

Research Article

A Qualitative Study of Psychological Impact on Mothers of Children with COVID-19 in Hospital Setting

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Abstract

Background: Hospitalization of children leads to physical and emotional exhaustion for the parents.

Objective: This study investigates the psychological impact of COVID-19 related children's hospitalization on mothers during hospital stay.

Method: This is a qualitative research. Following informed consent and purposive sampling technique, demographic details of both child and mother were collected. In-depth semi structured telephonic interviews were conducted (till the point of data saturation) with 24 mothers of COVID 19 positive children admitted at Mayo hospital Lahore. Thematic analysis was done to explore the psychological distress experienced by mothers.

Results: 24 mothers were interviewed with mean age of 33.96 ± 5.6 . Three mothers had lost a family member due to COVID-19. Worry (8, 25%), sleep difficulties (8, 25%) and Irritability (7, 21.9%), were the common behavior and emotional changes noticed by mothers in their children since hospitalization. Psychological impact on mothers included stress, anxiety, irritability, grief, and fear of death and infecting others. The most commonly identified sources of worry among the participants were problems experienced during hospital stay, worry about admitted child physical and emotional health, family members admissions in different hospitals, care provision for children left at home, infodemic and stigma and social rejection.

Conclusion: Mothers staying in hospital with their children having COVID-19 illness, experience many psychosocial consequences thus psychological support should be provided to safeguard their well-being. Knowledge generated from this study enhances the ability of healthcare providers to provide care that is congruent with the needs of admitted mothers and children.

Received | 00-00-0000: **Accepted** | 00-00-0000

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Keywords | COVID-19; qualitative Study; psychological impact; mothers; children.

Introduction

COVID-19 pandemic has been perceived worldwide as a major threat to the health and well-being of people and a danger to the global economy. The disease originated from Wuhan, China by the end of 2019 and World Health Organization (WHO)

declared it a pandemic on March 11th, 2020.¹ In Pakistan, the first diagnosed case of COVID-19 was reported on February 26, 2020 and with rapid increase in cases, lockdown was imposed nationally on March 24, 2020. All the diagnosed cases were initially quarantined in the hospitals. COVID-19 has affected individuals across the globe by affecting

their behaviours and causing intense fear, anxiety, panic and depression.^{2,3} Quarantine, lockdown, school closures, fear of infection and death has been a source of increased psychological distress.^{3,4} Relevant studies during COVID-19 from Iran, Italy and Spain also suggest psychological distress in children and families.^{3,5}

Fortunately, COVID-19 infection in children and adolescents seems to result in less critical cases (5.9%) compared to adults who have the illness (18.5%).⁶ However, data from previous pandemics suggest an increase in psychological stress of hospitalized pediatric patients.^{7,8} In children, hospitalization may lead to irritability, clinginess, separation anxiety and other psychological problems.⁹ Parental stress in strict isolated settings has also been reported.^{7,9}

Parents' role in promotion of their children's health, cannot be overemphasized. Parents' attitude and psychosocial functioning during child hospitalization significantly impacts the child's physical and mental health outcomes.¹⁰ Having a child hospitalized is stressful for parents. Literature suggests an increase in risk of acute stress reactions, depression and anxiety in parents of hospitalized children in a variety of illnesses and hospital settings.⁹ With COVID-19, apart from physical and emotional symptoms of illness, strict isolation in hospital and no visitors policy due to contagious nature of disease are likely to negatively influence the support system for parents that is normally in place to ensure their well-being. A recent research in China also showed symptoms of anxiety and depression in the children hospitalized for COVID-19 as well as their parents.^{11,12} In Pakistani setup, mothers are the primary caregivers and are allowed to stay with children in hospital. Understanding their early psychological reactions and emotions is important as these reactions are likely to predict long-term psychological outcomes and family functioning. In medical-related traumatic situations in children, some previous studies suggest acute stress reactions persisting as Post-traumatic stress distress in 60-80% of parents.¹³

To date, we have not found any study in the country that examined how the quarantine in hospital due to Pediatric COVID-19 illness may affect mother's psychological wellbeing. To address this knowledge

gap, we aimed to explore the experiences and early psychological reactions in mothers of children and adolescents hospitalized due to COVID-19 illness in a tertiary care setting. The study results will be helpful in adequately addressing needs of mothers and their children and provision of comprehensive care.

