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Research Article

Behaviour and Social Skill in Children with Hearing Impairment and Mental Retardation: A Questionnaire Based Study

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Abstract

Background: Previous researchers have tried to include the concept of social competence in individuals with disabilities like mental retardation and hearing impairment. However, very little is currently known about behavior and mental health of these children.

Aim: The aim of current study is to assess behavioral issues and prosocial skills in children with hearing impairment (HI) and mental retardation (MR) compared with typically developing children (TDC).

Methods and Material: There were 80 children in the age range of 5 to 9 years selected for study, out of which 30 children with MR having IQ range between 35 - 60, 30 children with HI using hearing aids and compared with 20 TDC. The Kannada version of Strengths and Difficulties Questionnaire (SDQ) were administered on parents/caregivers of children participated in the study.

Results: Present study showed emotional and behavioral problem in children with hearing impairment and mental retardation. MANOVA showed overall significant differences between the three groups for all subscales except emotional symptoms. Finding of the present study showed that MR showed significantly higher score (poorer) at all subscale of SDQ compared to TDC. Current study also showed significantly poorer (higher score) conduct, hyperactivity, peer relationship and total difficulties score in HI compared to TDC. Interesting finding of this study was HI and MR group showed similar outcome (no significant difference) for emotional symptoms, conduct problems, hyperactivity and total difficulties score but for prosocial behavior and peer relationship MR group showed significantly poorer score (poor socialization) compared to HI.

Conclusion: Outcome of the present study can help professionals while choosing symptoms of behavioral and social problem to be worked on with different clinical population i.e. HI and MR. These behavioral issues need to be addressed by the professionals while dealing children with HI and MR.

Keywords: *Social Skill; Hearing Impairment; Mental Retardation*

Introduction

Mental retardation (MR) is a heterogeneous developmental disability which can be diagnosed before age 18, distinguish by below-average general intellectual ability, and a lack of the skills required for daily living. Development in an person with MR majorly depend on the type and severity of the disorder that is present, the disabilities associated with it, environmental factors, cognitive abilities, psychological factors, and comorbid psychopathological conditions [1-3]. Previous researchers have tried to include the concept of social competence in individuals with disabilities like mental retardation and hearing impairment [1-4]. According to Eisenberg and Harris [5] (1984), social skill could be defined as overall improvement of social competency as a result of contributions from set of developmentally

related abilities. Similarly, Kractchowill and French [6], in 1984 defines social skills as a verbal or non-verbal behavior that is learned and performed in a specific social framework of aggressiveness-shyness continuum and adjustment in individuals ability to understand the elements in the social situations and also to understand refined behavioral distinctions of the society. A well socialized is the one who adapts socially and ethnically to the approved ways of society, follows approved social skills and roles, and with appropriate social qualities [7]. Whereas, for person with mental retardation there is significant compromise in the level of social development and a greater extent of loss of integration to the functioning of community. Antia and Kreimeyer [8] have documented that various studies have shown that skills of greetings, extending and responding to invitations to cooperate, assist others are prime socially important skills for young children and these investigations regarding the social and behavioral skills have huge importance. Over the last 10 years increased attention has been given to identifying and responding to mental health needs of children and adolescents with MR. Other behavioral features associated with MR include low frustration tolerance, aggressive nature, dependency on others, impulsive behavior, low self-confidence, stubbornness and self-injurious behavior. Various studies showed that individual with intellectual disabilities are at significantly higher risk of behavioral and social problems, when compared with non-intellectually disabled peers [9-11]. Shastri and Mishra [12] (1971) studies 56 school-going children in the age range of 6 - 13 years with MR were considered and with the help of Social Maturity Scale they found out that the functioning of children with MR was more in the lower level of social interaction. If degree of impairment in terms of intelligence goes down that results in reasonable and or average performance in terms of social functioning. They also emphasized wide range of family and environmental support for the social development in children.

Similarly, the auditory function has important role in the stages of child's behavioral and social development [3,4]. Selection of proper amplification device and early intervention are important for overall progress in areas which includes language age, cognitive skill, adaptive behavior, social and emotional aspects which may strongly affect the quality of life of children with hearing impairment [13]. Children with hearing impairment have suffered with social skills development [4]. Children with hearing impairment have very limited opportunities occurring naturally for meaningful conversational interaction resulting in limited acquisition of the full range of pragmatic skills required for better communication [14]. A hearing impairment results in impaired language and communication development, which compromises social skill acquisition [15]. Many researches have been devoted to understanding hearing and spoken language development in children with hearing impairment and mental retardation. However, very little is currently known about behavior and mental health of these children. Hence, the aim of current study is to assess behavioral issues and prosocial skills in children with hearing impairment (HI) and mental retardation (MR) compared with typically developing children (TDC).

