

ARTICLES

The impact of COVID-19 on deaf children in the United Kingdom

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ABSTRACT Object: The aim of this study was to explore the impact of the coronavirus (COVID-19) pandemic on the mental health of deaf children and young people (CYP) across the United Kingdom. Method: An online survey, consisting of questions coproduced with members of the National Deaf Children's Society Young Campaigners was circulated during the months of August and September 2020. The survey explored mode of communication, mental health, emotional and psychological wellbeing and support accessed. Results: 135 deaf children and young people responded. Nearly 60% of participants reported that their mental health was worse during the period of social restrictions (lockdown) and large numbers reported feeling isolated and lonely. 67.9% of our sample agreed that there was someone in their life they were able to talk to about their mental health, with support often received from family or friends. Conclusion: This is a small study but highlights some major mental health challenges for deaf children and young people during the COVID-19 crisis in the UK. Further research is warranted to explore the mental health of minority groups such as deaf CYP, to better understand their needs and develop appropriate and accessible preventive measures and mental health support.

KEYWORDS COVID-19 pandemic, mental health, deaf child, deaf young people, survey

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Introduction

There are an estimated 46,000 deaf children in England¹. Prior to the coronavirus (COVID-19) pandemic, the most recent study of mental health in deaf children in England showed higher rates of mental health problems in deaf children and young people (CYP) than the wider population². Roberts et al² employed a well-used questionnaire translated into British Sign Language (BSL) and found that 26% of a sample of 144 signing deaf CYP not currently accessing child mental health services had a *probable* mental health problem, with 57% having a *possible* mental health problem. This is higher than the general population of 11-16-year olds, where assessments using the same questionnaire showed approximately 14% were thought to have a mental disorder³.

As this finding suggests deaf children are more vulnerable to mental health problems, we wanted to know whether deaf children have been more susceptible to mental health problems during the COVID-19 pandemic. We considered this a possibility because deaf children are more likely to be isolated or victimised^{4,5} and the subsequent period of social restrictions ('lockdown') and school closures imposed in response to the pandemic may have increased the risk of isolation. Additionally, communication barriers resulting from the increased use of face masks or coverings may make it significantly harder for deaf CYP to lip-read or understand facial expressions or cues.

78% of school-aged deaf children attend a mainstream school¹ and they are, on many

occasions, the only deaf child in their class. This means that they may have a less accessible deaf peer group. This is important because deaf children in the UK communicate in a range of different ways. Some communicate through spoken English, especially those who are mildly deaf. Some children communicate completely in BSL with no spoken English and some may use a mixture of spoken languages, BSL or sign supported English (SSE). BSL is a fully recognised UK language since 2003, but despite this, there are relatively few opportunities for young people to learn BSL or to communicate with a peer group of other BSL users. Given the widespread dispersment of deaf children across schools, there may be relatively few opportunities for schools to develop and maintain an understanding of the deaf experience and practice effective communication with deaf children. As a result, many deaf children may experience communication challenges in their environment. This creates a number of problems for deaf CYP and their families that may lead to high levels of stress and a range of socio-emotional challenges⁶.

COVID-19 may have exacerbated some social and communication related challenges by taking deaf children away from those groups where communication can be most accessible (e.g. existing peer groups) and creating new barriers to communication through the increased use of face masks or coverings. Furthermore, deaf pupils may have experienced difficulties accessing school work due to lack of

accessibility to subtitles or interpreters during remote teaching⁷, contributing further to feelings of isolation and exclusion. The aim of the current study was to explore the impact of COVID-19 on the mental health of deaf CYP in Autumn 2020, at the same time that Young Minds, a mental health charity for young people, was conducting a similar survey in the general population of CYP⁸.