Methods

The study was approved by the Institutional Review Board of King Edward Medical University. Study design was qualitative and involved video-assisted telephonic interviews with mothers of confirmed COVID-19 children, admitted in COVID-19 units of Mayo Hospital, Lahore, Pakistan from 29th March to 20th April 2020. Mayo Hospital was designated as the main referral centre for the care & management of COVID-19 patients during the early phase of the outbreak in the city of Lahore. Purposive sampling technique was used. Mothers accompanying all the hospitalized children (aged <18) who had positive rRT-PCR test for COVID-19 were selected and contacted through telephone numbers listed from the hospital admission record. Some of these mothers were not COVID-19 positive. Mothers of 32 COVID-positive children <18 years, who were medically stable and willing to cooperate in the study were included. Exclusion criteria included mothers who did not give consent, having altered mental state and medical issues making communication difficult. All potentially eligible participants were briefed about the study and informed consent was taken from each participant prior to the audio-recorded interview. They were assured that the information they are disclosing would be used only for research purposes. Telephonic video interviews were conducted due to limited personal protective equipment availability in the hospital during the early phase of the outbreak. Interviews by telephone, at a time of convenience for the mothers, allowed collecting and assessing the data without direct contact with the patient or the contaminated checklist package. Duration of interview was between 45 minutes to an hour with follow-up interviews required in a few cases. Demographic Information about both child and mother was collected, which included age, gender, number of days since hospitalization, COVID-19 status of family members, type of exposure to disease (travel history, contact with COVID-19 patients), location of residence (urban vs rural), education, occupation and

previous medical or psychiatric history. Parent's subjective opinion about child's severity of symptoms was also noted and a list of possible psychological/ emotional/behavioral problems noticed by the parent in the child during hospitalization were asked. This list included items like clingy behavior, irritability, worry, fear of health of relatives, loneliness, sleeping difficulties and boredom etc.

We assessed the psychological impact of child's hospitalization on mothers by semi structured interview based on published literature about expectations and anticipated areas of need during hospitalization, as well as experiences with quarantine or isolation. Examples of questions asked included: "What problems if any, are you facing during your child's hospitalization?" and "what impact does current corona virus outbreak have on you and your family's daily lives?" etc. Ice breakers and probing questions like please tell me more, I understand how it must feel, what are your thoughts right now were asked for in-depth discussions. If the participant exhibited emotional problems during the interview, adequate psychological intervention was provided. Interviewer used techniques such as unconditional acceptance, active listening, and clarification to promote the authenticity of the data and to avoid bias. Sample size was determined by data saturation i.e. when no new themes emerged from the participant's experiences. Data saturation was reached after interviewing 18 mothers. A few more interviews⁽⁶⁾ were conducted to be sure about data saturation.

All the interviews were auto-recorded and transcribed verbatim. Two researchers independently reviewed the interview materials, summarized and extracted meaningful statements, and formulated the subthemes and themes present using standard thematic analysis method. The following two major themes emerged from the interviews 1) Psychological impact on mothers 2) Source of distress for mother.

