The Reality of the Psychological Burden of the COVID-19 Pandemic: Perspectives of Parents of Hearing-Impaired People

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Summary

The aim of the study was to examine the reality of psychological distress in the parents of People with Hearing Impairments (PHI) during the COVID-19 pandemic and how, from their point of view, this can be counteracted using the variables of degree of impairment, age, and aging education. The sample consisted of 56 parents of PHI who were administered a questionnaire on the extent of mental stress and how to deal with it. The results showed statistically significant differences in parental responses to psychological stress during the COVID-19 pandemic, which were attributed to impairment severity in favor of the severely disabled parent and to stress management methods in favor of individual mildly disabled parents. It also showed that there were statistically significant differences in parental response to psychological stress by age group in favor of parents of younger PHI and in coping with stress in favor of parents of older PHI. There were also statistically significant differences in coping with mental stress during the COVID-19 pandemic, which could be attributed to the different levels of education in favor of PHI parents with a higher level of education.

Keywords: *psychological stress, coping with stress, parents, hearing impairment, COVID-19 pandemic*

1. Introduction

People experience many psychological stresses, crises, and adversities that affect their lives psychologically, physiologically, and socially. These stresses vary according to personality, specialty, and inclination. While others can maintain emotional balance, some people experience sadness, tension, depression, loss of emotional balance, or the emergence of new behavioral patterns. Such stress occurs when individuals are faced with an urgent situation that requires an appropriate response or demand that they cannot adequately meet. Parents of people with disabilities (PWD) experience psychological stress and anxiety, as their disabled children are susceptible to the virus, dubbed COVID-19 by the World Health Organization in 2020, with symptoms ranging from very mild to severe.

The current study aimed to explore the reality of the psychological stress that parents of PHI experienced during COVID-19 home quarantine (HQ) and how they managed it. It also examined whether this burden differed depending on the severity of the impairment (mild, moderate, or severe) or the different age groups. The study also attempted to examine the extent to which such psychological stress differed and what methods parents of PHI used to counteract stress, given their different levels of education.

The importance of the study lies in the fact that Arabic studies deal neither with the reality of mental stress on parents of PHI during the COVID-19 pandemic nor with methods for coping with it in critical transitional phases—that is, late childhood and adolescence. Addressing this essential topic in these age groups can help expand the exploratory and diagnostic repertoire for professionals in special education and psychology who conduct exploratory, diagnostic, and therapeutic studies of mental distress and its management during the COVID-19 pandemic. Mental stress is a situation in which a person is exposed to circumstances to which he or she must somehow adjust, and this situation can worsen and reach a dangerous point when the severity of the conditions and demands increases or lasts for a long time (Al Ghurair and Abu Asaad, 2009, p. 26). Bani Mustafa and Al-Shayab defined mental stress as a state of stress and mental and physical exhaustion that results from disturbing events or frustrating situations surrounding a person, causing unpleasant emotions, such as stress, anger, and frustration (Bani Mustafa and Al-Shayab, 2020).

Several studies have shown that families of PWD, especially parents, suffer from stress, crises, sadness, chronic grief, tension, and fatigue, in addition to the crisis of reality caused by external variables associated with the difficulty of self-regulation related to caregiving of disabilities associated with a child, that is, meeting the child's organic needs and the social pressures exerted by members of society (Othman, 2019). Hearing-impaired people are born with hearing loss and are therefore unable to learn their speech and language. The term also refers to

Manuscript received March 5, 2022
Manuscript revised March 20, 2022
https://doi.org/10.22937/IJCSNS.2022.22.3.95

people who became deaf in their childhood before acquiring their speech and language, or as soon as they acquired their speech and language, and therefore lose the learning effect of hearing very quickly (Soliman and Al-Bablawi, 2015).

