

Prevalence of Emotional Disturbance in Children with Hearing Impairment and Intellectual Disability

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Abstract

Present study aims to investigate the prevalence of emotional disturbance among children with hearing impairment and intellectually disabled. Sample of 67 children was collected from different rehabilitation centers of Karachi, Pakistan. Intellectually disabled were 35 and with hearing impairment were 32 children. Sample age range was 12 to 18 years with mean age of 14.98 years. One to one session was conducted with parents in order to get history of presenting problem of the child. After getting demographic information, proper instructions were given to a child and then Human Figure Drawing Test (HFD, Koppitz) was administered individually. Data was scored according to manual and was statistically analyzed. Findings reported the prevalence of emotional disturbance was found statistically significant in both intellectually disabled and children with hearing impairment. Further protocols showed various indications of psychiatric disorders i.e. poor integration of personality, intense anxieties, feeling of insecurity and hopelessness, aggression, impulsivity and poor self-image. It is concluded that intellectually disabled and children with hearing impairment are at high risk of emotional disturbance that is valid indication of psychiatric disorders.

Keywords: Emotional disturbance; Hearing impairment; Intellectual disability

Introduction

Individual with disability are part of our society and culture. Occurrence of this problem is not only in Pakistan but it also exists throughout the world. According to World Report on Disability (2011) generated by World Health Organization and the World Bank together, more than one billion people are living with disability. In Pakistan, the prevalence of disability is calculated 2.5% of whole population which is comparatively lower (National Policy for Persons with Disabilities, 2002) [1,2]. 7.40% out of 2.5% disabled population are living with hearing impairment and 14% are mentally handicapped. Although intellectual disability and hearing impairment are different kind of problems but they are similar in creating emotional disturbance among children. Prevalence of emotional problems is common among children with hearing impairment and intellectual disability [3]. Because both type of problems affect negatively children's emotional well-being. Similarly, Simmons reported disabled children are more vulnerable to emotional distress [4].

In recent years, people perceptions about the disability is going to change and they started to believe that individuals with disability can do something or they perform well in their different aspect of life by using those abilities that are blessed. But half century back this perspective was different. Mostly people were believed that individuals don't perceived emotional disturbance due to his/her disability and inadequate or unacceptable behaviors of person are part of his/her disability. Some were believed that children with hearing impairment have poor or deficient learning disabilities [5]. This perspective provided negative idea to people and they started to ignore disabled people because their efforts are useless. However, some believed there is no opportunity of treatment and few of them denied accepting the disability in child [6]. Ultimately, these things revealed into stigmatization and discrimination. With the passage of time, professionals and experts totally rejected these perspectives when they found disabled people can perform well and their abilities are being affected due to mental health problems. Even prevalence rate of mental health problems was found higher in them than normal population.

Some authors investigated this rate 15% to 41% among disabled people [7,8]. Fletcher et al. investigated this rate up to 30% and sever emotional problems were found among intellectually mild disabled children at age of 4 years by Baker et al. [9,10].

Intellectual disability means person's level of intellectual functioning is below 70 and this level is further classified into mild, moderate, severe and profound intellectual functioning. General medical problems in intellectual disabled children are epilepsy, cerebral palsy, lower weight at time of birth and premature and common psychological problems are behavioral, intellectual, social and developmental disorders [11-13]. According to Lidz, intellectually disabled children perceived lower sense of mastery, competency and poor performance and other problems are unclear speech, motor issues, difficulty in daily living skills and learning difficulties [14,15]. Speech problem is one major cause of emotional disturbance in these children. When people and sometimes parents could not understand them and their needs and wishes are not fulfilled properly that becomes very distressing and hurting for a child and children usually develop emotional and behavioral problems likewise anxiousness, stubbornness and aggression [16]. These issues cause emotional disturbance and emotional distress leads to various psychiatric illnesses.