Results

Although data saturation was reached at 18th interview, we carried out 6 more interviews to completely assure the dissemination of findings. Hence 24 mothers were interviewed with mean age of 33.96 ± 5.6 . All mothers were admitted with their

children; 6 mothers had more than one child admitted in hospital. Three mothers reported death of a close family member due to COVID-19 (Husband, brother and brother in law of 3 study participants died). Mean duration of hospitalization before the interviews was 6.88 ± 3.3 days. Table 1 gives relevant demographic details of the sample. (Table 1)

There were 32 children with mean age of 8.03 ± 5.48 . Eighteen (56.3%) were boys. COVID test was positive in 31(96.9%) children. Mother subjective

Table 1: Demographic Characteristics of Mothers. (N=24)

Characteristics	No (%)
Number of days since Admission to Hospital: Mean (S.D)	6.88(3.3)
COVID-19 Test Result:	
Positive	19 (79.2)
Awaiting Result	5(20.8)
Any other family member also suffering from Corona	19(79.2)
Yes	5 (20.8)
No	
Death of close Family member due to COVID	
Yes	3(12.5)
No	21(87.5)
Age: Mean (S.D)	33.96 (5.6)
Occupation	
House wife	14(58.3)
Unskilled Worker	4(16.6)
Skilled Worker	6 (25)
Education	
Illiterate	1(4.2)
Up to Grade 5	3(12.5)
Up to Matric	11(45.8)
Graduation	3(12.5)
Professional degree	6(25)
Area	
Urban	22 (91.7)
Rural	2(8.3)
Travel History:	
Yes	0(0)
No	24(100)
History of contact with Covid-19 Patient:	
Yes	14(58.3)
No	10(41.7)
History of any Previous Medical Illness:	
Yes	5(20.8)
No	19(79.2)
History of any Previous Psychiatric Illness:	
Yes	2(8.3)
No	22(91.7)

severity of child illness were: Asymptomatic (21,65.6 %), Mild symptoms (10,31.3%) and severe symptoms (1, 3.1%). Worry (8, 25%), sleep difficulties (8, 25%), Irritability (7, 21.9%), boredom (6, 18.8%) and

agitation and restlessness^(5,15,6) were most common behaviour and emotional changes noticed by mothers in their children since hospitalization.

We explored the psychological impact on mothers of their and children's hospitalization with COVID-19 using phenomenological methods. Two main themes emerged which are summarized below. Exemplary quotes for each theme and subthemes are displayed in Table 2 and Table 3.

Theme 1: Psychological impact on mothers:

All study subjects⁽²⁴⁾ experienced varying level of stress, worry and negative emotions during hospitalization. Denial of illness was strong in one mother but majority (n=15) mothers did not feel that admission in hospital was needed. Fear of death was a major stressor in four mothers. who had experienced death due to COVID-19 in close family members(n=3) and in a fellow hospitalized patient (n=1) Two mothers

Table 2: : Subthemes and Quotations extracted during Interviews with Mothers Related to Theme “Psychological Impact on Mothers of Children Hospitalized due to COVID-19”.

Themes	Subthemes	Quotations
Psychological impact on mothers.	Stress and Anxiety (worried, sad, Sleep disturbances, Loneliness)	My sleep is disturbed. I worry before I sleep and I wake up worried as well. (P-01, 42 years old mother of 2 admitted children aged 10 years and 10 days). It is very difficult to be hospitalized alone. In the beginning, I was very confused after seeing everyone. Nothing seems right, but I still have to stay here. I feel sad most of the time. (P-05, 46-year-old mother of 15 years old girl) I am so stressed. None of us have any physical symptoms, but they are not discharging us from the hospital. Isn't it more dangerous considering there are so many types of germs in the hospital? (P-14, 33 years old mother of 3 hospitalized children aged 2, 8 and 10 years). I feel lonely and very anxious but talking to family helps. (P -21, 38 years old mother of 13-year-old admitted girl).
	Irritability and anger	I am a pharmacist; I think I was taking better care of me and my family at home. No-one is monitoring blood pressure here. It feels like we're caged here for no reason at all. (P-02, 36 years old mother of 1-year old child) It is so difficult. I want to fight people; I had a quarrel last night with another patient as well. (P-05, 46-year-old mother of 15 years old girl)
	Denial	Our tests are False Positive. Why were we brought to hospital? (P -07, 37 years old mother of hospitalized 16 years old patient)
	Fear of Death and infection of other family members	That's the only thing I keep thinking about as to what will happen and what if someone else gets sick because of me. (P-07, 37 years old mother of hospitalized 16 years old patient) We were worried since my brother-in-law died due to covid-19 and my father-in-law was in critical condition.(P-01, 42 years old mother of 2 admitted children aged 10 years and 10 days). My husband died due to Covid19, so there was a lot of fear at home. My father-in-law was also experiencing shortness of breath and fever, everyone else also had fever, so we were really scared. We are feeling better in hospital. (P-04, 36 years old mother of 13 years old child)
	Bereavement reaction	On 3 rd day of hospitalization, my brother died due to COVID -19. It was so hard. (P-15, 46 years old mother of 2 hospitalized children aged 4 and 2 years) My husband died due to COVID -19. I cry all the time and feel so afraid and scared. (P-04, 36 years old mother of 13 years old child)
	Self Guilt/ Blame	This thought often comes across my mind that why us. We were taking all the necessary precautions, then why are we the only family in the entire neighborhood that got affected? (P-01, 42 years old mother of 2 admitted children aged 10 years and 10 days).