The coronavirus is a large class of viruses that can cause infections in humans and animals. Several coronaviruses are known to cause human respiratory infections of a wide range of severity, from the common cold to more severe infections, such as Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS). The newly discovered coronavirus causes COVID-19, an infectious disease caused by the recently discovered parent coronavirus. No information about this new virus or its infection was available until its outbreak in the Chinese city of Wuhan in December 2019. COVID-19 has become a pandemic that has gripped many countries around the world (WHO, 2019).

2. Literature Review

Al-Sharqawi (2021) investigated the impact of the COVID-19 pandemic on the language of people with intellectual disabilities from the perspective of their parents. The researcher developed a 42-item questionnaire divided into two dimensions: expressive language and receptive language. He tested the validity and reliability of the questionnaire and then applied it to a study sample of 186 parents. The results of the study showed a loss of expressive language skills due to the cessation of services during the COVID-19 pandemic, but this had less impact on the receptive language of the intellectually disabled prospect from the parents' perspective. The findings also show that the impact of the pandemic was more pronounced in people with severe intellectual disabilities than in those with severe and moderate disabilities. The author therefore recommended activating distance language learning for people with intellectual disabilities by launching platforms specialized in distance learning and rehabilitation for people with intellectual disabilities. Courses could also be offered to parents to educate them on the importance of distance learning during the COVID-19 pandemic and to qualify them to teach their children independently.

Neece et al. (2020) attempted to uncover the impact of COVID-19 on 77 families of young people with various disabilities, including hearing impairments, in California and Oregon. Parents answered five interview questions about the impact of the pandemic, what services were available to their children, and how they managed their fears and concerns about the long-term impact of the pandemic. The results showed that caring for children at home was the biggest challenge for parents due to the lack of many basic services. However, they also shared some positive aspects of the pandemic, most notably being together as a family. While there are positives, many have raised concerns about the long-term impact of the pandemic on their children's development amid the loss of services, education, and opportunities for social inclusion. Zhang et al. (2020) indicated that the impact of COVID-19 on both disabled and able-bodied students was tremendous, with increasing concerns about mental and physical health, a rapid shift to online learning, and increasing isolation. In addition to these changes, disabled students with health conditions may have difficulty accessing online learning or communication tools, and their stress may be exacerbated by additional risks, such as financial stress or pre-existing conditions. This paper presents data from a survey of 147 students with and without disabilities collected in late March–early April 2020 to assess the impact of COVID-19 on these students' education and mental health. Our results show that students with disabilities/health and mental health problems showed more interest in online courses than their non-disabled peers. Further, students with disabilities/health conditions reported experiencing more adversity related to COVID-19 than their regular peers.

With the rapidly changing landscape of the COVID-19 outbreak, the best way to meet the needs and continue to protect the health and well-being of PWD is to make those needs and their well-being a global priority for creating public health (Coleen et al., 2020). Three areas of ongoing public health needs and possible strategies to address them have been identified: the types of data that help elucidate risks for PWD and ensure their long-term safety; measures to prevent, treat, and mitigate the impact of the pandemic on PWD for the duration of the outbreak; and issues of equal access to and quality of health care for PWD. Due to the rapidity of public health responses, the approach chosen needs to be reassessed and adjusted to best meet the needs of PWD in the months and years to come, and these new practices need to be integrated into future emergency responses to avoid mental stress. Singh (2020) stated that forming a perspective on disability is fundamental to understanding and promoting social justice for every member of the population. However, public health experts and policymakers routinely disagree, despite the need to understand the rights of PWD in inclusive COVID-19 preparedness.

The study attempted to examine disability ethics by assessing structural discrimination, equitable practices, respect for disability culture, and ways healthcare professionals can protect PWD during this pandemic. Regarding the standards of care applied in crises, the allocation of health resources should not be based on the quality of life of PWD, and health workers should avoid stereotypes about a person's disability when providing interim care. Further, Disability Ethics Triage Protocol Committees and DRR Working Groups should reform

medical legalization by eliminating prejudice against PWD.

3. Methods

We used a descriptive analytical approach, and the study population consisted of 150 parents of PHI in Mecca, Saudi Arabia.

