

Psychological Stress among Parents of Hearing Impaired versus Intellectually Disabled Pakistani Children

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ABSTRACT

Background: Parents of special children face physical, psychological and social impact of their child's disability, including hopelessness and depression. This study is important as it will help professionals plan and provide effective coping strategies so parents could have a positive perception and behavior for disabilities (like hearing impaired and intellectual disability) in their children. The objective of this study was to analyze level of psychological stress among parents of children with hearing impaired (HI) versus intellectual disability (ID) and relationship between disability and psychological stress.

Material and Methods: This cross-sectional study comprised of parents (n = 200) of 100 HI and 100 ID children, of both genders, aged 1 to 16 years. These were recruited by non-probability convenience sampling after taking consent from special education centers of Punjab (Pakistan), over a period of six months from May 2017 to October 2017. After collecting demographic details, quantitative assessment of parental stress was done using Parental Stress Scale (PSS). Statistical analysis was carried out using SPSS v21.

Results: The sample population (n=200) consisted of 32.5% male and 67.5% female respondents, with a mean age of 41.23 ± 6.7 years. The mean of total parental psychological stress score was 61.85 ± 17.1 with significant association between disabilities (HI and ID) and psychological stress ($p < 0.01$). In HI group, moderate psychological stress was seen (n=53, 26.5%), while in ID group, profound level of psychological stress was noted in majority (n=70, 35%) of participants.

Conclusions: Parents of both HI and ID children showed psychological stress, however, parents of ID children suffered higher level of stress.

Key words: Hearing impairment, Intellectual disability, Psychological stress, Quality of life

Authors' Contribution:

^{1,2} Conception, synthesis, planning of research and manuscript writing Interpretation, discussion,

³ Active participations in data collection Data analysis.

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Introduction

Disability is associated with lot of stress, especially for the parents and caregivers, resulting in physical, psychological and social impact thus affecting normal functioning¹ and quality of life (QoL).² Parents with hearing impaired (HI) and intellectually disabled (ID) children, are also affected. According to Pipp-Siegel et al mothers of HI children, with low family income and lacking social support face higher stress level.³ They also suffered from hopelessness and depression, as a result their QoL is affected.⁴ HI, being one of the most common invisible

disabilities prevailing in developing countries, marring social and communication development, is a critical event and a source of stress for parents and caregivers, which is also related to the duration of disability.⁵ HI can occur with other comorbidities like ID. The Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5), describes intellectual disabilities as disorder of neurodevelopmental onset originating in childhood, with difficulties in conceptual, social and practical areas of life.⁶ ID commonly occurs in the first two decades of life⁶,

resulting in adaptation problems for the disabled child and mental stress for the caregivers.⁷ The birth, care and upbringing of an ID child in the family, can turn into a threat to the emotional health of parents/caregiver. A high proportion of parents of such children face anxiety, depression⁸, distress, frustration, powerlessness, and hostility.⁹

A local study, Mumtaz et al. reported that parents of children with hearing loss identified at an earlier stage were more satisfied.¹⁰ With joint family system still prevalent in the country, compared to nuclear families in the western society and with late identification of HI with a prevalence of 48% at 19-24 months of age¹¹, there is possibility of parental stress level being quite different from western societies.

Therefore, the current study was planned with the aim to analyze the level of parental stress among parents of HI versus ID children and relationship between disability and psychological stress. This could help our speech language pathologists and psychologists in enhancing diagnostic, interventional and management approaches and in turn help provide effective coping strategies so parents could have a positive perception and behavior for disabilities like HI and ID in their children. The current study is imperative since there is dearth of literature on this important issue and very few studies from this part of the world.

Material and Methods

This cross-sectional study was carried out over a period of six months from May 2017 to October 2017. A formal approval was taken from school heads to conduct the research at the respective special education centers in Punjab, Pakistan. Ethical committee approval for study was obtained from Isra university and consent was obtained from all the participants prior to enrollment. It includes a study population of 200 participant (parents) calculated using Raosoft application with response distribution at 50% and population size on 20,000 at 90% confidence level and 5.76% margin of error. A total of 100 parents of HI and 100 parents of ID children visiting the special school in Punjab Pakistan satisfying the selection criteria were recruited in the study. These children

belonged to both genders aged 1-16 years. Sampling technique was non-probability convenience sampling. The sample parents belonged to both genders belonging to age group 25 to 60 years. Following informed written consent and filling of basic demographic sheet, parents were asked to fill PSS questionnaire to examine their functional, emotional and psychological problems.