Method

There were 80 children in the age range of 5 to 9 years selected for study, out of which 30 children with MR having IQ range between 35 - 60 (diagnosed by a clinical psychologist), 30 children with HI (moderately severe to severe senesorineural hearing loss) using hearing aids with normal IQ assessed by an audiologist and a clinical psychologist and compared with 20 TDC. These 80 children parents were recruited in the study with informed written consent. The Kannada version of Strengths and Difficulties Questionnaire (SDQ) were administered on parents/caregivers of children participated in the study. The Strengths and Difficulties Questionnaire (SDQ) includes a total of 25 items related to emotional symptoms (5 items), conduct problem (5 items), hyperactivity (5 items), peer relationship problem (5 items) and prosocial behavior (5 items). These questions were closed-set tasks in 3 points rating scale i.e. not true, somewhat true and certainly true. In SDQ, somewhat true is always scored 1, but the scoring of not true and certainly true varies with the item. For the present study, the questionnaire was administered under the close supervision of a qualified audiologist and speech language pathologist having master degree. All the parents were randomly selected based on their willingness to participate in the study. All the parents were having normal hearing and IQ. They were explained in detail about the purpose, aim and objective of the study. They were belonging from medium socio-economic status and had education up to 12th classes (PUC). The mother tongue of all the parents was 'Kannada' with a little knowledge of English and Hindi. The Strengths and Difficulties Questionnaire (SDQ) is a self-report inventory for behavioral screening of children and adolescent in the age range of 3 - 16 years. SDQ is freely available online and has been translated in more than 80 languages including 'Kannada' used in this study. The SDQ especially emphasis on positive accredits and risk symptoms regarding the child or ado-

lescent's behavior in the last six months. According to Goodman [16] in 2001, inter-rater reliability and test-retest reliability was found satisfactory. Pearson correlations test was investigated to check correlation across informants. Result showed that correlation across informants (teacher, parents and self-report) have been found significant ($p < .001$) for the conduct problems, emotional problems, and hyperactivity-inattention subscales (Goodman, 2001). The SDQ outcome has been found to relate to risk for a DSM-IV disorder. Klasen., *et al*. [17] in 2000 reported that SDQ results were found to be highly correlated to the Child Behavior Checklist (CBCL). They also reported that SDQ gives better prediction of hyperactivity. Goodman [16] in 2001 revealed high specificity and low sensitivity of SDQ. SDQ has many advantages including accessibility, affordability and it's available in many languages. SDQ is a brief assessment and it consists only 25 items that can be completed in a short duration of time. The other advantage is to have multiple informants including teachers (ages 4 - 17), parent (age 4 - 17) and child (ages 11 - 17), which gives an opportunity to collect a series of information from different sources about child's strength and risk. Further, SDQ gives value to strengths of the subject in addition to difficulties, which is not there in many behavior risk screener. As the SDQ gives information about multiple subscales which can be used to know the areas of risk and further intervention. SDQ is very easy to administer and it not requires additional training and it can be easily administered by qualified researcher and mental health professional. The data of present study was analyzed using SPSS (version 17), along with descriptive statistics. Shapiro wilk test was used to check normal distribution of the data. MANOVA was done to compare between different groups. Pearsons correlation test was used to check correlation between different subscale of SDQ.

Results

The descriptive statistics was done to find out the mean and standard deviation (SD) of the scores of SDQ for all three groups. SDQ score were analyzed at different subscale (emotional symptoms, hyperactivity, peer relationship problem, conduct problem, total score and pro-social behavior) for all the three groups. Here, total score means addition of the scores of emotional symptoms, hyperactivity, peer relationship problem, conduct problem (Total Score = Scores of emotional symptoms + hyperactivity + peer relationship problem + conduct problem). Mean and standard deviation of the different subscales of SDQ for all the three groups is shown in table 1. Higher score at emotional symptoms, hyperactivity, peer relationship problem, conduct problem shows more severity of the problem, whereas, higher score at prosocial behavior shows better socialization skill. From table 1, it can be observed that mean score of emotion, conduct, hyperactivity and peer relationship problem was higher (poorer) in children with HI and MR compared to TDC. It can also be observed that pro-social score was higher (better) in TDC compared to HI and MR. Figure 1 to 2 represent error bar graph of different subscale.

