

Overview on Children Mental Health Status during Coronavirus Disease: Expressing How to Support

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Abstract

Background: Coronavirus pandemic puts children in a more critical mental status compared to adults. Some symptoms of children's mental disorders include extreme dependence, anxiety, fear, anger, and impatience. The present study aimed to review the studies, which have investigated the effects of coronavirus and its consequences on mental health, particularly the children, and provide some effective strategies to support them.

Materials and Methods: In this overview, two researchers carried out the present study after comprehensive research according to the latest articles in PubMed/Medline, Web of Science, and Google Scholar until March 27 2020.

Results: Ten studies examined were conducted on the children mental health status (the symptoms of depression (22.6%), anxiety (18.9%), and the prevalence of Post-Traumatic Stress Symptoms (PTSS) (30%)) as well as irritability, anger, emotional discharge and other symptoms, such as sleep disorders, nightmares, nocturnal enuresis, eating disorders, the sense of loneliness, the fear of illness and loss of parents or caregivers, understanding the physical signs of the disease in children under quarantine, news of outbreaks and school closures. This review reports that the symptoms of fear and anxiety in children of 12-17 years old are higher compared to adults.

Conclusion: To reduce the negative psychological effects on the children arisen from coronavirus crisis, despite the recommendations of World Health Organization (WHO), and the United Nations Children's Fund (UNICEF), some strategies are significantly important including physiological counseling for parents and children, access to the mental health services, and paying more attention to the children exposed to risk.

Key Words: Children, Covid-19, Mental Health, Support.

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1- INTRODUCTION

The recent outbreak of the novel coronavirus started in Wuhan, China. It has affected people worldwide. The effects on the mental health status are considered besides the concerns regarding the pandemic of the disease (1). The pandemic disease leads to some psychological disorders, including stress, anxiety, and symptoms of depression, insomnia, denial, anger, fear, and attention disorder. These disorders affected all of the age groups, particularly the vulnerable groups (2). According to the WHO, the psychological impressions of the recent pandemic, the effect of quarantine, and disruption of usual daily activities besides the fear of infection with coronavirus have posed some serious psychological threats such as suicide (3). In such a situation, children had a more critical mental status compared to adults. They showed some mental symptoms such as extreme dependence, anxiety, fear, anger, and impatience (4).

Therefore, children need more emotional support and attention from their parents or caregivers (5). According to the severity of psychological vulnerability among children in the case of hospitalization of infected parents, WHO strictly emphasized maintaining the relationship with the children using online methods, phone during this pandemic (6). Moreover, the necessity of management in accepting the current condition to prevent the inappropriate and long-term consequences of the coronavirus epidemic on the mental health status, in particular in the vulnerable groups, is also considered (7). One of the impacts of the pandemic was school closures that led to academic distance, the interruption of children's social life, the sense of loneliness, occurrence or assistance to the occurrence of domestic violence, and addiction on online games (8). According to the previous studies conducting on some crisis, such as the SARS epidemic, some Post-Traumatic

Stress Disorder (PTSD) and a wide range of behavioral disorders happen immediately and remain for long-time among children and adults (9). The COVID-19 pandemic beside school closures leads to some concerns regarding the mental health status. It has some symptoms such as anxiety, depression, domestic violence, fear, and a sense of loneliness (10). According to the importance of mental health status, in particular for children, the current study aims to review the researches that already investigate the effects of coronavirus epidemic and its consequences on mental health, particularly the children, and provide some effective strategies to support them.

2- MATERIALS AND METHODS

The search was carried out according to the keywords ["COVID-19" OR "severe acute respiratory syndrome coronavirus 2" OR "2019-nCoV" OR "SARS-CoV-2" OR ("Wuhan" AND "coronavirus")] AND ("Children" OR "Child") AND ("Mental Health"). Similar keywords were extracted from MeSH and also through the manual search by reviewing the titles and the abstracts of the articles.

After the determination of the keywords, two separate researchers searched the electronic databases Scopus, Web of Science, EMBASE, and Medline (via PubMed) till March 27, 2020. To access the rest of the articles, their references were reviewed by manual searching. Moreover, the Google and Google Scholar search engines were also reviewed for more assurance, and the 3rd reviewer resolved any disagreement.

The present study was approved and supported by the Student Research Committee of Mazandaran University of Medical Sciences with ID-code: IR.MAZUMS.REC.1399.360 in 2020.

3- RESULTS

Ten studies were included in the present study according to the comparison between the inclusion criteria. In the survey study, among a total of 2330 students in elementary school in Hubei province, Wuhan, and second to sixth-grade students within a nearby city, Huangshi, 1784 students (1012 boys, and 772 girls) were examined who were quarantined from January 24. After 33.7 days of quarantine, the results reported the depression in 403 students (22.6%), and the anxiety in 337 students (18.9%), according to the Children's Depression Inventory-Short version (CDI-S), and the Screen for Child Anxiety Related Disorders (SCARED), respectively. However, students within Wuhan had more severe symptoms of depression compared to the students in Huangshi (odds ratio, 1.426 [95% CI, 1.138-1.786]).