Methods

During the months of August and September 2020, an online survey was circulated on social media (e.g. Twitter, Facebook, Instagram), on the National Deaf Children's Society (NDCS) website and contact lists for deaf CYP. This included questions on demographic characteristics, modes of communication, emotional and psychological wellbeing and support accessed. Mental health was also measured by a question from the EQ-5D-Y⁹, a child-version of the EQ-5D quality-of-life measure. The survey was coproduced with members of the National Deaf Children's Society (NDCS) Young Campaigners, who provided feedback on the questions. The survey questions were available in English, BSL and Welsh. These questions received ethical approval on 24th July 2020 from the University of York Health Sciences Research Governance Ethics Committee. Participants read an online information sheet, had the opportunity to ask questions and gave fully informed consent for participation. For participants under the age of 16, parental consent was additionally provided.

All questionnaires were completed anonymously. The survey was organised and supported by both the NDCS and the Child Oriented Mental Health Intervention Centre (COMIC) in the UK.

Results

Demographic characteristics

A total of 135 participants completed the survey. One participant was excluded from analysis due to missing data. The final sample included 134 participants (mean age = 17.4, SD = 3.3). The ages of the participants varied from 13 to 25 years. Data on age was missing for thirteen participants. Overall, the sample was largely White British (76.1%), female (61.2%), residing in England (76.1%) with just under one fifth eligible for free school meals (19.4%). Demographic characteristics of the sample are presented in Table 1.

Table 1. Demographic characteristics of the participating deaf young people.

	<i>n</i>	<i>%</i>
Age group (years)		
13 – 15	40	29.9
16 – 18	46	34.3
19 - 25	35	26.1
Gender		
Female	82	61.2
Male	40	29.9
Non-binary	5	3.7
Ethnicity		
White British	102	76.1
White Other	11	8.2
Black British	6	4.5
Bangladeshi	2	1.5
Pakistani	4	3.0
Indian	3	2.2
Chinese	1	0.7
Other	1	0.7
Residence		

England	102	76.1
Scotland	22	16.4
Wales	6	4.5
Northern Ireland	2	1.5
Eligible for Free School Meals (or previously eligible)		
Yes	26	19.4
No	95	70.9

Effects of COVID-19 on mode of communication used by deaf CYP

The proportion of deaf CYP who communicate through spoken English was similar across different social settings (see Table 2). Fewer deaf CYP utilised BSL as their mode of communication during the pandemic compared to the proportion who reported normally using BSL to communicate with friends or in education/work.

Table 2. The method of communication adopted by deaf young people in different social settings.

	Mostly speech	Mostly sign language	Both
	%	%	%
At home	74.6	3.7	20.1
In education or work	74.6	6.0	14.2
With friends	67.9	9.7	20.9
With others during the COVID-19 pandemic	72.9	3.0	18.8

Effects of COVID-19 on mental health and wellbeing

Nearly 60% of deaf young people indicated that their mental health was worse during the period

of lockdown (see Table 3). However, about a tenth of deaf CYP indicated that their mental wellbeing had improved during this period. Some quotes to contextualise this in the free text box included:

“During lockdown, I feel like I have lost my confidence and I am more nervous than usual. Video calls with my school were always a struggle and the amount of online school work did not help... I felt quite lonely. Not being able to hang out with my friends as I did, to understand what people are saying because they are wearing masks and just feeling quite isolated and helpless.”

“I can get stressed easily and the lockdown hadn’t make it much better as I have a limited range of activities and it can get boring very easily. Also I am the only Deaf person in my family and I can get a little lonely as they don’t always tell everything in BSL at dinner time etc.”

“Being in lockdown means that I’m not able to see my friends a lot which is really hard for me. And especially now that we have to wear masks, I don’t want to go out anymore because it’s so hard to understand anyone because everything is so muffled and quiet. It means I don’t want to talk to anyone due to not being able to lip read and understand. I feel isolated from conversations.”