Generally, hearing impairment means deficiency or impairment in sense of hearing and these things interferes or cause difficulty to grasp knowledge and skills. Due to lack of awareness people have different

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Received October 26, 2015; Accepted January 21, 2016; Published January 28, 2016

Citation: Abbas Q (2016) Prevalence of Emotional Disturbance in Children with Hearing Impairment and Intellectual Disability. J Psychiatry 19: 350 doi:[10.4172/2378-5756.1000350](https://doi.org/10.4172/2378-5756.1000350)

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views and perceptions about children with hearing impairment. According to an observation, in our culture usually people used term “deaf and dumb” for people with hearing impairment, it means “not being able to hear and being stupid” but historically this term is explained as “not able to hear and not able to speak” and some people perceived these children are with limited abilities and cognitively deficient [17]. Misinterpretations and labeling by people cause stigmatization and discrimination. Because of this they also perceived low level of tolerance, become impulsive and hyperactive when their needs are not gratified on time [18]. Husain, herself a deaf woman, she expressed her feelings about deaf that it is more stigmatized and threatening term and has different negative meanings and perceptions as compared to hearing loss, the purpose to change people’s perception from deaf toward hearing loss means problem is manageable and it is only due to a disease or mishapness [19].

According to another perspective, some people perception is something different about them. Likewise, if they can’t hear and speak so they can’t understand while they can easily understand messages through non-verbal communication. Despite this fact they face various difficulties and barriers due to hearing loss. Sense of hearing is one major sources of getting information and knowledge while people with this kind of disability face difficulty. When they don’t express their feelings and emotions adequately they feel frustrated and sometimes become aggressive. After that they develop some behavioral problems which are considered unacceptable by parents and society. Iftikhar and Yasmeen conducted a study on parents to identify parents’ perception about disability, 44% parents perceived it cause of anxiety, 66% perceived them social burden, 74% perceived an economical stressor and 84% reported deaf children increased their worries [20]. Although it is very difficult for parents but rejection and ignorance is unacceptable for children. Then they feel deprived and become sensitive toward criticism, such kind of negative feedback creates distress and emotional disturbance which gradually turns into psychiatric illnesses [21-23].

The scope of the present study concentrates over the prevalence of emotional disturbance among intellectually disabled and children with loss of hearing. Intellectual disability and hearing loss are usually considered invisible disabilities. Both kinds of children mostly experience various medical complications and psychological problems. The common psychological problems are developmental, emotional, social and behavioral. Although, children with hearing impairment and intellectual disability are different according to the nature of disability but more or less equally contribute in creating emotional disturbance. Medical and psychological problems initially cause emotional disturbances and gradually they may change into psychiatric disorders. Present study also aims to investigate the prevalence of emotional disturbance among children with hearing impairment and intellectually disabled.

Materials and Methods

Participants

In present study more than 90 children were approached. After data scrutiny 67 children were included and other participants were excluded due to incompleteness of sample criteria. In remaining sample 47.76% were children with hearing impairment and 52.24% were intellectually disabled. Male children were 47 and females were 20. All participants were taken from lower middle (n=31) and upper middle class (n=36). 39 children were taken from joint family system and 28 were from nuclear family system. Participants’ education was nursery to eight grades. Entire sample was collected from different special schools

and rehabilitation centers of Karachi, Pakistan. Age range of the entire sample was from 12-18 years. Total sample Mean age was $M=14.98$ with $SD=2.02$ years. Mean age of children with hearing impairment was $M=15.19$ years with $SD=2.11$ years and mean age of intellectually disabled children was $M=14.74$ years with $SD=1.95$ years respectively.

Study inclusion and exclusion criteria

In this study, children with hearing impairment or intellectual disability were included only. Those children who have both the disabilities (i.e. hearing impairment and intellectual disability) or children with multiple disabilities were excluded from the study. Children below age 12 and above age 18 years were not included in the study. Further, only diagnosed children with hearing impairment or intellectual disability were included in the study. Moreover, those children who did not complete the test were also excluded.