Study Sample

The study sample consisted of 56 parents of PHI. The study administered a questionnaire on the reality of psychological burden in parents of PHI during COVID-19 HQ. Table 1 shows the statistical descriptions of the study participants according to the variables examined.

Study Tools

We designed a questionnaire on the reality of mental stress for parents of PHI during the COVID-10 HQ. It consists of 50 elements spread over two dimensions: psychological stress (25 items) and methods for psychological stress management (25 items). Independent variables were gender, disability severity, age of PHI, and parental education. The validity of the study instrument was checked using face validity, interrater validity, and internal consistency.

Questionnaire Reliability

Reliability was calculated using the Cronbach's alpha coefficient method and the split-half method.

Table 1: Statistical description of study participants by variable.

Impairment severity	Mild	7	12.5
	Moderate	25	44.6
	Severe	24	42.9
Age	Less than 12 years old	12	21.4
	12–15 years old	16	28.6
	16–20 years	28	50
Educational levels of parents	Uneducated	16	28.6
	Middle or Secondary	31	55.4
	University	9	16.1

4. Findings

RQ1: **What methods are in place to deal with the psychological distress of parents of PHI during COVID-19 home quarantine?**

To answer this question, we calculated the frequencies, percentages, arithmetic means, standard deviations, and ranks for the dimension of psychological stress management methods that parents of PHI experienced during COVID-19 HQ. Table 2 shows the results of the arithmetic mean and standard deviation of the sets of methods used to manage the psychological stress experienced by parents of PHI during the COVID-19 HQ.

Table 2 : Arithmetic mean and standard deviation of perspectives of parents of PHI regarding methods for coping with the psychological distress experienced during COVID-19 home quarantine

Views on Methods	**Use level**					**Weight**	**Mean**	**Deviation**	**Rank**
	Very high	High	Average	Low	Very low				
General arithmetic mean	7.1	35.7	28.57	28.6	0				
						76.69	3.83	0.36	High

Table 2 shows that from the perspectives of the parents of PHI, the methods for coping with the psychological stress of parents of PHI during the COVID-19 HQ reached a high level (mean value = 3.83, standard deviation = 0.36).

RQ2: **Do the psychological burdens of parents of PHI and their coping during the COVID-19 pandemic differ according to the severity of disability (simple, moderate, or severe) in the hearing impaired?**

To answer the third research question, the Kruskal–Willis test was used to measure the differences in the responses of parents of PHI to psychological distress during the COVID-19 pandemic, discriminating based on the severity of impairment—that is, the categories of disability: mild, moderate, and severe.

Table3: Results of the Kruskal–Wallis test performed to identify the differences among the study sample based on the severity of impairment.

Dimensions	Mild (n = 7)	Moderate (n = 25)	Severe (n =24)	Chi-square	Level of significance
	Average rank	Average rank	Average rank		
Psychological stress	4.21	19.94	44.50	45.825	0
Methods of confronting stress	52.79	37.06	12.50	46.335	0

Table 3 shows that the first dimension, the psychological burden of parents of PHI during the COVID-19 pandemic, mapped to the severity of the impairment variables (mild, moderate, severe). The score (0, 01) that passed the chi-square at degrees of freedom (2) was 2(2) = 45.825 (p = 0.000), indicating that the impairment variable had an impact on the magnitude of the responses of parents of PHI with mental disorders identified during the COVID-19 pandemic stress. To identify the attitudes of the differences, we used the Mann–Whitney test, which showed that there were differences in the level of psychological distress in favor of the parents of severely disabled people. However, the second dimension, the responsiveness of parents of PHI to stress management methods during the COVID-19 pandemic, mapped to the severity of the impairment variables (mild-moderate-severe), showed statistically significant differences (0.01) in the chi-squared at degrees of freedom (2) of 2(2) = 46.335 (p = 0.000), implying that the impairment variable had an impact on the responsiveness of parents of PHI to stress management methods during the COVID-19 pandemic. To calculate differences in attitudes, we used the Mann–Whitney test, which revealed differences in the level of stress management methods in favor of the parents of persons with mild impairment.