“Although my school did set some work, I did nothing because they were inaccessible and

<p><i>that did create an negative impact on my mental health seeing my other hearing classmates being able to complete it with relative ease. I just simply avoided all the work... I noticed without the additional stress from school, my mental health has improved.”</i></p> <p><i>“I finally got to leave my mainstream school (since GCSEs were cut off) which affected my mental health by being inaccessible and a very isolating experience. Now I'm at home where I can use BSL everyday (my family is Deaf) and I can FaceTime my friends much more often. The chance to use more BSL has made me feel happier.”</i></p> <p>Although almost three quarters of our sample had been able to stay in touch with friends, large numbers (57.5%) reported feeling isolated and lonely (see Table 3). Just over two thirds of respondents agreed that there was someone in their life with whom they feel comfortable discussing their mental health, with support often received from family and friends.</p> <p><i>Table 3. Descriptive statistics of mental health outcomes related to the COVID-19 pandemic.</i></p>			
	No difference	20	14.9
	A bit worse	52	38.8
	Much worse	28	20.9
	Don’t know	20	14.9
	Maintained contact with friends during lockdown		
	Agree	97	72.4
	Neither agree nor disagree	16	11.9
	Disagree	18	13.4
	Felt lonely or isolated during lockdown		
	Agree	77	57.5
	Neither agree nor disagree	25	18.7
	Disagree	30	22.4
	Feel confident talking to someone about own mental health		
	Agree	59	44.0
	Neither agree nor disagree	32	23.9
	Disagree	41	30.6
	There is someone in my life that I feel able to talk to about my mental health		
	Agree	91	67.9
	Neither agree nor disagree	18	13.4
Disagree	22	16.4	
Seek mental health support from			
Family	66	49.3	
Friends	49	36.6	
Social media	34	25.4	
Teacher of the Deaf	10	7.5	
A professional at school/college/university	15	11.2	
Work colleague	3	2.2	
A mental health professional who supports all young people	16	11.9	
A mental health professional who supports deaf young people	7	5.2	
Website for all young people	8	6.0	
Website for deaf people	2	1.5	
Buzz website	1	0.7	
National Deaf Children's Society	4	3.0	
Crisis text service	5	3.7	
GP	6	4.5	
Youth worker	2	1.5	
Other	5	3.7	
Description of mental health today	n	%	
Not sad, worried or unhappy	48	35.8	
A bit sad, worried or unhappy	72	53.7	
Very sad, worried or unhappy	13	9.7	
Mental health and wellbeing during lockdown			
Much better	4	3.0	
A bit better	10	7.5	

None of the above - haven't received any information, advice or support	27	20.1	No	61	64.2
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The reported declines in mental health and wellbeing were similar across age groups and regions (see Table 4). However, a higher proportion of female respondents reported worsening mental health compared to their male peers. Additionally, White respondents and those who were not eligible for free schools meals also had higher rates of poor mental health.

Table 4. Proportion of CYP with worsening mental health due to the COVID-19 lockdown by demographic group

	<i>n</i>	%
All respondents	80	59.7
Age group (years)		
13 – 15	24	60.0
16 – 18	26	56.5
19 - 25	24	68.5
Gender		
Female	59	72.0
Male	15	37.5
Non-binary	3	60.0
Ethnicity		
White British	65	63.7
White Other	6	85.7
Other	7	41.2
Residence		
England	63	61.8
Scotland	12	54.5
Wales	3	50.0
Northern Ireland	1	50.0
Eligible for Free School Meals (or previously eligible)		
Yes	12	46.2

Discussion

Comparison to other national surveys

The present study examined the psychological impact of the COVID-19 pandemic on deaf CYP in the UK. Based on the findings from the current study, almost 60% of deaf CYP experienced declines in their mental health during the first national lockdown in 2020, a period when substantial social restrictions were imposed in the UK. These high rates of mental health problems may be related to increased loneliness and social isolation¹⁰, which over half of respondents (57.5%) had experienced. This study concurs with a growing body of research which has demonstrated that the mental health of the general CYP population has deteriorated during the pandemic. For example, Young Minds reported that 83% of young people had experienced poor mental health in March 2020¹¹, with this figure decreasing marginally to 81% in Summer 2020¹². In a study conducted by Young Minds in Autumn 2020⁸, a sample of young people with a history of mental health needs reported on the impact of returning to school during the COVID-19 crisis on their mental health using similar measures as implemented in the current study. Young Minds reported that many young people had found returning to education challenging, with just over two thirds of respondents (69%) experiencing pronounced declines in their mental health. Given that our sample included only deaf CYP, including those without a history of mental health needs, it is

concerning that a similar proportion of participants reported mental health problems across these two samples. Combining the results reported here with those from prior research, it appears that the COVID-19 crisis has had a negative impact on the mental wellbeing of both deaf and hearing CYP, with additional factors affecting the mental health of deaf children.