also felt self-guilt and blamed self for illness and getting tested which led them to end up in hospital. Table 2 provides exemplary quotes for each subtheme of Psychological impact on mothers.(Table 2)

Theme 2: Sources of Distress for Mothers.

Problems being faced in hospital including lack of communication from hospital administration and treating staff, especially related to test results and poor ward facilities (hygiene and ventilation of rooms, inadequate provision of activities and toys to keep children occupied) were the most commonly identified concerns by mothers. Few mothers (n=3) also expressed concerns about patients with severe symptoms of illness being nursed in same wards with asymptomatic patients and children. Four mothers had family members admitted either in different hospitals or different ward of same hospital (due to gender specific units), which increased anxiety. Majority of mothers⁽²⁰⁾ reported distress and concern about their children at home. The hospitalization

interrupted the routine of daily family life as well as care provision for children who were not infected. Few mothers reported concerns about children emotional health and well-being and most of them were the children, who had recently experienced death due to COVID-19 in family or had more physical symptoms. Mothers(n=2) were also anxious regarding treatment being given to their family members as they had heard some rumours regarding treatment being part of a research experiment.

Few mothers (n=4) claimed that their family is being socially excluded and rejected by society. The possible negative impact of COVID-19 on business and finances was also a concern in 2 mothers. Table 3 provides exemplary quotes for each subtheme of sources of distress identified by mothers during hospitalization. (Table 3)

Table 3: Subthemes and Quotations Extracted during Interviews with Mothers Related to Theme ““Sources of Distress for Mothers of Children Hospitalized due to COVID-19””.

Themes	Subthemes	Quotations
Sources of Distress for Mothers.	Problems being faced in hospital (Inadequate information	she is not eating anything. She only drinks water or juice. She is unable to swallow. Also, cannot sit properly. I am very worried. With oxygen, her breathing is better now. (P-11, 28-year-old mother of 8-year-old child)
	Inadequate care,	We should have quarantined them at home. Because of hospitalization, they are even more stressed. (P-12, 34 years old mother of 2 hospitalized children aged 5 and 7 years old)
	Difficulty in hospital admission.	He is very irritable and argues a lot. He also has disturbed sleep. He sleeps late and then wakes up late as well. He also worries a lot about financial issues and constantly keeps asking me if the hospitalization, treatment and food here is free or not. ((P-01, 42 years old mother of 2 admitted children aged 10 years and 10 days)
	Inadequate facilities for children,	He has become clingy. He starts crying if someone else other than me holds him. In the beginning, he was extremely irritable. (P-02, 36 years old mother of 1-year old child)
	Hygiene issues)	He cried every night at home. He'd ask to not turn off the lights because of fear. He asked to go to graveyard to visit father's grave. (P-04, 36 years old mother of 13 years old child)
		There was delayed burial of the dead body. The children saw it. It affected them a lot. They were crying a lot and asking to let them out of the hospital. (P-23, 32-year-old mother of 2 children aged 9 and 11)
		When hospitalized, children were irritable, disturbed and argued. (P-23, 32-year-old mother of 2 children aged 9 and 11)
	Inability to communicate with family.	There are signal problems here, so we have to go outside to call. Then we have to wait for the network, so we seldom talk to other family members, which makes us very worried. (P-07, 37 years old mother of hospitalized 16 years old patient)
	Separate admission of family members to different facilities	Three of us are admitted here and my husband and son are admitted in Expo centre. It's very difficult and causing lots of problems. (P-07, 37 years old mother of hospitalized 16 years old patient)
		It will help if both my daughter and my son are admitted together in the hospital. (P-21, 38 years old mother of 13-year-old admitted girl).