RQ3: Do the psychological distress of parents of PHI and their coping methods during the COVID-19 pandemic differ according to the chronological age of the PHI (late childhood, early adolescence, middle adolescence, and late adolescence)?

To answer this question, we used the Kruskal–Willis test to measure the differences between the responses of parents of PHI to psychological stress during the COVID-19 pandemic according to the different age groups (under 12 years, 12–15years, and 16–20 years).
Comparing the degree of response of parents of PHI to psychological stress during the COVID-19 pandemic according to the age groups (Table 5) in the first dimension, we observed statistically significant differences at the 0.01 level because the value of the chi-square at the degrees of freedom (2) was 2(2) = 46.64 (p = 0.000). This implies that the variable age group influenced the responses of parents of PHI to psychological stress during the COVID-19 pandemic.

Table4: Results of Kruskal–Wallis test showing the differences in the responses of parents of PHI to measured dimensions based on severity of impairment.

Dimensions	Less than 12 years old (n = 12)	12-15 Y (n =16)	16-20 Y (n =28)	Chi-square	Level of significance
	Average rank	Average rank	Average rank		
Psychological stress	50.50	36.50	14.50	46.64	0
Methods of confronting stress	6.50	20.50	42.50	47.16	0

To identify the attitudes of the differences, we applied the Mann–Whitney test, which showed differences in the level of psychological distress in all groups in favor of the parents of younger PHI. Related to the second dimension, the extent of the responses of parents of PHI to stress and their methods of dealing with it during the COVID-19 pandemic, there were statistically significant differences in the age range variables (under 12 years; 12–15 years; 16–20 years). at the 0.01 level, since the value of the chi-square at the degrees of freedom was (2) 2(2) = 47.16 (p = 0.000), suggesting that the age group variable reflected the responses of parents of PHI in coping with stress

during the COVID-19 pandemic. To identify the differences in attitudes, we performed the Mann–Whitney test, which proved that there were differences in attitudes.

RQ4: During the COVID-19 pandemic, does the mental stress and coping of parents of PHI differ depending on their educational level?

To answer this question, the Kruskal–Willis test was used to identify the differences in the responses of the parents of PHI to psychological stress during the COVID-19 pandemic matched to the variable of educational levels (uneducated, Middle Education, university)

Table5: Results of the Kruskal-Wallis test showing differences in the responses of parents of PHI to measured dimensions based on educational level.

. Dimensions	Uneducated (n = 16)	Middle Education (n = 31)	University (n = 9)	Chi-square	Level of significance
	Average rank	Average rank	Average rank		
Psychological stress	48.50	24.95	5.17	44.26	0
Methods of confronting stress	8.50	32.18	51.39	44.15	0

As shown in Table5, the first dimension, the psychological burden of parents of PHI during the COVID-19, which was matched to their educational level (uneducated, secondary education, university studies), had statistically significant differences in 0.01 level, as the chi-square value at degrees of freedom (2) was 2(2) = 44.26 (p = 0.000), suggesting that the educational levels of the parents of PHI had an impact on their levels of psychological distress during the COVID-19 pandemic. To identify the different attitudes, we used the Mann–Whitney test, which showed that there were differences in the extent of psychological distress in all groups in favor of the parents who were less educated. We assessed the second dimension, the degree of responsiveness of parents to the methods of coping with stress during the COVID-19, mapped to their education (secondary value: 0.01). There were statistically significant differences, given that the value of the chi-square at degrees of freedom (2) was 2(2) = 44.15 (p = 0.000), implying that the level of education had an impact on the response level of the parents of PHI have the methods to manage stress during the COVID-19. There were also differences in the level of stress management methods in favor of parents of PHI with higher educational qualifications (university).