Moreover, they were more concerned about the infection. Additionally, the results indicated various non-optimistic perspective concerning the disease with higher rates of infection based on the Depression Questionnaire (0.250-0.485) [95% CI: β , 0.367]). In the present study, gender had no significant effect on symptoms (11). Another review study investigated the mental health status among children and adults during the coronavirus epidemic in China.

In this investigation, 54% of participants had moderate to severe symptoms of depression and anxiety. Children had more symptoms of the multifaceted psychological burden of mental health disorders. Some effective factors in childhood mental disorders with long-term impacts include family and social environment, low social level, immigration history, disabled children, and domestic violence. According to the parents' reports, the limitation arising from quarantine is considered as an essential factor in the prevalence of Post-Traumatic

Stress Symptoms (PTSS) among 30% of children, including depression, mood disorders, irritability, anger, and emotional discharge in the coronavirus crisis. Other results concerning the threats during coronavirus crisis, including greater solidarity of families and a sense of greater belonging to each other without job stress and a decrease in some bothersome crises of daily life (12). Another study focused on the adverse effects of coronavirus pandemic on the mental health status including children and adults, reported fear, anxiety, the embarrassment of affection, social exclusion, social withdrawal, lack of motivation to work or educate, sleep and nutrition disorders, increased consumption of alcohol and tobacco, and decreased concentration. Moreover, severe anxiety concerning infection was reported with behavioral disorders and physical symptoms such as the sense of suffocation, perspiration, xerostomia, and vertigo. (13).

Further study concerning the effect of coronavirus disease on mental health status reported the likelihood of increased self-harm or even suicide due to financial pressures, job loss stress, food preparation, and accommodation. However, children are the most vulnerable group in the society who have experienced impatience and, in some cases, anger due to staying at home. Although news around the outbreaks was sometimes unreliable, fear and anxiety were developed with some responses such as children's extreme dependency on the family, separation anxiety, the sense of anger, impatience, and nocturnal enuresis. These symptoms were more severe in young children, particularly those their parents were died due to coronavirus disease (4). Another study investigated the effects of the coronavirus pandemic on the mental health status of children. The results stated that school closure and breaking the chain of social relationships is an important factor

affecting children's mental health status. In this study, children with 12-17 years old were more susceptible to mental disorders compared to adults. The results recommended telemedicine technology as an immediate solution to expand and replace traditional face-to-face encounters. It also suggested more effective virtual interventions to improve mental health, virtually maintain the social atmosphere of the school, and maintain the relationship among school friends or children of boarding schools with their parents (14).

Another study investigated the relationship between school closures and children's mental health status, fear management, the existence of inappropriate information, and the ability to face COVID-19. This study reported fear, anxiety, and stress among children due to the infection pandemic. On the other hand, the quarantine of children at home and the deprivation of social life outside the home increased the severity of their stress. The results emphasized the relationship between parents and mental health medical services as well as the improvement of relationships between parents and children instead of receiving unreliable news concerning the spread of the coronavirus through the Internet or other media. This stressful news increases the fear and anxiety in children. It also provided some recommendations on continuing physical activity, exercise, and leisure time at home (15).

An investigation considered the effects of conventional education at school as an effective factor in mental health status. According to the results, school and university disclosure with the interruption of natural daily life leads to the development of stress and depression, in particular among young children. The destructive psychological effects of a disease, break the chain of education, and it was higher in children with disabilities, such as autism or children with special educational requirements. The results

emphasized enhancing the opportunity of benefiting from mental health services, strengthening self-confidence and monitoring, particularly among youth and young children (16). Another study examined the effects of mandatory home quarantine on March 24, 2020, in China, among the large population of children. It revealed some rapid responses to emotional crises and stress among quarantined children. The most severe mental disorders were reported in children who lost their parents, caregivers, or relatives due to coronavirus (7).

An additional study conducted to investigate the results of long-term quarantine and the separation of children and infected parents by Covid-19, including psychological crises, depression, stress, mood disorders, insomnia, irritability, and Post-Traumatic Stress Disorder (PTSD). The results emphasized the necessity of access to clear information and news concerning the disease and training of child caregivers. Moreover, there is a requirement to describe the existing situation for the children to prevent the disease and create an understandable concerning about the critical events (17).

A different study addressed the emotional and behavioral disorders among 320 children with 3-18 years old (168 girls and 142 boys) during coronavirus epidemic in China in terms of symptoms such as severe dependence, distractibility, irritability, fear concerning the questions related to the coronavirus epidemic, anorexia, impatience, sleep disturbance, and nightmares using the DSM-5 scale. The results reported the highest psychological dependence and fear in children with 3-6 years old with a significant level ($P=0.002$). Children with 6-18 years old had more symptoms of less attention ($P=0.049$) and continuous inquiries ($P=0.003$). The most important symptoms in all of the age groups included

dependence, signs of less attention, and impatience. The results suggested the necessity of music therapy, singing, improving relationships, parental attention, and assistance to regulate children's sleep to reduce their stress and anxiety (18).