Mistrust/ infodemic	<p>“My mother and sister are being given some medicine twice a day. Everyone is saying that it's a part of some research not treatment”. (P-07, 37 years old mother of hospitalized 16 years old patient)</p> <p>My daughter eats lots of sweets and candies. I think that's why she became unwell. (P-11, 28-year-old mother of 8-year-old child)</p> <p>All we had heard before was that people don't get to live once they are quarantined. So, when we were hospitalized, we were scared if we will even be able to live and go back. (P-23, 32-year-old mother of 2 children aged 9 and 11)</p>
Worry about child physical health and emotional and behaviour reactions.	<p>she is not eating anything. She only drinks water or juice. She is unable to swallow. Also, cannot sit properly. I am very worried. With oxygen, her breathing is better now. (P-11, 28-year-old mother of 8-year-old child)</p> <p>We should have quarantined them at home. Because of hospitalization, they are even more stressed. (P-12, 34 years old mother of 2 hospitalized children aged 5 and 7 years old)</p> <p>He is very irritable and argues a lot. He also has disturbed sleep. He sleeps late and then wakes up late as well. He also worries a lot about financial issues and constantly keeps asking me if the hospitalization, treatment and food here is free or not. ((P-01, 42 years old mother of 2 admitted children aged 10 years and 10 days)</p> <p>He has become clingy. He starts crying if someone else other than me holds him. In the beginning, he was extremely irritable. (P-02, 36 years old mother of 1-year old child)</p> <p>He cried every night at home. He'd ask to not turn off the lights because of fear. He asked to go to graveyard to visit father's grave. (P-04, 36 years old mother of 13 years old child)</p> <p>There was delayed burial of the dead body. The children saw it. It affected them a lot. They were crying a lot and asking to let them out of the hospital. (P-23, 32-year-old mother of 2 children aged 9 and 11)</p> <p>When hospitalized, children were irritable, disturbed and argued. (P-23, 32-year-old mother of 2 children aged 9 and 11)</p>
Concerns about children at home/ Home responsibilities	<p>I have a two-year-old son and the rest of children are also very young. So, I had to take care of them as well. (P-11, 28-year-old mother of 8-year-old child)</p> <p>I'm in hospital and stressed about my daughter at home who fell from the stairs and had to get stitches. (P-11, 28-year-old mother of 8-year-old child)</p> <p>One of my children is one year old who was being breast fed. He is being looked after by his grandmother but Last night, they told me that is really irritable and crying a lot. They are not telling me when will we be discharged from here. (P-12, 34 years old mother of 2 hospitalized children aged 5 and 7 years old)</p> <p>My husband doesn't know how to cook, so there are a lot of issues. My son has started to talk differently. It seems like he has matured. He called to ask me “Baba doesn't know how to cook roti. What should I eat?” (P-02, 36 years old mother of 1-year old child)</p> <p>One of my twins who was tested negative is at home, however he had to switch from breastfeed to formula milk which caused severe diarrhea that he had to be taken to the hospital. I was really worried and anxious about him. (P-03, 32 years old mother of 2 children aged 5 years and 1 month old)</p> <p>Why are they being so cruel and keeping everyone in the hospital. We have kids at home. (P-23, 32-year-old mother of 2 children aged 9 and 11)</p>
Social stigma and rejection. (Experience of social exclusion and rejection, feeling humiliated, loss of income/ Business due to COVID-19 diagnosis. Poor support following death of COVID- 19 patient)	<p>Everyone is scared of us that as we have tested positive, so if we go to their house, we will transmit it to them as well. (P-12, 34 years old mother of 2 hospitalized children aged 5 and 7 years old)</p> <p>My mother's neighbors started saying to her that you have a corona patient in your home. (P-11, 28-year-old mother of 8-year-old child)</p> <p>When my children tested negative and had to go back, my sister-in-law and brother-in-law did not even let my children in the house. They think they will be infected by Coronavirus through them. Now they are staying with my siblings. (P-11, 28-year-old mother of 8-year-old child)</p> <p>I am a teacher and I also have a salon. Of course, I'm afraid that people will not come to my salon thinking that this family was tested positive. I'm also afraid that people will not send their children to me now for tuition. (P-01, 42 years old mother of 2 admitted children aged 10 years and 10 days).</p>

