

Emotional impact of Covid-19 pandemic on children and parents with problematic severe asthma

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August 11, 2020

Abstract

Clinical Implications: this is the first study describing the impact of COVID-19 /lockdown on the psychological and emotional wellbeing in a selected group of children with problematic severe asthma.

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Conflicts of interest: There are no conflicts of interest

Contribution

Data collection and interpretation: NA, BT, AG, PN

Original draft preparation: NA, JC

Review and editing: AG, BT, SC, SL, PN

All authors reviewed and approved the final version of the manuscript

Funding Source : This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Word count for the text : 999 words.

Conflict of interest disclosure statement : all authors declare that there is no conflict of interest.

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Introduction

The clinical features of acute SARS-COV-2 infection in children are generally mild; accounting for <2% of cases that have required hospitalization¹. Furthermore, children with asthma have not been severely affected, with a reduction in admissions due to wheeze attacks having been observed during the pandemic period². These epidemiological characteristics were not clear early in the course of the pandemic. Indeed, children with asthma were perceived to be at a higher risk of suffering from severe disease; a prospect that would reasonably be associated with high levels of anxiety in both children and parents.

Anxiety and stress, are associated with poor asthma control and can trigger wheeze attacks³. Moreover, parental stress can exacerbate a child's asthma symptoms³. We hypothesized that the effect of social distancing measures and uncertainties around the SARS-COV-19 infection during the peak of the pandemic would result in detrimental effects on the emotional wellbeing of children with problematic severe asthma, impacting symptom control.

Method

CYP diagnosed with severe asthma⁴, currently attending a tertiary level multidisciplinary difficult asthma clinic serving South London and South East England were identified.

Two questionnaires were developed to assess themes related to the COVID 19 pandemic which were considered important influences on emotional wellbeing and potentially on asthma control. One questionnaire was designed to be answered by parents and the other to be answered by CYP. Answers to each question were recorded on a categorical scale; never/sometimes/ often/always.

Printed copies of the questionnaires sent by recorded delivery to the address of each patient on 5th of June 2020. The questionnaires were completed anonymously and returned by post in pre-paid envelopes to the investigators. Questionnaires returned by 29th of June 2020 were included in the analysis.

These questionnaires were registered with the local audit department as a service evaluation project.

Results

Questionnaires were sent by post to the households of the 58 CYP identified. 20 questionnaires completed by parents, and 14 questionnaires completed by CYP were returned. The median age of CYP was 11 years (range 4 to 18), 39 of 58 were males. A summary of the responses to each question are presented in table 1 and table 2 (online supplement)

Parental Questionnaire

The majority of parents 17/20 (85%) were worried about their child having an asthma attack during the pandemic, with a particular contributory factor being concerns around access to normal healthcare services. Indeed, 16/20 (80%) were concerned about accessing to GP services, 15/20 (75%) were concerned about accessing hospital services and 14/20 (70%) were concerned about accessing regular prescriptions.

Parents reported that the emotional wellbeing of their child was impacting asthma symptoms. The main contributory influences affecting asthma control were social distancing 14/20 (70%), worries about school work 12/20 (60%), and their child's anxiety around COVID-19 12/20 (60%).

Parents' perception of the emotional wellbeing of their children was explored in further detail. 14/20 (70%) reported observing feelings of sadness and irritability in their child, and 16/20 (80%) observed increased levels of anxiety and lack of concentration. Changes in physical behaviors reflective of emotional changes were also reported; low energy 18/20 (90%), restlessness 17/20 (85%) and difficulty in sleeping 12/20 (60%).

Children's Questionnaire

The majority of CYP 9/14 (64%) were worried about an asthma attack during the pandemic. Accessing healthcare during an attack was of concern with 11/14 (78%) worried about the prospect of a hospital visit. In contrast to their parents only 4/14 (28%) were concerned about accessing regular prescriptions.

In common with their parents, CYP reported that their emotional wellbeing had influenced asthma symptoms. Factors reported to be impacting symptoms included social distancing 7/14 (50%), and concerns regarding school work 7/14 (50%). A minority 4/14 (29%) felt that concerns regarding COVID-19 had influenced their asthma symptoms.

The emotional wellbeing of the CYP was explored in further detail. In common with their parents the majority of CYP reported feelings of irritability 11/14 (78%), anxiety 9/14 (64%), and difficulty with concentration 10/14 (71%). Changes in physical behaviors reflective of emotional changes were also reported, 9/14 (64%) felt restless, and 7/14 (50%) reported difficulty with sleeping.

Discussion

Main findings

The emotional impact of the COVID 19 pandemic on CYP with severe asthma appears significant. Our questionnaires have highlighted that accessing appropriate healthcare services, social distancing measures and school work as particularly detrimental on emotional wellbeing. In turn these influences appeared to manifest as physical symptoms including reported worsening asthma control.