Accessing mental health support at school shows different profiles in the two groups. Our findings suggest that only 18.7% of deaf CYP have received support from either their Teacher of the Deaf or another professional within the educational environment. In contrast, Young Minds observed that 27% of their population-based sample had received mental wellbeing support from a member of staff at school⁸. Although the young people who responded to the Young Minds survey already had an identified need, and hence were more likely to have an identified contact for support, it is possible that some of this discrepancy may be related to reduced accessibility to Teachers of the Deaf during the pandemic. Firstly, the number of Teachers of the Deaf has declined in recent years¹ and secondly, the peripatetic nature of their role was reduced or made more challenging during the first national lockdown when school closures were imposed. Whatever the reason, these findings indicate that the vast majority of CYP (whether deaf or hearing) receive little mental health provision at school at a time when there has been a national focus on improving mental health support in schools¹³. However, just over two thirds (67.9%) of the

participating deaf CYP in our sample agreed that there was someone in their life they were able to talk to about their mental health, thereby suggesting that other means of support, for example from family or friends, were helpful routes for support. This reinforces the importance of family support across the landscape of services for deaf CYP and their families¹⁴.

Why deaf CYP may be struggling in the COVID-19 pandemic

Deaf children commonly have delayed educational outcomes^{15,16} and poorer long term outcomes such as increased unemployment¹⁷. This may be mediated by a range of other factors in their experience and development including higher risk of 'language deprivation'¹⁸ and delay¹⁹ and often, as a result, problems with delayed cognitive development such as abstract thinking and problem-solving skills^{20,21}. There have been improvements in literacy and spoken language outcomes since the Universal Newborn Hearing Screening Programme (UNHSP) was introduced²² but researchers have called for a broader range of outcomes to be measured²³. This is because, even after the introduction of UNHSP, deaf children face challenges across a range of domains including those described above, sustaining peer relationships and developing and maintaining self-esteem²⁴. Additionally, deaf children have unique patterns of social and emotional development which may predispose them to increased psychological distress in a largely

hearing world^{25,26}. Research shows that victimisation can also lead to more mental health problems for children alongside other vulnerability factors such as socio-economic disadvantage²⁷. Interestingly, 10.5% of children said that their mental health was better during lockdown, perhaps because it enabled them to avoid stressful circumstances (e.g. some school situations, bullying etc). A much larger group (59.7%) said their mental health was worse, with a staggering 63.4% saying that they were sad, worried or unhappy. This is substantially higher than pre-COVID comparative data from other countries, where the proportion of CYP who reported feeling sad, worried or unhappy was 18.7% in Sweden, 23.1% in Spain, 38% in South Africa and Italy and 39.6% in Germany²⁸. In England, a recent study conducted before the COVID-19 crisis found that 40% of CYP felt sad, worried or unhappy²⁹.

Limitations of this study

A small sample of deaf children participated in the current study, thereby limiting the generalisability of the findings to the wider population. We also have no comparable data with deaf CYP from prior to the COVID-19 pandemic to benchmark some of these results against. The results presented here should therefore be treated with caution. However, at the very least, our findings suggest that further research is warranted to explore the mental health of minority groups such as deaf CYP both in general and in times of prolonged challenge and crisis.

What should we do in terms of reducing mental health problems now and in the future

Deaf CYP recognised the challenges posed by the national lockdown and COVID-19. At the same time, many set out their frustration that better support was not being provided to them. This support ranged from accessible learning, mental health needs and addressing the communication barriers created by face masks.

“Schools need to ensure all their resources and online work are actually accessible to avoid Deaf children from being discouraged and affect their mental health.”

