health and behavior.

**Key Words:** COVID-19, Mental health, Behavior in children.

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## INTRODUCTION

Viral infections are increasingly prevalent in today's society. Diagnosing various viral infections has historically posed significant challenges.

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The clinical manifestations of viral infections often lack specificity, making accurate identification and diagnosis more difficult.<sup>16</sup> The coronavirus disease is an extremely contagious and perilous viral infection that results in respiratory complications<sup>17</sup>. The increasing prevalence of psychiatric issues has captured significant global interest in the field of mental health research<sup>16</sup>. Young children may respond quickly to external stimuli. Brain of the children is at growing stage and any bad external stimulus may give unwanted effects in later life especially in cognitive development<sup>1</sup>. The development of the brain especially cognitive development is dependent on the home environment and the surrounding environment. Nutritional deficiency may also affect the brain development of the child. Early intervention may have positive impact than the late intervention<sup>2,3</sup>.

Severe irritability may also be the typical feature of the depression in children. It may be the main cause of visit to the doctor by the parents. It is necessary to rule out

other medical or surgical causes of irritability before taking it as depression<sup>4</sup>. Mental health and behavior problems should be addressed as early as possible because early childhood problems may lead to recurrent or continuous course in later life<sup>5</sup>. Guilt, shame, irritability and hopelessness can be observed in very sensitive and depressed children. These parameters can be observed in preschoolers as well and these parameters may be helpful in early recognition of the behavior problem<sup>6</sup>. Extreme fatigue, excessive guilt and impaired cognitive abilities are the most powerful tools to diagnose depression and to differentiate other psychiatric disorders in children<sup>7</sup>.

Cognitive-behavioral therapy (CBT) can be beneficial for children in certain situations, but it is important to initiate it during the early stages of their condition<sup>8</sup>. The combination of cognitive behavioral therapy (CBT) and medication has shown encouraging outcomes<sup>9</sup>. Moreover group formation and behavioral activation strategies also appeared to be beneficial in school going children<sup>10,11</sup>. In children early intervention especially to control the developmental skills in preschool and school going children has proven to be successful in controlling the odd change in behavior during difficult time<sup>12,13</sup>.

Moreover a good prevention program formatted to control emotions in difficult situations has proven itself a beneficial tool<sup>14</sup>.

This research has the potential to address and mitigate modifiable risk factors that impact children's mental health and behavior. Moreover, it aims to achieve positive outcomes even after the external stimuli have ceased.

## MATERIALS AND METHODS

Total 162 children were selected for study who had heard about the corona pandemic (COVID-19) through media or any other source. All children who were unaware of corona virus infection in the world were excluded from the study. Families who approached the hospital for check-up of a child were requested to ask few questions from their children to assess the change in mental health and behavior of children due to corona virus infection in the world. All children from 01 to 12 years of age were included in the study. Healthy children accompanying the child who came for check-up were also included in the study. Later on parents were also asked about the changes in behavior of their child after the eruption of the corona virus infection in the world. After detecting the risk factors and changes in mental health and behavior in children, immediately counseling and behavior therapy was started. Descriptive statistics, such as mean or proportion, were computed for age, gender, and various risk factors. The study focused on analyzing the risk factors associated with changes in mental health and behavior among children. Additionally, the study examined the

alterations in mental health and behavior exhibited by the children.

## RESULTS

Total 162 children were included from January 2020 to April 2021. Out of total 162 children, 93(57.4%) were female children whereas 69(42.6%) were male children. 48 children (29.6%) were from 1 to 5 years of age whereas 114 (70.4%) were 6-12 years of age.

Several factors contribute to changes in children's mental health and behavior, and these have been identified as significant risks. These factors include feelings of isolation, disruptions in their education due to school closures, rescheduling of examinations, exposure to electronic and social media, and the influence of community discussions and media reports. One child might be affected by more than one risk factor as well. Electronic and social played pivotal role and affected 159(98.1%) children, 67(97.1%) male children and 92(98.9%) female children. Loneliness affected 55(33.9%) children, 12(17.4%) male children and 43(46.2%) female children. Total 46(28.7%) children were disturbed by delay in the examination schedule, 08(11.5%) were male children and 38(40.8%) were female children. Newspaper affected only 08(4.9%) children, 6(8.6%) male children and 2(2.5%) female children. It may be due to the reason that the newspapers are usually not read by children now a days (table 1).

Delay in examination schedule was taken very serious by female children and it affected 38(40.8%) female children, on other hand only 08(11.5%) male children gave importance to delay in examination schedule. Moreover loneliness also affected 43(46.2%) female children and on other hand only 12(17.4%) male children (table 1).

Total 24(14.8%) children were affected by Discussion in community about corona virus infection. Discussion in community about corona virus infection was taken very serious by male children and it affected 16(23.1%) male children, on other hand only 8(8.6%) female children gave importance to Discussion in community about corona virus infection. Moreover reading the newspaper also affected 06(8.6%) male children and on other hand only 02(2.1%) female children. Discussion in community about corona virus infection and the newspapers are usually in the reach of male children only. Female children usually avoid these activities (table 1).

