

Assessment of Parents' Knowledge about Care of Children with Hearing Disorders

Mohammed Kadhim Saadoon¹, Zaid Waheed Ajil²

¹College of Nursing, University of Karbala, Iraq.

²College of Nursing, University of Baghdad, Iraq.

*Corresponding Author

Zaid Waheed Ajil, College of Nursing, University of Baghdad, Iraq.

Submitted: 07 Jun 2024; Accepted: 15 Jun 2024; Published: 19 Jul 2024

Citation: Mohammed Kadhim Saadoon, Zaid Waheed Ajil (2024) Assessment of Parents' Knowledge about Care of Children with Hearing Disorders. Medical & Clinical Research, 9(7), 01-07.

Abstract

Objective (s): To assess parents' knowledge about the care of children with hearing disorders and determine the relationship between such knowledge and their socio-demographic characteristics.

Methodology: A descriptive design is employed on a non-probability, convenient, sample of (25) parent of children with hearing disorders. A self-report questionnaire of (16) item is developed to assess these parents' knowledge. Content validity and internal consistency reliability are determined through pilot study. All parents have signed a consent form for their agreement to be participants in the study and for the determination of the ethical considerations. Data are collected through the use of the observational checklist and analyzed through the application of descriptive and inferential statistical data analysis approaches.

Results: The study findings reveal that the majority of parents have fair level of knowledge (80%) and their knowledge is not significantly related to their socio-demographic characteristics.

Conclusion: The study concludes that parents lack means of developing and enhancing their knowledge and awareness about children with hearing disorders. Parents' socio-demographic characteristics unfortunately have not influenced their knowledge about children with hearing disorders.

Recommendations: The study recommends that well-designed, constructed and implemented instructional program for parents to increase and enhance their knowledge about children with hearing disorders. Further research can be carried out on large sample size with the use of different research approaches.

Keywords: Assessment, Parents' Knowledge, Children with Hearing Disorders

Introduction

A hearing loss can happen when any part of the ear is not working in the usual way. This includes the outer ear, middle ear, inner ear, hearing (acoustic) nerve, and auditory system. Hearing loss can affect a child's ability to develop speech, language, and social skills (Center for Disease Control and Prevention [1]).

Hearing impairment refers to any degree of hearing loss, mild to severe, and can occur when there is a problem with a part of the ear, including the inner, middle, and outer ears, or the nerves needed for hearing [2].

Recent data on hearing loss suggest that globally (20%) of people have hearing loss. By 2050, it is projected that (2.45) billion people will have some amount of hearing loss, including a vast percentage of the pediatric population. In the Middle East, there are limited data available on the true prevalence of pediatric hearing loss. A

recent study reports that the overall prevalence of pediatric hearing loss is close to 3.7 in 1000 [3].

Hearing impairment is relatively common among children. About (1.9%) of children have trouble hearing, and permanent hearing loss is found in more than (1) out of every (1,000) child screened for hearing loss, whether or not they have symptoms. Hearing impairment is slightly more common among boys. Not recognizing and treating impairment can seriously impair a child's ability to speak and understand language. The impairment can lead to failure in school, teasing by peers, social isolation, and emotional difficulties [4].

Studies have been conducted to assess the knowledge of parents towards hearing loss in many countries. In the Middle East, particularly in Saudi Arabia, a recent study reveals that less than (50%) of parents have adequate knowledge about hearing

loss, whereas approximately (93%) of parents showed a positive attitude towards audiology related services [5]. However, contradictory findings were reported in another study-60% of the parents and family members reported a fair degree of knowledge about topics such as high fever, ear discharge, and noise exposure [6]. Additionally, fathers exhibit a comparatively higher degree of knowledge than mothers regarding breast-feeding ($p=0.031$), Otitis Media (OM) ($p=0.038$), and noise exposure ($p=0.007$) [7].

There are fewer studies that focus on the experience of being a hearing parent of a DHH child. These studies highlight several challenges that parents encounter. One study has pointed out that a lack of information about the diagnosis and difficulty finding ways to better meet their children's needs constitute important barriers for parents at the time of diagnosis [8].