“The Government needs to get on with the situation and actually deal with mental health funding and support as well as solving the virus and put things in place that will reduce the virus asap because people have a life and need to be out and about, not stuck at home.”

“Get the Government to understand that hearing difficulties are not easy to manage on ropey computer sound, for kids who are trying to study. And get going with see through masks!”

Many deaf CYP also talked about the importance of support from their peers and family members, and the importance of good communication.

Some young people manage to get through adversity better than others and understanding

this is important³⁰. We need to understand this when planning for future provision and to make sure we reduce the inequalities in access experienced between deaf and hearing children. We also need to think carefully about providing access for mental health support in this population. Specialist support is available from the National Deaf CAMHS in England³¹ but day to day support for mental health problems and to promote social and emotional development which is accessible and appropriate to deaf CYP should be a priority in these challenging times.

References

1. CRIDE. CRIDE 2019 England Report. Internet. 2019. Retrieved September 2020. Available from: ndcs.org.uk/information-and-support/being-deaf-friendly/information-for-professionals/research-and-data/consortium-for-research-into-deaf-education-cride-reports/
2. Roberts S, Wright B, Moore K, Smith J, Allgar V, Tennant A. Translation into British Sign Language and validation of the Strengths and Difficulties Questionnaire. *Health Serv Delivery Res.* 2015; 3(2): 1-95.
3. Sadler K, Vizard T, Ford T, Marchesell F, Pearce N, Mandalia D, Davis J, Brodie E, Forbes N, Goodman A, Goodman R. Mental health of children and young people in England, 2017. NHS Digital. 2018. 1-35.
4. Wolters N, Knoors HE, Cillessen AH, Verhoeven L. Predicting acceptance and popularity in early adolescence as a function of hearing status, gender, and educational setting. *Research in developmental disabilities.* 2011; 32(6):2553-2565.
5. Kvam MH. Sexual abuse of deaf children. A retrospective analysis of the prevalence and characteristics of childhood sexual abuse among deaf adults in Norway. *Child abuse & neglect.* 2004; 28(3):241-251.
6. Peterson CC, O'Reilly K, Wellman HM. Deaf and hearing children's development of theory of mind, peer popularity, and leadership during middle childhood. *Journal of experimental child psychology.* 2016; 149:146-158.
7. Quail T. BATOD survey summary – Members' views on how COVID-19 and the lockdown had been affecting education and children's services. Internet. 2020. Retrieved December 2020. Available from: <https://www.batod.org.uk/resource/batod-survey-summary-members-views-on-how-covid-19-and-the-lockdown-had-been-affecting-education-and-childrens-services/>
8. Young Minds. Coronavirus: Impact on young people with mental health needs. Survey 3: Autumn 2020 - return to school. Internet. 2020. Retrieved December 2020. Available from: <https://youngminds.org.uk/media/4119/youngminds-survey-with-young-people-returning-to-school-coronavirus-report-autumn-report.pdf>
9. Wille N, Badia X, Bonsel G, Burström K, Cavrini G, Devlin N, Egmar AC, Greiner W, Gusi N, Herdman M, Jelsma J. Development of the EQ-5D-Y: a child-friendly version of the EQ-5D. *Quality of life research.* 2010; 19(6):875-886.
10. Loades ME, Chatburn E, Higson-Sweeney N, Reynolds S, Shafran R, Brigden A, Linney C, McManus MN, Borwick C, Crawley E. Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. *Journal of the American Academy of Child & Adolescent Psychiatry.* 2020; 59(11):1218-1239.