Children blame and abuse me because I was the one who asked to get tested because I thought it was a good idea. The police came to our house and we were insulted in front of our neighborhood. (P-15, 46 years old mother of 2 hospitalized children aged 4 and 2 years)

There are not a lot of humans left in the world. Siblings are not siblings anymore. Neighbors are not neighbors anymore. Corona has created so much hate. (P-15, 46 years old mother of 2 hospitalized children aged 4 and 2 years)

When someone dies, people usually come to share your sadness with you. When my brother died, I called people but they didn't attend them, turned off their phones and didn't bother to meet. I called my nephews and they refused to come because he was a corona patient. (P-15, 46 years old mother of 2 hospitalized children aged 4 and 2 years)

Discussion

The current paper investigated the psychological impact on mothers of children and adolescents hospitalized with COVID-19 in a tertiary care hospital setting. Results showed that mothers perceived higher level of stress. Interview findings were summarized in two main themes; psychological impact on mothers and sources of distress for mothers.

Although hospitalization is linked with stress in children and parents,^{14,15} the immediate isolation required due to infectious nature of COVID-19 disease in an unfamiliar situation and “no visiting rule” are likely to induce further anxiety and negative emotions.^{7,8} Lack of knowledge, threat to health of family members, helplessness in hospital settings, led to large number of negative emotions in our sample consistent with previous studies such as stress and worry, anxiety, anger, denial and guilt.^{7,8} Sleep disturbances i.e. decreased sleep duration and increased frequency of night time awakenings due to constant worry were reported by mothers in the study and have been associated with additional stress to the mothers.¹⁶ Few mothers in our study were in denial of illness or need for hospitalization. “Denial” regarding the diagnosis of a serious or stigmatized disease is also noted in literature, particularly if the children were asymptomatic or had mild symptoms.¹⁷ The increasing death toll due to COVID-19 generated a high degree of fear in parents. Fear of death was more prominent in those participants who had experienced a COVID-19 related death in any of the family members. It also was a major cause of stress in the mothers leading to bereavement reactions. Similar to previous studies, negative feelings of self-guilt and blame were also seen.^{3,18} A few mothers questioned whether they had taken all necessary precautions or not. Regret

regarding visiting family members, who were infected, was also reported by mothers. Mean duration of admission being 6 days in our study and significant psychological impact, shows that negative emotions are pronounced, even in the first week of hospitalization. Thus, it is important to establish early support systems to facilitate mothers and children in hospital.

