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Letter to the Editor

Psychological status of parents of hospitalized children during the COVID-19 epidemic in China



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ABSTRACT

A series of unexplained pneumonia appeared in Wuhan, Hubei Province, China, which is highly contagious. The virus is prone to nervous and anxious psychological reactions. In the objective environment of complex and densely populated hospitals, it is a high-risk area for virus-transmitted infections and children generally have lower immunity who are more likely to develop infections. The results showed that the mental health problems of parents of hospitalized children during the epidemic were more serious, and the anxiety and depression were more obvious.

Dear editor,

In December 2019, a series of unexplained cases of pneumonia appeared in Wuhan (Hubei Province, China). The virus causing pneumonia was highly contagious. The World Health Organization named this new coronavirus “severe acute respiratory syndrome coronavirus 2” (SARS-CoV-2) (XINHUANET, 2020). As of 14 March 2020, there was a total of 81,026 confirmed cases and 3,194 deaths in China. With development of the epidemic, 51,767 cases have occurred in 122 countries. The World Health Organization warns that SARS-CoV-2 has a foothold in many countries. The threat of a pandemic has been realized. Assessment of the global risk of proliferation and impact of SARS-CoV-2 has been increased to “very high” (WHO March 2020).

The sudden appearance of the COVID-19 epidemic has caused concerns among frontline medical staff, patients and the general public. Epidemiological evidence suggests that approximately 5–12% of people may develop post-traumatic stress disorder after a traumatic event (Ursano et al., 2009).

To understand the mental health of the parents of children hospitalized during the COVID-19 epidemic, we used the Hospital Anxiety and Depression Scale (HADS), Van Dream Anxiety Scale (VDAS), and Short Form (SF)-36. Questionnaires were completed by the parents of children hospitalized at different times. We divided the parents of hospitalized children into “non-epidemic hospitalization” (NEH) and “epidemic hospitalization” (EH). We compared the scores for anxiety, depression, and dream anxiety of the two groups of parents to ascertain their mental health.

We collected basic information (age, sex of parents and children) and scores for anxiety, depression, dream anxiety, and SF-36 (Table 1). We obtained data for 100 parents of hospitalized children: 50 parents of children hospitalized during the COVID-19 epidemic (EH), and 50 parents of children hospitalized during the non-epidemic period (NEH).

The anxiety score of parents of EH children was 7.02 ± 3.01 , of which 21 parents were anxious (≥ 8 points). The anxiety score of parents of NEH children was 3.62 ± 2.10 , of which four parents were anxious. The anxiety score of parents of EH children was significantly higher than that of parents of NEH children ($t = 6.557, p < 0.001$). The depression score of parents of EH children was 7.72 ± 2.81 , of which

24 parents were positive for depression. The depression score of parents of NEH children was 4.54 ± 2.56 , of which four parents were positive for depression. The depression score of parents of EH children was higher than that of NEH children ($t = 5.922, p < 0.001$). Simultaneously, the VDAS score and SF-36 score of parents of EH children was significantly higher than that of NEH children ($t = 5.682, p < 0.001$ and $t = 5.419, p < 0.001$, respectively). There was a positive correlation between the anxiety score, depression score, and dream-anxiety score of parents of EH children (Fig. 1A–C). We documented a positive correlation between the depression score and dream-anxiety score of the parents of NEH children (Fig. 1F).

The mental-health problems of parents of EH children were more serious, and their anxiety and depression were more obvious, than the mental-health problems of parents of NEH children. The COVID-19 epidemic is a public-health emergency, and has spread rapidly and widely. Being highly contagious, SARS-CoV-2 has many transmission routes. A specific treatment for COVID-2 is lacking. Therefore, SARS-CoV-2 poses a huge threat to life and health, and can lead to tension and anxiety. During the COVID-19 epidemic, if children must be hospitalized when they are sick, a densely populated hospital is a high-risk area for virus-borne infections. Simultaneously, children's immunity is low, so the possibility of infection is greater than that for adults. Parents will also worry that they may get infected in hospital. Also, children are curious about life. During hospitalization, if parents or physicians do not pay sufficient attention, children may touch various items randomly, leading to SARS-CoV-2 transmission. Therefore, the parents of children hospitalized during the COVID-19 epidemic face huge pressure and anxiety. Post-traumatic stress disorder and mental-health problems may occur in parents, which may affect the child's recovery. Hence, early detection of the mental health of such parents, and timely provision of certain psychologic interventions, will help parents take better care of their children in hospital, and help children recover and be discharged from hospital as soon as possible.