Data was collected and tabulated using Microsoft Excel Worksheet and analyzed using SPSS v 21. Continuous data was presented as mean and standard deviation (SD) while categorical results were calculated as frequency and percentage. To determine relationship between disability and psychological stress, independent t test and chi square tests were applied. P value of ≤ 0.05 was interpreted as statistically significant.

Results

Our study population comprised of a total of 200 parents, 100 parents of HI and 100 parents of ID children, who consented for the inclusion in the study and met the selection criteria. The age range of the study population was 25 to 60 years with mean age of 41.04 ± 6.59 years in the HI group and 41.42 ± 6.86 years in the ID group, of which 32.5% (n=65) were males (33 in HI and 32 in ID group) and 67.5% (n=135) were females (67 in HI and 68 in ID group) with male: female ratio of 1: 2.07. The sample of the two groups (HI vs ID) was kept balanced to avoid any gender and age bias in the study.

The mean of total parental psychological stress score was 61.85 ± 17.1 . A statistically significant association was found between type of disability (HI and ID) and psychological stress with much higher PSS score in parents of ID as compared to HI. It indicates that parents of ID children were facing much more stress than HI (Table I). Regarding levels of psychological stress, majority of parents of hearing-impaired children had moderate level of psychological stress, while most of parents of ID children had profound level of psychological stress (Table I).

Table I: Psychological stress among study participants suffering from hearing impairment and intellectual disability (n=200)

Variables	Hearing impaired group (n=100) Mean ± SD	Intellectual disability group (n=100) Mean ± SD	*P-value
Mean of Psychological stress	47.73±10.09	75.98±9.13	0.001
Levels of Psychological stress (0-100)	n (%)	n (%)	
Mild (0-25)	03 (1.5)	0	0.001
Moderate (26-50)	53 (26.5)	26 (13)	
Severe (51-75)	44 (22)	70 (35)	
Profound (76-100)	0	4 (2)	

*P ≤ 0.05 was considered statistically significant

Discussion

The birth of a hearing impaired or intellectually disabled child affects the dynamics and interaction of the whole family. In this study, parents of both categories showed a significantly high level of psychological stress and there was significant correlation between both types of disability (HI and ID) and psychological stress ($p < 0.01$). Studies show that parental stress is significantly higher in parents of children with disabilities¹², and other factors.¹³ According to Person and Chan, mothers of children with learning disabilities are highly stressed compared to normal children.¹⁴

In this study, parents of children had significantly different levels of stress among two different etiologic groups of HI and ID. Most of the parents of children with HI (n=53, 26.5%) exhibited significant, but moderate level of stress. These results are consistent with the work of different researchers. Dehkordi et al. found significantly higher level of stress in mothers of HI compared to other disabilities.¹⁵ According to Vinayak et al., mothers of the HI children had high level of hopelessness and depression, which was adversely affecting their quality of life.⁴ Van Driessche et al. also found higher level of psychological morbidities and strain in parents/caregivers of HI.¹⁶ Other authors have also reported higher stress levels in parents of HI children.^{5,17,18} Spahn et al. found that 21% parents of cochlear implant (CI) using children suffered from higher level of stress.¹⁹ Sarant and Garrard,

found negative correlation between parents' stress level and language outcome in CI cases with parents of children with bilateral CI being less stressed than unilateral CI.²⁰

In our study, 35% (n=70), parents of intellectually challenged children were suffering from profound level of psychological stress with mean score of 75.98 + SD 9.126. Similarly, Sheikh et al. found significant levels of parental depression and anxiety in 70% cases.²¹ Chouhan et al. found statistically significant relationship between parenting stress and anxiety among parents of children with ID. They further noted that parents of children with profound level of ID had more stress compared to parents of children with borderline disability and normal children.²² Also, Tsai and Wang found extreme levels of strain in mothers of ID children.²³ McConnell and Savage also found higher level of psychological distress as well as family dysfunction in parents of ID children.²⁴

One of the findings from current study was parents of children with ID had significantly severe to profound levels of psychological stress as compared to parents of children with HI. This finding is consistent with a Jordanian study reporting highest level of stress in parents of physical disabilities, followed by mental disabilities and lowest in parents of children with HI.²⁵

The coping strategies may help reduce the stress associated with disabilities. The findings in a study by Movallai et al. suggest a positive role of behavioral training, especially in reducing maternal psychological problems of HI children.²⁶ This can thus result in good mental health in parents and indirectly improve the QoI of ID and HI children. However further research is required to explore the stressors and coping mechanisms for families as a whole and parents in particular, to deal more effectively with children disabilities

Conclusion

Majority of the parents, of children with both disabilities i.e., HI and ID, suffer high level of psychological stress with parents of ID having more stress than parents of HI children.

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