11. Young Minds. Coronavirus: Impact on young people with mental health needs. Internet. 2020. Retrieved December 2020. Available from: https://youngminds.org.uk/media/3708/coronavirus-report_march2020.pdf
12. Young Minds. Coronavirus: Impact on young people with mental health needs. Survey 2: Summer 2020. Internet. 2020. Retrieved December 2020. Available from: <https://youngminds.org.uk/media/3904/coronavirus-report-summer-2020-final.pdf>
13. Department for Health & Social Care and Department for Education. Government Response to the Consultation on *Transforming Children and Young People's Mental Health Provision: a Green Paper* and Next Steps. Internet. 2018. Retrieved December 2020. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728892/government-response-to-consultation-on-transforming-children-and-young-peoples-mental-health.pdf
14. Moeller MP, Carr G, Seaver L, Stredler-Brown A, Holzinger D. Best practices in family-centered early intervention for children who are deaf or hard of hearing: An international consensus statement. *The Journal of Deaf Studies and Deaf Education*. 2013; 18(4):429-445.
15. NDCS. Post-16 education data on deaf young people. Internet. 2018. Retrieved September 2020. Available from: ndcs.org.uk/information-and-support/being-deaf-friendly/information-for-professionals/research-and-data/
16. Hendar O, O'Neill R. Monitoring the achievement of deaf pupils in Sweden and Scotland: Approaches and outcomes. *Deafness & education international*. 2016; 18(1):47-56.
17. Action on Hearing Loss. Hearing Matters. Internet. 2015. Retrieved September 2020. Available from: <https://rnid.org.uk/wp-content/uploads/2020/05/Hearing-Matters-Report.pdf>
18. Hall WC. What you don't know can hurt you: The risk of language deprivation by impairing sign language development in deaf children. *Maternal and child health journal*. 2017; 21(5):961-965.
19. Peterson CC. Empathy and theory of mind in deaf and hearing children. *Journal of deaf studies and deaf education*. 2016; 21(2):141-147.
20. Traxler CB. The Stanford Achievement Test: National norming and performance standards for deaf and hard-of-hearing students. *Journal of deaf studies and deaf education*. 2000; 5(4):337-348.
21. Kyle FE, Harris M. Concurrent correlates and predictors of reading and spelling achievement in deaf and hearing school children. *The Journal of Deaf Studies and Deaf Education*. 2006; 11(3):273-288.
22. Pimperton H, Blythe H, Kreppner J, Mahon M, Peacock JL, Stevenson J, Terlektsi E, Worsfold S, Yuen HM, Kennedy CR. The impact of universal newborn hearing screening on long-term literacy outcomes: a prospective cohort study. *Archives of disease in childhood*. 2016; 101(1):9-15.
23. Pimperton H, Kennedy CR. The impact of early identification of permanent childhood hearing impairment on speech and language outcomes. *Archives of disease in childhood*. 2012; 97(7):648-653.
24. Scheetz NA. *Psychosocial aspects of deafness*. Allyn & Bacon. 2004.
25. Brown MP, Cornes A. Mental health of deaf and hard-of-hearing adolescents: what the students say. *Journal of deaf studies and deaf education*. 2015; 20(1):75-81.
26. Szarkowski A, Young A, Matthews D, Meinzen-Derr J. Pragmatics development in deaf and hard of hearing children: a call to

-
- action. *Pediatrics*. 2020; 146(Supplement 3):S310-S315.
27. Lewis SJ, Arseneault L, Caspi A, Fisher HL, Matthews T, Moffitt TE, Odgers CL, Stahl D, Teng JY, Danese A. The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. *The Lancet Psychiatry*. 2019; 6(3):247-256.
28. Ravens-Sieberer U, Wille N, Badia X, Bonsel G, Burström K, Cavrini G, Devlin N, Egmar AC, Gusi N, Herdman M, Jelsma J. Feasibility, reliability, and validity of the EQ-5D-Y: results from a multinational study. *Quality of life research*. 2010; 19(6):887-897.
29. Wright B, Garside M, Allgar V, Hodkinson R, Thorpe H. A large population-based study of the mental health and wellbeing of children and young people in the North of England. *Clinical Child Psychology and Psychiatry*. 2020; 25(4) 877–890.
30. Rutter M. Annual research review: Resilience—clinical implications. *Journal of child psychology and psychiatry*. 2013; 54(4):474-487.
31. Wright B, Walker R, Holwell A, Gentili N, Barker M, Rhys-Jones S, Leach V, Hindley P, Gascon-Ramos M, Moore K. A new dedicated mental health service for deaf children and adolescents. *Advances in Mental Health*. 2012; 11(1):95-105.