Our research also shed some light on the various sources leading to psychological distress in the mothers. One of the main subthemes behind the negative psychological effects in mothers was dissatisfaction with the services being provided in hospital including hygiene issues and lack of child friendly activities and toys. Resources limitation meant that children were admitted along with adults in COVID-19 wards, not in separate pediatric facility, which may have ensured child friendly spaces. However, provision of some toys, story books, cartoons, board games with adequate precautions may be helpful in keeping children busy, reduce boredom and help mothers feel more relaxed. It was noticeable that the severity of distress in mothers was positively linked with emotional and behaviour changes in the children. The mothers of children who were more irritable, clingy or displayed psychological distress experienced more symptoms of stress and anxiety. Although given the cross-sectional nature of interviews, it is not possible to determine temporal association but mothers who suffered recent bereavement were more distressed and it may be that mother's own distress and possibly not being available emotionally led to more emotional and behavioural problems in hospitalized children. Uncertainty and inadequate information provision being a source of stress was not surprising as studies have noted that regardless of hospital setting, staff spent less time with isolated versus non isolated patients.¹⁹ Keeping patients informed regarding their care is linked with patient satisfaction,⁴ and should be

a priority. Mothers were also concerned about the care of their children at home and how family members were coping. Chan et al also mentioned simultaneously managing the hospitalized child and home responsibilities as a source of anxiety in mothers of hospitalized children.⁷ Family communication and social contact helps alleviate stress related symptoms in quarantined patients, therefore ensuring that patients can contact other family members through telephone/ video chat/ social media during these challenging times may alleviate symptoms of distress.³ Interviews with mothers also provided insight into the stigma experienced by them related to COVID-19. Some mothers reported that their families are under pressure and feel rejected by society while others believed that they would have to face stigma in their daily personal and professional life in the long run which might affect them financially as well. Concerns about fear and stigma is perhaps more intense during this pandemic compared to other infectious disease epidemics.²⁰ The negative media coverage and the rapid global spread of fake news and false information termed “infodemic” by the WHO can also cause mistrust towards Healthcare professionals and are also contributing to the stigma of disease.^{4,21} In low- and middle-income countries (LMICs) like Pakistan, stigma and fear of being labelled as outcast is more likely to interfere with denying early clinical symptoms and seeking timely medical interventions.²² At our institution, our team started offering patient centered mental health services and education regarding the nature of illness and disease containment measures to reduce the psychological distress of admitted patients and their families. This could be a model for service provision in LMICs.

Limitations of the study included small sample size and data collected from a single institution limiting generalizability. Interviews were conducted by phone due to limited PPE in hospital during the early days. We focused on exploring psychological impact on mothers by preferring qualitative methodology. Use of validated scales was not considered due to time constraints and need for further long interviews to collect data.

Conclusion

Current findings represent a step towards greater

understanding of psychological reactions of mothers of COVID-19 related paediatric hospitalization. Healthcare system needs to devise ways to provide more effective treatment and care to the patients.²³ Coping factors like resilience, preparedness and effective response should be encouraged in parents as well as the children.^{11,15} Reliable sources of information should be readily available for everyone. Society needs to cater the needs of everyone and minimize stigma associated with the disease. The data on previous pandemics can help us formulate strategies to overcome it in a better way.^{21,24}

Authors' contributions: NI conceived the idea of this study. IA, SL, collected data. NI, IA, SL and SM analyzed data and prepared tables and helped with Writing-Reviewing and Editing. NI was responsible for the supervision of this project. All authors approved the final version of this review article.

References

1. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta Biomed.* 2020;91(1):157-60.
2. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *Internat J Envir Res Public Health.* 2020;17(5):1729.
3. Eisazadeh F, Aliakbari Dehkordi M, Aghajانبigloo S. Psychological consequences of patients with coronavirus (COVID-19): A Qualitative Study. *Iran J Health Psych.* 2020;2(2):9-20.
4. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet.* 2020; 395(10227).
5. Orgilés M, Morales A, Delvecchio E, Mazzeschi C, Espada JP. Immediate psychological effects of the COVID-19 quarantine in youth from Italy and Spain. *PsyArXiv Preprints.* 2020.
6. Dong Y, Mo X, Hu Y, Qi X, Jiang F, Jiang Z, et al. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. *Pediatrics Preprints.* 2020.
7. Chan SS, Leung D, Chui H, Tiwari AF, Wong EM, Wong DC, et al. Parental response to child's isolation during the SARS outbreak. *Amb Ped.* 2007;7(5):401-4.
8. Koller DF, Nicholas DB, Goldie RS, Gearing R, Selkirk EK. When family-centered care is challenged by infectious disease: pediatric health care delivery