	Groups	Mean	Std. Deviation
Emotion	TDC	3.35	1.95
	HI	4.50	2.68
	MR	4.56	2.02
Conduct	TDC	2.55	1.82
	HI	4.60	1.90
	MR	4.46	2.19
Hyperactivity	TDC	3.40	1.69
	HI	5.40	2.06
	MR	6.06	2.21
Peer	TDC	2.00	1.55
	HI	3.30	1.87
	MR	4.76	1.69
Total	TDC	11.30	4.55
	HI	17.80	6.76
	MR	19.86	5.45
Prosocial	TDC	7.90	1.83
	HI	7.53	2.45
	MR	5.10	2.80

Table 1: *Mean and standard deviation of the different subscales of SDQ for all the three groups.*

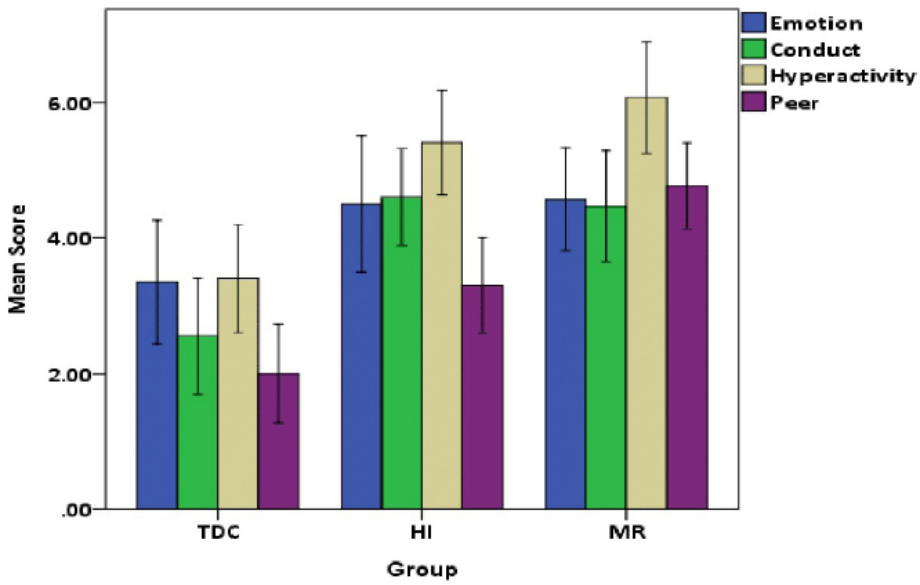

Figure 1: *Clustered bar graph for mean and standard deviation of different subscale score of SDQs.*

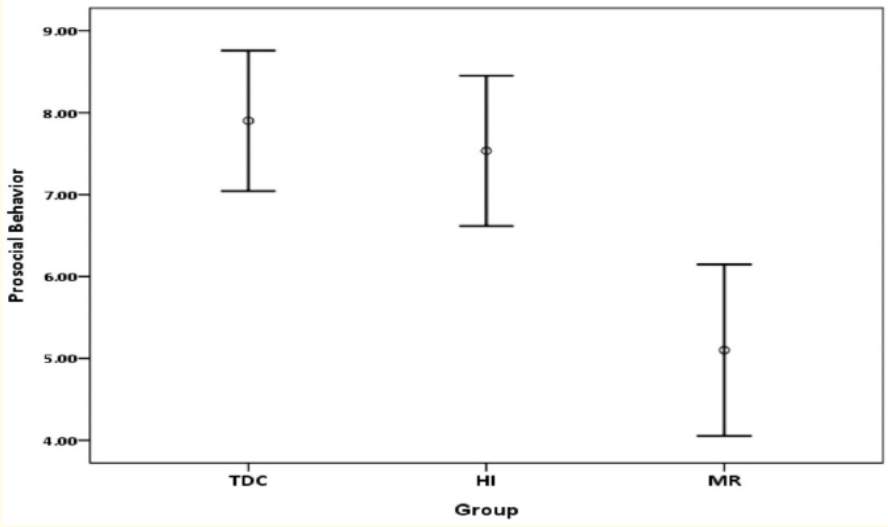

Figure 2: *Error bar graph of prosocial behavior score of three groups.*

Shapiro wilk test showed normal distribution of data for all the groups. MANOVA showed overall significant differences between the three groups for conduct problem [$F(2,77) = 7.41$; $p < 0.05$], hyperactivity [$F(2,77) = 10.63$; $p < 0.05$], peer relationship problems [$F(2,77) = 15.66$; $p < 0.05$] and prosocial behavior [$F(2,77)=10.40$; $p < 0.05$]. However, significant differences were not observed for questions related to emotional symptoms [$F(2, 77) = 2.02$; $p > 0.05$]. Further, Bonferroni multiple pairwise comparisons revealed that HI showed