Data Collection Tools

Initially, permission was taken from the authorities. They were further briefed about the purpose of the current study. It was assured that gathered information would be confidential and your identity will never be disclosed. After that demographic information was gathered (i.e. age, education, income group & family structure). Further, interview was conducted with parents in order to get depth information about the history of child’s problem such as, duration of illness, severity of problems, previous treatments, school history, family and friendship history. Moreover, examiner instructed the participants properly. Likewise, examiner provided paper and pencil to a child and it was asked to the child to draw a human figure drawing on this paper. The instructions were given according to the manual and then Human Figure Drawing test was administered individually in order to explore emotional disturbance in sample [24].

Statistics analysis

Data was scored according to manual of human figure drawing test and it was transferred into excel sheet for statistical analysis. Statistical Packages for Social Science (SPSS, Vol.12) was used to examine the mean, standard deviation, and t-test to investigate the prevalence of emotional difference between intellectually disabled and children with hearing loss.

Results

In whole sample 47.76% were children with hearing impairment and 52.24% were intellectually disabled. Male children were 70.14% and females were 29.85% with joint family system 58.21% and nuclear system 41.79%. Children from lower middle income group were 46.27% and upper middle group were 53.73%. Results reported that emotional disturbance among children with hearing impairment and intellectually disabled was found statistically significant. Children with hearing impairment were found significantly different from intellectually disabled on the protocols of human figure drawing test i.e. shading of face, body and limbs ($t=7.905$; $p < 0.000$), shading of hands or neck ($t=11.574$; $p < 0.000$), transparencies ($t=0-2.450$; $p < 0.017$), grossed eyes ($t=4.532$; $p < 0.000$), teeth ($t=2.785$; $p < 0.007$), long arms ($t=2.306$; $p < 0.024$) and protocol of arms clinging to sides of body ($t=3.083$; $p < 0.003$). Further results reported, children with intellectual disability were found significantly different from children with hearing impairment on the protocols of human figure drawing test i.e. poor integration of body parts ($t=-5.340$; $p < 0.000$), monster or grotesque figure ($t=-3.033$; $p < 0.003$) and omission of body parts such as eyes ($t=-2.534$; $p < 0.014$), nose and mouth ($t=-3.524$; $p < 0.002$), arms and

legs ($t=-5.733$; $p < 0.000$), feet ($t=-6.125$; $p < 0.000$), neck ($t=-6.772$; $p < 0.000$) and omission of whole body ($t=-3.524$; $p < 0.001$)(Tables 1-3).

Discussion

Present study findings reported children with hearing impairment and intellectual disability were found significantly emotionally disturbed. Where the children with hearing loss were found significantly emotionally disturbed the children with intellectual disability were also found significantly emotionally distressful. These findings are consistent with the findings of previous study conducted by Fletcher et al. [9]. Further, analysis reveals that significant level of emotional disturbance in hearing impaired and intellectually disabled children is an indication of various psychiatric disorders which may develop recently or later on. Emotional disturbance among these children reveals through various factors. According to Simmons, et al. prevalence of emotional problems is higher in children with hearing or intellectual disability and it is strongly associated with emotional distress [4]. Further, Reiss et al. conducted a study on special children and they explored, children are found to be at 20% to 30% risk of emotional disturbance [16]. Smith also agreed that intellectually or children with hearing loss perceived high risk of psychological problems [25].