- during the SARS outbreaks. *Qualitative Health Res.* 2006;16(1):47-60.
9. Muscara F, McCarthy MC, Woolf C, Hearps SJ, Burke K, Anderson VA. Early psychological reactions in parents of children with a life threatening illness within a pediatric hospital setting. *Europe Psych.* 2015;30(5):555-61.
 10. Bonichini S, Axia G, Bornstein MH. Validation of the parent health locus of control scales in an Italian sample. *Ital J ped.* 2009;35(1):13.
 11. Jiao WY, Wang LN, Liu J, Fang SF, Jiao FY, Pettoello-Mantovani M, et al. Behavioral and emotional disorders in children during the COVID-19 epidemic. *J Ped.* 2020;221:264.
 12. Yuan R, Xu QH, Xia CC, Lou CY, Xie Z, Ge QM, et al. Psychological status of parents of hospitalized children during the COVID-19 epidemic in China. *Psych Res.* 2020;288:112953.
 13. McCarthy MC, Ashley DM, Lee KJ, Anderson VA. Predictors of acute and posttraumatic stress symptoms in parents following their child's cancer diagnosis. *J Trauma Stress.* 2012;25(5):558-66.
 14. Commodari, E. Children staying in hospital: a research on psychological stress of caregivers. *Ital J Pediatr.* 2010; 36(1):40.
 15. Dudley SK, Carr JM. Vigilance: the experience of parents staying at the bedside of hospitalized children. *J Pediatr Nurs.* 2004;19(4):267-75.
 16. McCann D. Sleep deprivation is an additional stress for parents staying in hospital. *J Spec Pediatr Nurs.* 2008;13(2):111-122.
 17. Ahn MJ, Grimwood A, Schwarzwald H, Herman A. Ethics and the AIDS pandemic in the developing world. *J Int Assoc Physicians AIDS Care (Chic).* 2003;2(2):81-87.
 18. Lau JT, Griffiths S, Choi KC, Tsui HY. Avoidance behaviors and negative psychological responses in the general population in the initial stage of the H1N1 pandemic in Hong Kong. *BMC Infect Dis.* 2010; 10(1):139.
 19. Evans H L, Shaffer MM, Hughes M G, Smith R L, Chong TW, Raymond DP, et al. Contact isolation in surgical patients: a barrier to care? *Surgery.* 2003;134(2):180-88.
 20. Bruns DP, Kraguljac NV, Bruns TR. COVID-19: Facts, Cultural Considerations, and Risk of Stigmatization. *Journal of Transcultural Nursing.* 2020; 31(4): 326-32.
 21. Taha SA, Matheson K, Anisman H. H1N1 was not all that scary: uncertainty and stressor appraisals predict anxiety related to a coming viral threat. *Stress Health.* 2014;30(2):149-57.
 22. Khalil A, Gondal F, Imran N, Azeem MW. Self-Stigmatization in children receiving mental health treatment in Lahore, Pakistan. *Asian J Psychiatr.* 2020;47(2):101839.
 23. Estes KD, Thompson RR. Preparing for the aftermath of COVID-19: Shifting risk and downstream health consequences. *Psychological Trauma: Theory, Research, Practice and Policy.* 2020.
 24. Thompson RR, Garfin DR, Holman EA, Silver RC. Distress, worry, and functioning following a global health crisis: A national study of Americans' responses to Ebola. *Clin Psychol Sci.* 2017;5(3):513-21.