significantly higher score (poorer) in conduct problems (Mean Difference = -2.05, $p < 0.05$), hyperactivity (Mean Difference = -2.00, $p < 0.05$), peer relationship problem (Mean Difference = -1.30, $p < 0.05$) and total difficulties score (Mean Difference = -6.50, $p < 0.001$) compared to TDC. Whereas, there was no significant difference for emotional symptom score (Mean Difference = -1.15, $p > 0.05$) and prosocial behavior (Mean Difference = 0.36, $p > 0.05$) between TDC and HI. Bonferroni multiple pairwise comparisons revealed that MR showed significantly higher score (poorer) in conduct problems (Mean Difference = -1.91, $p < 0.05$), hyperactivity (Mean Difference = -2.66, $p < 0.001$), peer relationship problem (Mean Difference = -2.76, $p < 0.001$) and total difficulties score (Mean Difference = -8.56, $p < 0.001$) compared to TDC. Borderline significant difference was observed for emotional symptom score between MR and TDC (Mean Difference = -1.21, $p = 0.69$). Even for prosocial behavior score, MR showed significantly poor socialization skill compared to TDC (Mean Difference = 2.80, $p < 0.001$). Interesting finding of this study was HI and MR group showed similar outcome (no significant difference) for emotional symptoms (Mean Difference = -0.06, $p > 0.05$), conduct problems (Mean Difference = -0.13, $p > 0.05$), hyperactivity (Mean Difference = -0.66, $p > 0.05$) and total difficulties score(Mean Difference = -2.06, $p > 0.05$), but for prosocial behavior (Mean Difference=2.43, $p < 0.001$) and peer relationship (Mean Difference = -1.46, $p < 0.05$) MR group showed significantly poor score (poor socialization) compared to HI.

In TDC group, pearson correlation showed significant moderate positive ($r = 0.53$, $p < 0.05$) correlation between conduct problems and hyperactivity. Similarly, it was also observed that moderate negative correlation ($r = -0.42$, $p > 0.05$) between peer relationship problem and prosocial behavior. In HI group, pearson correlation showed moderate positive correlation between emotional symptoms and conduct problems ($r = 0.55$, $p < 0.05$), emotional symptom and hyperactivity ($r = 0.52$, $p < 0.05$), emotional symptoms and peer relationship problem ($r = 0.52$, $p < 0.05$). Similarly, moderate positive correlation seen between conduct problems and hyperactivity ($r = 0.46$, $p < 0.05$), conduct problem and peer relationship problem ($r = 0.46$, $p < 0.05$). Whereas, moderate negative correlation was observed between conduct problem and prosocial behavior ($r = -0.46$, $p < 0.05$). In a similar line, moderate positive correlation was observed between hyperactivity and peer relationship problem ($r = 0.43$, $p < 0.05$). In MR group, correlation analysis showed highly significant positive correlation between emotional symptoms and peer relationship problem ($r = 0.63$, $p < 0.05$).

Discussion

Present aimed to assess behavioral issues and prosocial skills in children with hearing impairment (HI) and mental retardation (MR) compared with typically developing children (TDC). Present study showed emotional and behavioral problem in children with hearing impairment and mental retardation. MANOVA showed overall significant differences between the three groups for all subscales except emotional symptoms.