In another study, it is stated that some parents struggle with limited access to support services as well as the need to cover the costs of sensory devices, or intervention programs and other forms of professional support. Authors of this study also noted that in some cases, parents must advocate for access to the desired services and for their right to be included in the decision-making process, along

with professionals [9].

Based on the early stated evidence, the present study attempts to assess parents' knowledge about the care of children with hearing disorders and determine the relationship between such knowledge and their socio-demographic characteristics.

Methodology

A descriptive design is carried out on a non-probability, convenient, sample of (25) parent of children with hearing disorders. A self-report questionnaire of (16) item is developed to assess these parents' knowledge about the care of children with hearing disorders. Content validity and internal consistency reliability of the questionnaire are determined through pilot study. The study has been approved by the Scientific Research Ethical Committee at the College of Nursing in the University of Baghdad, Iraq. All parents have signed a consent form for their agreement to be involved in the study and for the determination of the ethical considerations.

Data are collected through the use of the observational checklist and analyzed through the application of descriptive and inferential statistical data analysis approaches.

Results

Overall Assessment	F	%
Poor (1-1.33)	2	8.0
Fair (1.34-1.66)	20	80.0
Good (1.67-2)	3	12.0
Total	25	100.0
Mean \pm SD	1.49 \pm .151	
F: Frequency; %: Percent		

Table 1: Overall Assessment of Parents' Knowledge.

Results, out of this table, depict that the majority of parents (80%) have fair level of knowledge.

List	Items	MS	Standard Deviation	Assessment
1	Auditory disorders in total hearing loss in children only	1.72	0.458	G
2	A child trying to read your lips while talking to him is evidence of a hearing disorder in the child	1.56	0.506	F
3	When a child does not wake up from his sleep or is surprised by high-pitched sounds at the age of (from birth to four months), this is not considered a sign of hearing disorders in the child	1.600	0.500	F
4	If the child is (15-24) months old and is unable to identify or point to body parts when asked, this does not indicate the presence of a hearing disorder in the child	1.60	0.500	F
5	One of the signs and symptoms of a child suffering from hearing disorders is delayed walking and lack of motor activity	1.56	0.506	F
6	Inflammation of the middle ear is one of the causes that lead to hearing disorders in children	1.60	0.500	F
7	A child may lose his sense of hearing due to measles or meningitis	1.64	0.489	F
8	Hearing disorders can occur in children when the pregnant mother has diabetes or preeclampsia	1.36	0.489	F
9	A child born prematurely (premature) is at greater risk of developing hearing disorders	1.32	0.476	P
10	One of the factors that lead to hearing disorders in your child is the use of some medications, such as antibiotics and some diuretics	1.32	0.476	P

11	One of the risk factors for hearing disorders in your child is genetics	1.52	0.509	F
12	Perforation of the eardrum due to infection or injury is not a factor that leads to hearing disorders in children	1.48	0.509	F
13	A child's exposure to high-level noise for a long period is not a risk factor for your child's hearing disorders	1.28	0.458	P
14	The use of gestures, writing, and sign language is not an alternative means of communication that contributes to the treatment of hearing disorders in children	1.44	0.506	F
15	In-ear hearing aids are the best option for mild cases of hearing disorders	1.44	0.506	F
16	Cochlear implantation is the process of implanting a small electronic device placed under the skin that helps sense sound	1.40	0.500	F
	Overall knowledge	1.49	.151	F
MS: Mean of score; P: Poor (1-1.33); F: Fair (1.34-1.66); G: Good (1.67-2)				

Table 2: Mean of Scores on Items of Parents' Knowledge.

Results, out of this table, indicate that the mean of scores on items of parents' knowledge is fair on most items of 2,3, 4, 5, 6, 7, 8, 11, 12, 14, 15 and 16.