5. Discussion

The results of the study showed that the reality of the psychological distress of the parents of PHI during the COVID-19 HQ reached an average level from the parent perspective (mean = 3.35, standard deviation = 0.53), whereas the psychological distress coping methods of parents of PHI during the COVID-19 pandemic were rated as high (mean = 3.83, standard deviation = 0.36). The study results also indicate statistically significant differences in the psychological stress reality of parents of PHI, depending on the degree of disability, in favor of parents of PHI with severe impairments.

The response of parents of PHI to the methods of coping with psychological stress during the COVID-19 according to different degrees of disability severity was in favor of parents of people with mild disabilities. We also observed statistically significant differences in the reality of parental mental distress by age group in favor of parents with younger PHI (late childhood stage), and there were statistically significant differences in parental response to methods of coping with mental distress during the COVID-19 pandemic, according to the different age groups in favor of older PHI (late adolescence).

The study results confirmed that there were statistically significant differences in the reality of psychological stress during the COVID-19 according to the different educational levels of the parents in favor of the parents of PHI with a lower educational level. The results suggest that there were statistically significant differences in the responses of parents of PHI to methods of coping with psychological distress during the COVID-19 pandemic according to the different educational levels, in favor of highly educated parents (university). We consider these results logical and consistent with the results of the study by Alle and Sarah (2020), who showed that parents showed moderate levels of tension and psychological stress and high levels of flexibility. According to the authors, the parents experienced challenges, frustration, feelings of isolation, and tension. However, strengths were found in parents who faced similar situations but reflected on their progress and tenaciously faced challenges that threatened their families.

The implications of the results highlight the need for further research into the life experiences of families with deaf or hard-of-hearing people and their resilience. The findings of the current study are consistent with the results of the study by Al-Fahal and Abdel-Rahim (2017), which revealed higher psychological distress in the parents of adolescents

with hearing impairments (AHI). The authors showed a statistically significant association between the psychological distress of the AHI parents and the level of impairment in their children, while there was no statistically significant association between the psychological distress and the position of the hearing-impaired adolescent in the family. There was also a statistically significant connection between mental stress and the level of education of AHI parents. Abdel-Halim (2015) also confirmed that the psychological stress on the parents of students with hearing impairments (SHI) was high, revealing statistically significant differences in the psychological stress on SHIs due to studying.

The authors highlighted statistically significant differences in the psychological burden of SHI parents due to the occupational level (employees) as well as due to the higher economic level. The study also made several important recommendations and suggestions, including paying more attention from public officials and civil society to the hearing impaired and their families, as the findings of Coleen et al. (2020). The study demonstrated the need to rethink and modify the approach chosen to best meet the needs of PWD in the months and years to come, and to integrate these new practices into future emergency preparedness to reduce the impact of prevention of mental illness in families of PWD, which is also confirmed by the results of Singh (2020). This study examined the ethics of PWD in terms of understanding structural discrimination, equitable practices, respecting the culture of PWD, and ways to protect healthcare professionals for PWD during this pandemic. Although there are positive aspects of the pandemic, many have raised concerns about its long-term impact on their children's development amid the loss of services, education, and opportunities for social inclusion. This explains the anxiety of parents of PHI, which increased significantly during the COVID-19 pandemic, as reported by Zhang et al. (2020), who argued that students with disabilities/health and mental health problems showed more interest in online courses than their non-disabled peers. Students with disabilities reported experiencing more adversity related to COVID-19 than their non-disabled peers. Students with disabilities need to be given confidence in the accessibility of online learning tools, which are becoming more prevalent in education in general and due to COVID-19. Further, educational technologies become more accessible when the context of learning is considered, and online learning tools are designed to provide PWD with a supportive, tranquil, and connected learning environment, all of which directly impact the shaping of the psychological burden of listening to PWD and their families during the COVID-19 pandemic.

6. Conclusion

The results of the study call for more attention to be paid to PWD in general, and especially to hearing impairments. We recommend the provision of supportive programs for families, particularly in special circumstances, such as the COVID-19 pandemic, as well as a supportive, calm, and meaningful educational environment in which students with disabilities are given confidence in their ability to access the learning tools increasingly used in education due to COVID-19.

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