Comparison between HI and TDC

Present study showed significantly poorer (higher score) conduct, hyperactivity, peer relationship and total difficulties score in HI compared to TDC. The result revealed children with hearing impairment has conduct problem like short tempered, lying, cheating, fight a lot. The outcome of the study also showed that children with HI feel restless, constantly fidgeting or squirming and easily distracted. Present study also showed that children with HI have problem in making new friend, loneliness. Stevenson., *et al*. [3] in 2015 also reported that children with hearing impairment have problem in mingling with peer group. Whereas, current study showed that there was no significant difference for emotional symptom score and prosocial behavior between TDC and HI.TDC and HI feel similar i.e. fear, easily scared, nervous in new situation. Present study showed that there was no significant difference in prosocial behavior like tries to be nice to other people, usually share with others, helpful when someone is hurt, kind to younger children and volunteer to help others. Fellinger, Holzinger, Sattel and Laucht [18] in 2008 reported that children with hearing impairment scored significantly greater on the SDQ than typically developing children to both teacher and parents ratings. They found that difference was more for emotional, conduct and peer relationship and difference from TDC were less for hyperactivity. Mitchell and Quittner [19] in 2010 reported that almost one half of the children with hearing impairment had high level of behavior problem. In the same study teacher rating revealed that one third of children with hearing impairment had significant behavior problem. Another study done by Hindley, Hill, McGuigan and Kitson [20] in 1994

observed that in the whole group 50.3% was the prevalence of psychiatric disorder. They also found that 42.4% in the group studying at Deaf School, whereas, 60.9% for the group attending the hearing impaired units. From the present study it can be concluded that children with hearing impairment has behavioral and socialization issues and professional dealing with these children must work on these areas to improve the quality of life in these individuals.

Comparison between MR and TDC

Finding of the present study showed that MR showed significantly higher score (poorer) at all subscale of SDQ i.e. conduct problem, hyperactivity, peer relationship problem, emotional symptom score and total difficulties score compared to TDC. The present study showed that children with mental retardation have emotional problems like worry a lot, often unhappy, downhearted, tearful, nervous in new situation, many fears and easily scared. The outcome of the present study showed that children with mental retardation gets angry very soon, often lose temper, fight a lot, lying or cheating. The children with mental retardation find difficulty in making friends. Current study also showed poor poor prosocial skill in children with mental retardation. The outcome of present study is in consonance with previous literature [21-24]. Kaptein, Jansen, Vogels and Reijneveld [24] in 2008 reported that 60.9% of children with intellectual disability had an higher score on the SDQ compared to normal children. Emerson [22] in 2003 also reported that prevalence of conduct disorder was significantly greater in children with mental retardation compared to TDC. They concluded that children and adolescents with mental retardation are at greater risk of psychiatric disorder. Eisenhower and Blacher [23] in 2005 reported that children with intellectual disability showed behavior problem at the age of 3 years. Dekker, Koot, Van and Verhulst [21] in 2002 showed that the most remarkable problem behaviors of educable children were social and attention problem, aggressive behavior, and the children which can be trained had higher risk for social and attention problems, withdrawn and thought problems. From the present study it can observed that children with MR has remarkable social and behavioral issues compared to TDC. Professionals dealing with these children should must be aware about behavioral and prosocial issues, which can help them a better management strategy for these children.

Comparison between HI and MR

Interesting finding of this study was HI and MR group showed similar outcome (no significant difference) for emotional symptoms, conduct problems, hyperactivity and total difficulties score but for prosocial behavior and peer relationship MR group showed significantly poor score (poor socialization) compared to HI. The outcome of the present study revealed that children with HI and MR showed similar outcome of emotional symptom like worry a lot, often unhappy, downhearted or tearful, nervous in new situation, fears and easily scared. Similarly, children with HI and MR showed similar outcome in conduct problems like get very angry and often lose temper, fight a lot, lying or cheating. Present study found that both groups (HI and MR) are restless, constantly fidgeting and easily distracted. Whereas, children with HI are better in peer relations like making friends compared to children with MR. Similarly, children with HI are better in prosocial behavior compared to children with MR.

Correlation between different subscales

Correlation analysis showed that one subscale of SDQ has an impact on other subscale. Result of correlational analysis showed that in HI emotional symptoms has effect on conduct problems, hyperactivity and peer relationship problem. It was also observed that conduct problem has its effect on hyperactivity and peer relationship problem. So improvement at one subscale may lead to betterment on other subscales. In HI group, it was observed that the children with conduct problem have poor prosocial skill and hyperactive children has problem in making friends and mingling with children of the same age. So, if professional will work on to reduce hyperactivity can bring improvement in peer relationship problem. In MR, emotional symptoms has direct effect on peer relationship problem, which shows working on emotional symptoms can lead to improvement in peer relation of the child.

Conclusion

Present study showed behavioral and prosocial issues in children with HI and MR. The outcome of the present study also showed that children with HI and MR are similar in emotional symptoms, conduct problems, hyperactivity. However, children with HI are significantly better compared to MR in peer relations and prosocial behavior. Outcome of the present study can help professionals while choosing symptoms of behavioral and social problem to be worked on with different clinical population i.e. HI and MR. These behavioral issues need to be addressed by the professionals while dealing children with HI and MR.