Present study findings reported children with hearing impairment are found significantly different from the intellectually disabled children over some emotional indicators. For example, emotional indicators of shading represent high manifestation of anxieties, poor self-concept and guilt feelings over inadequate aggressive behaviors or sexual impulses. This may lead to various anxiety disorders. Actually, anxieties among children with hearing impairment usually reveal when their needs and wishes are not fulfilled adequately by parents or others then they become depressed. Difficulty in communication skills or speaking deficiency also does matter in emotional disturbance. When they feel difficulties in hearing and could not communicate their messages to others properly then they feel deprived and approach the worlds according to their own perspectives. Sometimes this becomes very easy for them to access simple ideas of others and they respond properly but sometimes they cannot understand some complex messages of others, and then they started to live inferiors and this intensity becomes

Demographic information	Category	N	Children with hearing impairment (47.76%)	Children with intellectual disability (52.24%)
Sex	Male	47	26(32)	21(35)
	Female	20	6(32)	14(35)
Family structure	Joint	39	18(32)	21(35)
	Nuclear	28	16(32)	12(35)
Income group	Lower Middle	31	14(32)	17(35)
	Upper middle	36	20(32)	16(35)
Education	Nursery	31	6(32)	25(35)
	KG 1&2	13	6(32)	7(35)
	Primary	15	12(32)	3(35)
	Middle	8	8(32)	0(35)
Common complaints in children reported by their parents	Impulsivity	50	21(32)	29(35)
	Anxiousness	46	18(32)	28(35)
	Aggression	56	27(32)	29(35)
	Stubbornness	54	26(32)	28(35)

Table 1: Descriptive statistics for age, education and behavioral symptoms of children with hearing impairment and intellectual disability (N=67).

Age	N	Minimum	Maximum	M	SD
Children with HI	32	12	18	15.19	2.101
Children with ID	25	12	18	14.74	1.945
Total	67	12	18	14.96	2.018

Table 2: Descriptive statistics for Age (N=67).

increase when they compare themselves with their siblings and other people who have ability of hearing and speaking properly [26]. Poor coordination, impulsivity, physical awkwardness, physical inadequacy and confusion of lateral dominance are found common in children with hearing loss. Moreover, indications of emotional disturbance reveal through acting out behaviors, impulsivity and immaturity and poor judgments and these are the manifestations of psychological problems like paranoid ideation and psychosis [24].

On the other hand, children with intellectual disability were also found significantly emotionally disturbed as compared to children with hearing impairment over some emotional indicators. For example, emotional indicators of poor integration of body parts are instability, poor coordination and impulsivity which represent indications of psychosis and mania. Emotional indicators of short or long arms or arms clinging to body are difficulty to access world, rigidity, aggressiveness and need for love and affection. In addition, emotional indicators of genitals manifest aggression, acute body anxiety and poor impulses which are also indications of psychosis. Further, guilt feelings, feeling of inadequacy, guilt over failure to act correctly are the representations of delinquent behaviors and psychosomatic complaints. The common emotional indicators of omissions are shy and withdrawal behaviors, feeling of immobility, helplessness, feelings of inadequacy, poor inner control, body anxiety, psychomotor retardation, intellectual deficit, guilt over hostility or sexuality and intense anxiety and insecurity which are the indications of various psychiatric disorders [24].

In short, protocols represent both groups of disabilities are at high risk of psychological problems. Analysis reveals that emotional disturbance among both groups of children is due to variety of reasons. For example, psychosocial stressors, cognitive deficits and dependency on care givers are the major problems of disabled children. Intellectual functioning, hearing problems, poor integration of knowledge and lack of understanding are the major causes of emotional disturbance in these children. Sometimes it can be due to traumatic experience like stigmatization, criticism and societal rejection and sometimes it becomes due to high risk of sexually and physically abuse [27]. These problems affected their emotional well-being badly and usually they become depressed [28]. These factors become continuous stressors of their lives and mostly these factors cause frustration which gradually changes into aggression. Aggression outburst or hostile behaviors are the clinical representations of some psychiatric disorders and if they are not treated, they become severe and that time hospitalization is recommended usually [29].