4- DISCUSSION

Various studies have indicated the negative psychological effects of stress following these crises among children. Due to the vulnerability of children, this group is considered as a critical group in the present study; since some disorders are reported in this high-risk group, particularly in the biological and family crises, such as behavioral disorders, anxiety, depression, impatience, as well as other psychological and social issues (18). According to these studies, children have milder symptoms of COVID-19 and influenza compared to adults (19). In the recent pandemic, children with three months to 17 years old were infected by a coronavirus in China (20). Although they had milder symptoms compared to adults, they were equally or more exposed to psychological harm (18). They also indicated some symptoms of psychological disorders, such as anxiety, depression, and severe fear (18).

Liu et al. (2020) investigated the relationship between home quarantine and stress among children. The quarantine of suspected or infected children showed some severe symptoms such as fear and sadness. Parental mortality had long term adverse effects on children's mental health status. China considered some strategies for the situation as mentioned above, including psychological counseling for parents and children, and strengthening the professional training of medical staff to provide psychological support. It also emphasized the long term effects of mental disorders after pandemic quarantine. According to the WHO recommendations, applying mental health policies in all

infected countries, particularly in vulnerable groups of children, is necessary during the quarantine (7). Roccella et al. (2020) investigated the post-crisis psychological trauma following the coronavirus outbreak among children, especially after quarantine and parental infection. This study also considered the understanding of the crisis and following the rules among the children with three years old. Therefore, it emphasized controlling children's access to websites, media with emotional news, and even parental dialogues concerning the pandemic that leads to fear and stress among the children (17).

At the same time, with our study, Jiao et al. (2020) emphasized the importance of supporting children using the strengthening of parental relationships, providing physical activity and leisure facilities, providing calmness, and reduce the intensity of fear and anxiety. These adverse effects led to behavioral disorders such as insomnia, nightmares, and impatience, and totally, paying more attention to children, despite the behavioral and emotional disorders among the children during the Covid-19 crisis (18).

Ferget et al. (2020) found that the mental health vulnerability of children is higher compared to adults during the coronavirus pandemic. Additionally, there is more likelihood of domestic violence against children. The results emphasized the necessity of mental health support services (12). Stankovska et al. (2020) investigated the relationships between the mental health status and the effects of coronavirus crisis, including anxiety and depression. They believed that the main source of these disorders is fear and shame of infection with coronavirus. This study considered some factors such as shame, fear, and anxiety as barriers to psychological interventions (13). Kumar et al. (2020) believed that despite some effects of the coronavirus pandemic on the families and

children's mental health status (fear, anger, impatience, and stress arisen from the financial crisis during the epidemic), immediate access to supportive services are crucial. The readiness of WHO concerning applying the emergency policies and appropriate responses to the critical situation is very important (4). According to the Xinyan Xie, Bahn, Joyce Lee et al. (2020), breaking the chain of students' social relationships is an important factor in developing mental disorders such as depression and anxiety (11, 15, and 16). Golberstein et al. (2020) emphasized the importance of providing virtual services and increasing access to modern telemedicine technology despite the mental health threats of the coronavirus pandemic. On the other hand, providing mental health services for students with no access to school counseling services is considered as a priority.

Moreover, mental health services are essential to decrease the long-term consequences on children's and adults' health during the coronavirus epidemic (14). Eventually, the findings of the current studies can be extended to countries with the affected physical and mental health of all populations by the coronavirus. The importance of supporting mental health through maintaining physical health status cannot be ignored (13). Some limitations of the current study include the shortage of descriptive-analytical investigations, the lack of international studies to evaluate the children status and their social support in the societies severely affected by the coronavirus pandemic, and also providing some efficient strategies to support children health status that can be generalized to other countries.

5- CONCLUSION

Coronavirus has severely affected family life. Although adults can remotely

continue their social relationships and jobs, children are under mental pressure due to the loss of playgrounds, social activities, and school closures. These long-term adverse psychological effects would be continued even after the reduction of quarantine. On the other hand, the occurrence of domestic violence and more likelihood of children's vulnerability is a serious state of affairs. In this hard situation, the World Health Organization (WHO), United Nations Children's Fund (UNICEF), Global Partnership to End Violence against Children, Centers for Disease Control and Prevention (CDC) emphasized the importance of managing this critical situation using the participation of parents and mass media besides the necessity of access to the trained Mental Health Response Team (MHRT), specifically within the societies where using technology such as smart mobile and the Internet is not possible to search health information. Although COVID-19 is not the first and last human threat, some effective strategies are required to strengthen families and provide them with the appropriate response to a crisis concerning the taking care and protecting children worldwide.

6- CONFLICT OF INTEREST: None.

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