Bibliography

1. Sloan W and Stevens HA. "A century of concern: A history of the American Association on Mental Deficiency" (1976).
2. Matson JL., *et al*. "Intellectual disability and its relationship to autism spectrum disorders". *Research In Developmental Disabilities* 30.6 (2009): 1107-1114.
3. Stevenson J., *et al*. "Emotional and behavioural difficulties in children and adolescents with hearing impairment: a systematic review and meta-analysis". *European Child and Adolescent Psychiatry* 24.5 (2015): 477-496.
4. Peterson CC., *et al*. "Deaf and hearing children's development of theory of mind, peer popularity, and leadership during middle childhood". *Journal of Experimental Child Psychology* 149 (2016): 146-158.
5. Eisenberg N and Harris JD. "Social competence: A developmental perspective". *School Psychology Review* 13.3 (1984): 267-277.
6. Kratochwill TR and French DC. "Social skills training for withdrawn children". *School Psychology Review* 13.3 (1984): 331-338.
7. Herlock EB. "Child Development". McGraw-Hill International Editions - psychology series (1987).
8. Antia SD., *et al*. "Promoting social interaction between young children with hearing impairments and their peers". *Exceptional Children* 60.3 (1994): 262-275.
9. Wing L and Gould J. "Severe impairments of social interaction and associated abnormalities in children: Epidemiology and classification". *Journal of Autism and Developmental Disorders* 9.1 (1979): 11-29.
10. Njardvik U., *et al*. "A comparison of social skills in adults with autistic disorder, pervasive developmental disorder not otherwise specified, and mental retardation". *Journal of Autism and Developmental Disorders* 29.4 (1999): 287-295.
11. Brooks BA., *et al*. "Extracurricular activities and the development of social skills in children with intellectual and specific learning disabilities". *Journal of Intellectual Disability Research* 59.7 (2015): 678-687.
12. Shastri S and Mishra K. "Assessment of social functioning of 56 mentally retarded children". *Indian Journal of Mental Retardation* 7 (1974): 31-35.
13. Warner-czyz AD., *et al*. "Parent versus child assessment of quality of life in children using cochlear implants". *International Journal of Pediatric Otorhinolaryngology* 73.10 (2009): 1423-1429.
14. Ling D. "Foundations of Language for Hearing Impaired Children" (1989).
15. Brackett D. "Intervention for children with hearing impairment in general education settings". *Language, Speech, and Hearing Services in Schools* 28.4 (1997): 355-361.
16. Goodman R. "Psychometric properties of the Strengths and Difficulties Questionnaire". *Child and Adolescent Psychology* 40.11 (2001): 1137-1145.

17. Klasen H., *et al*. "Comparing the German versions of the Strength and Difficulties Questionnaire (SDQ-Deu) and the Child Behavior Checklist". *European Child and Adolescent Psychiatry* 9.4 (2000): 271-276.

18. Fellinger J., *et al*. "Mental health and quality of life in deaf pupils". *European Child and Adolescent Psychiatry* 17.7 (2008): 414-423.

19. Mitchell TV and Quittner AL. "Multimethod study of attention and behavior problems in hearing-impaired children". *Journal of Clinical Child Psychology* 25.1 (1996): 83-96.

20. Hindley PA., *et al*. "Psychiatric disorder in deaf and hearing impaired children and young people: a prevalence study". *Journal of Child Psychology and Psychiatry* 35.5 (1994): 917-934.

21. Dekker MC., *et al*. "Emotional and behavioral problems in children and adolescents with and without intellectual disability". *Journal of Child Psychology and Psychiatry* 43.8 (2002): 1087-1098.

22. Emerson E. "Mothers of children and adolescents with intellectual disability: social and economic situation, mental health status, and the self-assessed social and psychological impact of the child's difficulties". *Journal of Intellectual Disability Research* 47 (2003): 385-399.

23. Eisenhower AS., *et al*. "Preschool children with intellectual disability: syndrome specificity, behaviour problems, and maternal well-being". *Journal of Intellectual Disability Research* 49.9 (2005): 657-671.

24. Kaptein S., *et al*. "Mental health problems in children with intellectual disability: use of the Strengths and Difficulties Questionnaire". *Journal of Intellectual Disability Research* 52.2 (2008): 125-131.

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