Characteristics		Knowledge			Relationship
		Fair	Good	Total	
Age (Years)	30-less than 40	5	13	18	rs= .297 P-value= .150 Sig= NS
	40-less than 50	2	2	4	
	50-59	0	3	3	
	Total	7	18	25	
Gender	Female	5	8	13	rpb =.367 P-value= .071 Sig= NS
	Male	2	10	12	
	Total	7	18	25	
Education	Illiterate	0	5	5	rs= .109 P-value= .605 Sig= NS
	Read and write	2	0	2	
	Primary school	0	3	3	
	Middle school	2	5	7	
	Preparatory school	2	2	4	
	Institute	1	0	1	
	Bachelor	0	3	3	
	Total	7	18	25	
Occupation	Government employee	5	6	11	rpb =.135 P-value= .520 Sig= NS
	Self-employee	1	7	8	
	Housewife	1	5	6	
	Total	7	18	25	
Monthly Income	Less than 300 thousand	2	6	8	rs= .186 P-value= .374 Sig= NS
	301-600 thousand	1	7	8	
	601-900 thousand	3	5	8	
	901 thousand -1,200,000	1	0	1	
	Total	7	18	25	
r_s : Spearman correlation coefficient; r_{pb} : point bi-serial correlation coefficient; P: Probability; Sig: Significance; N.S: Not significant; S: Significant; H.S; Highly significant					

Table 3: Relationships between Parents Knowledge with their Socio-demographic Characteristics.

Results, out of this table, reveal that there is no significant relationship between parents' knowledge and their socio-demographic characteristics.

Discussion

Part I: Discussion of the Overall Assessment of Parents' Knowledge of Children with Hearing Disorders

Analysis of the overall assessment indicates that parents have presented fair knowledge about their children with hearing disorders. Such knowledge is very obvious in the mean of scores on items 2, 3, 4, 5, 6, 7, 8, 11, 12, 14, 15 and 16 (Table 1& 2).

A descriptive study, of (105) parents of children with hearing impairment, has determined that parents have limited information about the genetic basis of hearing loss, specifically in estimating the recurrence of congenital hearing loss (n=26 of 105, 24.76%) and misunderstanding inheritance paradigms (n=24 of 105, 22.86%) [10].

A cross-sectional study is done on (268) Saudi school-age children in the population of the Taif region of Saudi Arabia. The study depicts that about (45.9%) of parents had good awareness related to hearing loss and its impact on children's lives. Only 19% (n=51) of parents reported that their children encountered language problems in communicating with others [11].

A descriptive study aims at determining the communication approaches used by parents whose children are diagnosed with hearing impairment, and how these approaches can lead to effective interaction between them and their children. The study findings indicate that most of them only have a moderate level of knowledge in using the manual approach and the most used is sign language. The problem encountered is insufficient knowledge of the manual approach [12].

Another cross-sectional study, of a convenient sample of (38) parents, is carried out to assess their knowledge, attitude, and practice towards their children's hearing impairment. The study's finding reveals that the overall parental knowledge about their children's hearing impairment is found to be good [13].

Another cross-sectional study is conducted on (243) parents. Assessment of the prevalence of various aspects of knowledge among these parents toward childhood hearing loss has revealed that (103) participants (42.4%) possessed good knowledge, while (140) participants (57.6%) possessed poor knowledge [5].

One more cross-sectional study, of a cluster sample of (268) caregivers of children with hearing impairment, has found that more than half of the caregivers have poor knowledge about hearing impairment [14].

Another descriptive study, of (30) parents of children with hearing impairment, shows poor knowledge and understanding in parents and reveals that there is a need for better training programs and counselling [15].

Also, a descriptive study was conducted at the Thalassemia Center

in Al-Najaf City, which included (35) parents. The level of their knowledge was poor [16].

In a descriptive study conducted to assess mothers' knowledge of leukemic children undergoing chemotherapy, the results revealed that (44.2 %) of mothers had poor knowledge [17].

Furthermore, similar studies found that parents' or mothers' knowledge was moderate to poor [18-22].

Also, other studies have shown the same results [23-25].

Part II: Discussion of the Relationship between Parents' Knowledge of Children with Hearing Disorders and Their Socio-demographic Characteristics

At the end of the course of data analysis, the relationship between parents' knowledge about children with hearing disorders and their socio-demographic characteristics has been investigated.

Findings of this relationship depict that there is no significant relationship between parents' knowledge about children with hearing disorders and their socio-demographic characteristics (Table 3). Such findings present evidence that parents have acquired the same level of knowledge regardless of their characteristics.