Numerous undesirable alterations in mental health and behavior have been noticed in children, encompassing sleep disturbances, appetite fluctuations, outbursts of anger, diminished concentration, persistent fatigue, unresponsive physical complaints such as stomachaches, feelings of hopelessness, heightened sensitivity, irritability, and even contemplation of death. It is not uncommon for a child to exhibit multiple

negative changes in their mental health and behavior, with increased sensitivity and irritability being among them in 116 (71.6%) children, 32(46.3%) male children and 84(90.3%) female children. Fatigue and low energy was observed 114(70.4%) children, 46(66.7%) male children and 68(73.1%) female children. Total 96(59.2%) children told about changes in appetite, 24(34.7%) were male children and 72(77.4%) were female children. Total 85(52.5%) children did

complaint about changes in sleep, 18(26.1%) were male children and 67(72%) were female children. Problem of anger was observed in one male (1.4%) child and thoughts of death were observed in only 01(1.1%) female child. There was no element of anger seen in female children. Female children showed higher percentage of fatigue and low energy, increased sensitivity & irritability, changes in sleep and changes in appetite than male children (table 2).

**Table No. 1: Risk Factors Causing Changes in Mental Health and Behavior in Children**

Risk Factors	No. of male children (n=69)	No. of female children (n=93)	Total (n=162)
Loneliness	12(17.4%)	43(46.2%)	55(33.9%)
Leaves from school	03(4.3%)	16(17.2%)	19(11.7%)
Delay of examination schedule	08(11.5%)	38(40.8%)	46(28.3%)
Both electronic and social media	67(97.1%)	92(98.9%)	159(98.1%)
Discussion in Community	16(23.1%)	08(8.6%)	24(14.8%)
Newspaper	06(8.6%)	02(2.1%)	08(4.9%)

**Table No. 2: Unwanted Changes in Mental Health and Behavior in Children**

Unwanted Changes	No. of male children (n=69)	No. of female children (n=93)	Total (n=162)
Changes in sleep	18(26.1%)	67(72%)	85(52.5%)
Changes in appetite	24(34.7%)	72(77.4%)	96(59.2%)
Anger	01(1.4%)	00(0%)	01(0.6%)
Difficulty in concentrating	04(5.7%)	13(13.9)	17(10.4%)
Fatigue and low energy	46(66.7%)	68(73.1%)	114(70.4%)
Physical complaints like stomachaches etc. not responding to normal treatment	01(1.4%)	03(3.2%)	04(2.4%)
Feeling of hopelessness	12(17.3%)	26(27.9%)	38(23.4%)
Increased sensitivity and irritability	32(46.3%)	84(90.3)	116(71.6%)
Thoughts of death	00(0%)	01(1.1%)	01(0.6%)

## DISCUSSION

Due to the uncertain conditions caused by the COVID-19 pandemic, many families from Gujrat, a city in the Punjab province of Pakistan, have seen a significant number of their family members return home from various countries in the West, where they had been residing for employment purposes. Gujrat is located on the Grand Trunk Road, approximately 160 kilometers from Islamabad and 120 kilometers from Lahore. As a result of these returnees, the number of confirmed COVID-19 cases in Gujrat has been notably high.

In this research, we have examined the potential negative impacts on the mental health and behavior of children resulting from sudden changes in their environment. We have observed that the comprehension abilities of children can be altered by exposure to unfamiliar stimuli. The mental well-being and behavior of children can be adversely affected by distressing and frightening news received from any source. Previous studies conducted by Carlson et al. in 1980 and Luby et al. in 2003 have discussed how irritability can manifest in children as a symptom of various underlying illnesses, including depression<sup>4</sup>.

In our study, we observed heightened sensitivity and irritability in 116 (71.6%) children, with 32 (46.3%) being male and 84 (90.3%) being female (TABLE 2). Weisz and colleagues (2006) and Brent et al. (2006) have reported that Cognitive Behavioral Therapy (CBT), either alone or in combination with medication, has shown promising outcomes in the treatment of this condition<sup>8,9</sup>. In our research, we exclusively implemented behavior therapy as the treatment approach and observed positive outcomes. Webster-Stratton et al. (2004) and Hood et al. (2003) emphasized the significance of early intervention in addressing behavioral issues in order to attain desirable results<sup>12,13</sup>.

After identifying the issue, we promptly implemented behavior therapy to manage behavioral changes. IZARD and colleagues (2008) emphasized the potential benefits of preventive programs in mitigating emotional problems, thereby safeguarding individuals. Our study focused on identifying risk factors that impact children. By effectively addressing these risk factors in a timely manner, we can proactively minimize the severity of behavioral problems (Table 2).

Our children are future of our country. A Change in the surrounding and the environment is a continuous

process. A bad change in the surrounding and the environment can affect the children badly. We shall have to fight courageously to overcome these changes and factors. Early intervention and counseling may change the whole scenario.

## CONCLUSION

Many risk factors brought great unwanted changes in the mental health and behavior of the children during corona pandemic (COVID-19). Most important risk factors were social distancing and campaign on electronic and social media. Fearful, awful and frightening coverage on electronic and social media about corona pandemic may be the reason. Proper control and reduction in risk factors may be helpful in controlling such unwanted changes. Timely intervention and counseling of the parents and children can prevent the unwanted changes in the mental health and behavior of children.

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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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