Conclusion

It is concluded that prevalence of emotional disturbance is statistically significant among children with intellectual deficit and children with hearing impairment. This prevalence rate of emotional disturbance is very alarming and this can be a high risk factor of various psychiatric disorders in disabled children. It also creates various behavioral problems that affect negatively children's daily life functioning or activities. These problems should manage easily when free treatment facilities, opportunities of rehabilitations centers, vocational and occupational trainings would be available. These facilities can be very helpful for the disabled children to perform or

HFD Protocols	Emotional Indicators		M	SD	t	p
Poor integration body parts	Poor coordination, instability & immaturity	CWHI	0.22	0.42	-5.34	0
		CWID	0.77	0.426		
Shading of face, body or limbs	Body anxieties, poor self-concept &	CWHI	0.97	0.177	7.905	0
		CWID	0.29	0.458		
Shading of hands or neck	Masturbation & guilt feelings & impulses	CWHI	0.91	0.296	11.574	0
		CWID	0.09	0.284		
Gross asymmetry of limbs	Impulsivity, physical inadequacy	CWHI	0.34	0.483	0.766	0.447
		CWID	0.26	0.443		
Transparencies	Aggression, hyperactivity	CWHI	0.06	0.246	-2.45	0.017
		CWID	0.29	0.458		
Grossed eyes	Poor judgment, sign of rebellion & anger	CWHI	0.44	0.504	4.532	0
		CWID	0.03	0.169		
Teeth	Aggression out burst	CWHI	0.44	0.504	2.785	0.007
	Acting out behavior	CWID	0.14	0.355		
Short arms not equal to waistline	Difficulty to approach world & others	CWHI	0.41	0.499	1.863	0.067
		CWID	0.2	0.406		
Long arms	Need for love and affection	CWHI	0.34	0.483	2.306	0.024
		CWID	0.11	0.323		
Arms clinging to sides of body	Rigidity, inflexibility & poor control on self	CWHI	0.22	0.42	3.083	0.003
		CWID	0	0		
Leg pressed together	Sexual inadequacy	CWHI	0	0	-0.956	0.343
		CWID	0.03	0.169		
Monster or grotesque figure	Ambiguity, indication of psychosis	CWHI	0	0	-3.033	0.003
		CWID	0.23	0.426		
Rain, cloud, three or more figure	Low intellectual functioning	CWHI	0	0	-1.372	0.175
		CWID	0.06	0.236		
Omission of eyes	Refusal to face world & escape into fantasy	CWHI	0	0	-2.534	0.014
		CWID	0.17	0.382		
Omission of nose/mouth	Withdrawal & helplessness	CWHI	0.03	0.177	-3.198	0.002
		CWID	0.31	0.471		
Omission of body	Motor retardation & intellectual deficits	CWHI	0	0	-3.524	0.001
		CWID	0.29	0.458		
Omission of arms & legs	Guilt, hostility, anxiety & sexuality	CWHI	0	0	-5.733	0
		CWID	0.51	0.507		
Omission of feet	Sense of insecurity & hopelessness	CWHI	0.03	0.177	-6.125	0
		CWID	0.6	0.497		
Omission of neck	Immaturity & impulsivity	CWHI	0.16	0.369	-6.772	0
		CWID	0.8	0.406		

Df = 2,65; HFD= Human Figure Drawing Test; CWHI= Children with Hearing Impairment; CWID= Children with Intellectual Disability

Table 3: Descriptive and t-test statistics for Children with Hearing Impairment (CWHI) and Children with Intellectual Disability (CWID) on variable of emotional disturbance (N=67).

utilize other abilities that are blessed under proper supervision and guidance and they can live healthy life. Further, to spread awareness in societies as well as parents psycho-education can be very effective to reduce disable children's level of emotional disturbance.

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Citation: Abbas Q (2016) Prevalence of Emotional Disturbance in Children with Hearing Impairment and Intellectual Disability. *J Psychiatry* 19: 350
doi:[10.4172/2378-5756.1000350](https://doi.org/10.4172/2378-5756.1000350)

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