Author statement

I have made substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the

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Table 1

The basic information of parents of children hospitalized during epidemic periods and parents of children hospitalized during non-epidemic periods

Clinical characteristics	Parents of children hospitalized during the epidemic period (n = 50)	Parents of children hospitalized during the non-epidemic period (n = 50)	t	P value	OR (95% CI)
Parents age (years)	36.80 ± 5.20	37.22 ± 5.40	-0.396	0.218	35.963–38.057
Parents Gender (male / female)	19/31	24/26	1.005	0.317	-
Child age (years)	8.42 ± 3.34	8.94 ± 3.31	-0.782	0.436	8.022–9.338
Child Gender (male / female)	34/16	24/26	-0.828	0.410	-
Anxiety score	7.02 ± 3.01	3.62 ± 2.10	6.557	<0.001	4.706–5.934
Depression score	7.72 ± 2.81	4.54 ± 2.56	5.922	<0.001	5.512–6.748
Dream anxiety score	25.28 ± 8.01	16.58 ± 7.28	5.682	<0.001	19.187–22.673
SF-36	580.74 ± 66.27	649.62 ± 46.60	-6.012	<0.001	601.948–628.412

Abbreviations: OR, odds ratio; CI, confidence interval

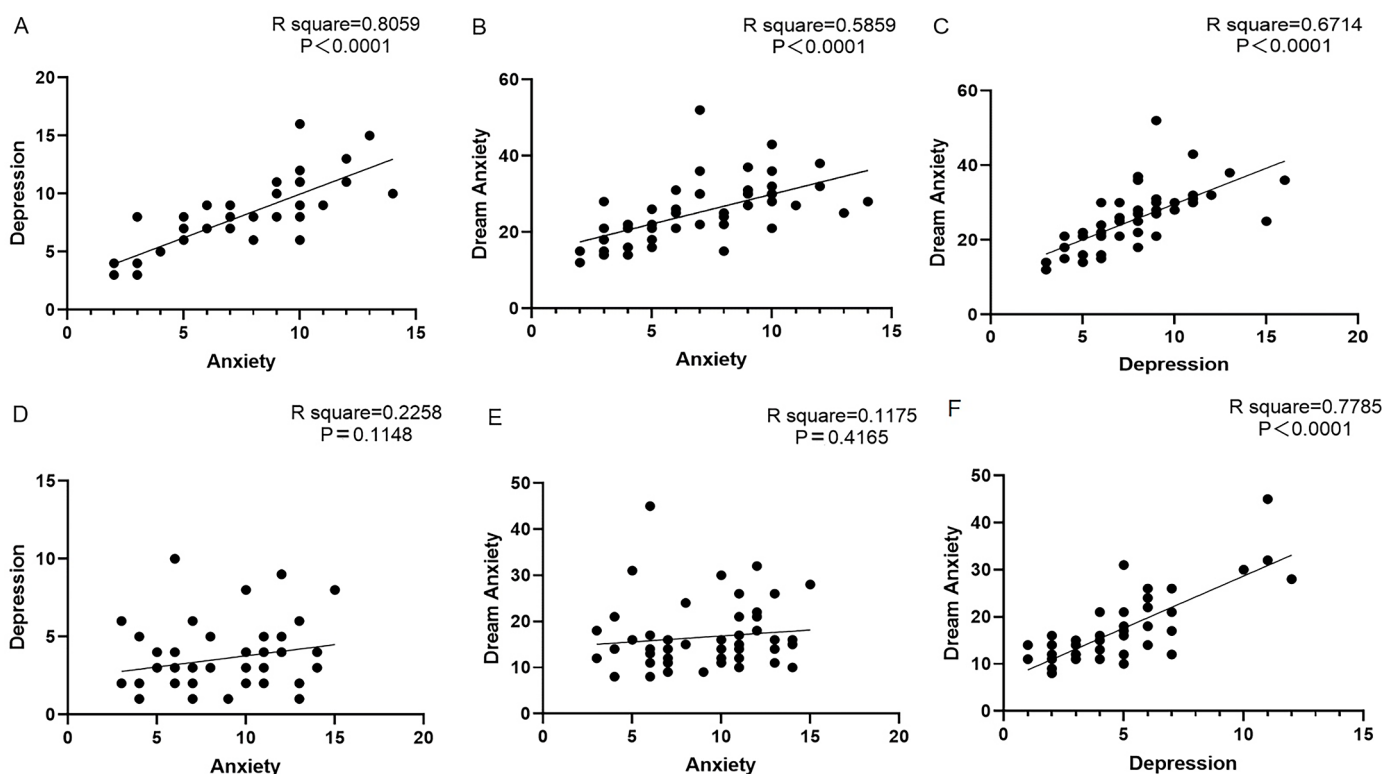


Fig. 1. Correlation between anxiety, depression and dream anxiety

Note: Correlation between anxiety and depression in parents of hospitalized children during the epidemic (A) ($P < 0.0001$), correlation between anxiety and dream anxiety (B) ($P < 0.0001$), and correlation between depression and dream anxiety (C) ($P < 0.0001$). Correlation between anxiety and depression in parents of hospitalized children during the non-epidemic period (D), correlation between anxiety and dream anxiety (E), and correlation between depression and dream anxiety (F) ($P < 0.0001$).

work; AND I have drafted the work or revised it critically for important intellectual content; AND I have approved the final version to be published; AND I agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Authors' contributions

RY and QHX designed the current study. CCX, YS and CYL collected

data. ZX and QMG analyzed the data. QHX wrote the manuscript. All the authors read and approved the final manuscript.

Consent for publication

All authors agree to publish

Data availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Declaration of Competing Interest

This study did not receive any industrial support. The authors have no competing interests to declare regarding this study.

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