Interpretation

The role of stress and anxiety on asthma control is well described⁵. The emotional impact of COVID 19 on children is beginning to emerge and themes identified using this questionnaire have been reflected in other reports. As access to support networks at school and within the wider community of family and friends have been disrupted, stressors have accumulated and become amplified. Uncertainty about the future including worries about health, cancellation of exams, applications to college and financial security have all been reported as contributing to the experience of anxiety. The charity, Young Minds, identified 83% of CYP as having experienced a worsening of their mental health⁶. Furthermore, specific concerns regarding accessing healthcare became apparent early on in the course of the pandemic with a sharp decline in paediatric emergency department attendances recorded, and concerns raised regarding delayed presentation of severe illness⁷.

Limitations

We acknowledge several important limitations to this study. The sample size is small with a low response rate and the patients identified were all from the same tertiary regional clinic. It is possible the results may have differed in different parts of the UK. In addition there was no measurement of adherence or asthma control test score.

Conclusion

There has been a significant emotional impact of the COVID 19 pandemic on CYP with severe asthma, which is associated with reported worsening asthma control. An improved understanding of these factors amongst professionals involved in caring for these CYP may help with recognition of how the pandemic may be influencing asthma symptoms. Further research of a larger population, taking in to consideration socio-economic factors and demographics would be important.

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Online Tables

Table 1:

COVID-19 SURVEY FOR PARENTS OF CHILDREN AND ADOLESCENTS ATTENDING SPECIALIST ASTHMA SERVICE

Asthma Symptoms – during the COVID-19 outbreak:

1. I have been worried about my child's:

- a) asthma
- b) asthma symptoms (cough/ wheeze/ shortness of breath/ tight chest)

2. In relation to my child's asthma, I am worried about:

- a) accessing the GP if needed
- b) accessing the specialist asthma service
- c) access to his/her asthma medication prescriptions
- d) accessibility to the pharmacy
- e) accessibility to the hospital
- f) any other: (*please state*)

3. My child's asthma has been triggered by:

1. I have been worried about my child’s:

- a) thinking about COVID-19
- b) worries about school work
- c) worries because of information heard on media outlets
- d) worries because of social distancing and not being able to see friends/family
- e) worries about financial pressures
- f) worries from family disagreements
- g) I am worried about nurses/carers coming to visit us at home and the risk of transmitting COVID to my child
- h) I am worried about nurses/carers coming to visit us at home and the risk of transmitting COVID to me or my family member
- i) any other: (*please state*)

Mood and Behaviour – during the COVID-19 outbreak:

4. Which of these feelings or moods has your child experienced during this period	Never	Sometimes
a) happiness		
b) irritability/moody		
c) angry		
d) sad/tearful		
e) depressed		
f) anxious/worried		
g) panic attacks		
h) thoughts of self-harm		
5. Which of these behaviours has your child displayed during this period		
a) restless/fidgety		
b) lack of concentration		
c) tired with low energy levels		
d) relaxed		
e) participation in their hobbies/activities		
f) sleeping too little/worse than before		
g) sleeping too much		
h) loss of appetite		
i) overeating		

Table 2:

COVID-19 SURVEY FOR CHILDREN AND ADOLESCENTS ATTENDING SPECIALIST ASTHMA SERVICE

Asthma Symptoms – during the COVID-19 outbreak:

1. I have been worried about:	N
a) my asthma	
b) my asthma symptoms (cough/ wheeze/ shortness of breath/ tight chest)	
2. Because of my asthma, I am worried about:	N
a) being able to see a doctor if needed	
b) being able to speak to my asthma team or specialist service	
c) getting my asthma medication prescriptions	
d) accessing the pharmacy for my asthma medications	
e) going to the hospital	

1. I have been worried about:

f) any other: *(please state)*

3. My asthma has been triggered by:

- a) thinking about COVID-19
- b) worries about school work
- c) worries because of information heard on media outlets
- d) worries because of social distancing and not being able to see my friends/family
- e) worries about money
- f) worries from family disagreements
- g) worries about nurses/carers coming to visit me at home and the risk of transmitting COVID to me
- h) worries about nurses/carers coming to visit me at home and the risk of transmitting COVID to my family members
- i) any other: *(please state)*

Mood and Behaviour – during the COVID-19 outbreak:

4. Which of these feelings or moods have you experienced during this period	Never	Sometimes	Often
a) happiness		lll	lllll
b) irritability/moody		lllllllll	ll
c) angry	lll	lllllllll	
d) sad/tearful	lll	lllllllll	l
e) depressed	lllllllll	ll	
f) anxious/worried	lll	lllllllll	ll
g) panic attacks	lllllllll	l	
h) thoughts of self-harm	lllllllll	l	
5. Which of these behaviours have you displayed during this period	Never	Sometimes	Often
a) restless/fidgety	llll	lll	llll
b) lack of concentration	lll	lllll	lll
c) tired with low energy levels	lllll	lllllll	ll
d) relaxed		lllllll	lllll
e) participation in your hobbies/activities		lllllll	llll
f) I am sleeping too little/worse than before	lllll	lllll	
g) I am sleeping too much	lllllllll	llll	l
h) I have lost my appetite	lllll	llll	llll
i) I am eating too much	lllll	lllllll	l