A cross-sectional study is conducted on (243) parents. The study has found a significant association between age group of parents and their knowledge ($p=0.002$) [5].

Another cross-sectional study, of a cluster sample of (268) caregivers of children with hearing impairment, has found that there is highly statistically significant difference with regard to the level of knowledge of caregivers relative to their residency [14].

In a survey, of (787) parents of children with hearing loss, knowledge of use and proper care of the aids was influenced by socio-economic level ($p<0.01$) [26].

Conclusion

Based on the discussion and interpretation of the study findings, It can be concluded that:

1. Parents lack means of developing and enhancing their knowledge and awareness about children with hearing disorders.
2. Parents socio-demographic characteristics unfortunately have not influenced their knowledge about children with hearing disorders.

Recommendations

Relative to the study conclusion, it can be recommended that:

1. Well-designed, constructed and implemented instructional program for parents to increase and enhance their knowledge about children with hearing disorders.
2. Further research can be carried out on large sample size with the use of different approaches.

References

- Center for Disease Control and Prevention (CDC) (2023) 'Determining How Many Children Have Hearing Loss'. Available at: <https://www.cdc.gov/ncbddd/hearingloss/research.html>
- Fink D (2021) Review of hearing loss in children. *Jama* 325(12):1223-1224
- Kolethekkat A, Al Abri R, Hlaiwah O, Al Harasi Z, Al Omrani A, et al. (2020) Limitations and Drawbacks of the Hospital-based Universal Neonatal Hearing Screening Program: First Report from the Arabian Peninsula and Insights. *Int J Pediatr Otorhinolaryngol* 132:109926.
- Shah U (2022) Hearing Impairment in Children. Accessed: 12 August 2023 Available at: Hearing Impairment in Children - Children's Health Issues - MSD Manual Consumer Version ([msdmanuals.com](https://www.msdmanuals.com))
- Alsudays AM, Alharbi AA, Althunayyan FS, Alsudays AA, Alanazy SM, et al. (2020) Parental knowledge and attitudes to childhood hearing loss and hearing services in Qassim, Saudi Arabia. *BMC Pediatrics* 20:1-6
- Wang X, Wu D, Zhao Y, Li D, He D (2017) Knowledge and Attitude of Mothers Regarding Infant Hearing Loss in Changsha, Hunan Province, China. *Int J Audiol* 56:997-1002.
- Kaspar A, Newton O, Kei J, Driscoll C, Swanepoel D, et al. (2017) Parental Knowledge and Attitudes to Childhood Hearing Loss and Hearing Services in the Solomon Islands. *Int J Pediatr Otorhinolaryngol* 103:87-92.
- Flaherty M (2015) What We Can Learn from Hearing Parents of Deaf Children. *Australas J Spec Educ* 9:67-84.
- Wood C, Traub RJ, Turnbull AP (2008) 'Parents' Experiences with Childhood Deafness'. *Commun Disord Q*. vol. 29:82-98.
- Alqudah S, Alqudah A, Zaitoun M, Alqassem H (2023) Parental Knowledge and Attitudes towards Hereditary Hearing Loss and Genetic Technology. *Electron J Gen Med* 20:em548.
- Fageeh Y, Alghoribi M, Albishi M, Alshanbari A, Alqethami A, et al. (2023) Parent Awareness and Perceived Barriers Regarding Hearing Impairment among School Age Children in Taif Region of Saudi Arabia. *J Pharm Bioallied Sci* 15:S403-S408.
- Unido, K, Lucero J, Vargas D (2022) 'Parents' Knowledge In Using Communication Approaches For Effective Interaction Among Their Deaf Children. *J Positive School Psychology* 6:10.
- Riddhima U, Ranjan R (2021) Knowledge, Attitude, and Practice about Hearing Impairment among the Parents of Children Posted for Cochlear Implantation. *International Tinnitus J* 25:154-161.
- Mohammed E, Hossein Y, Ahmed E, Altomy E (2020) Assessment of Knowledge and Attitudes of Caregivers Regarding Hearing Impairment among Children at Minia City. *Minia Scientific Nursing Journal* 7: 63-72.
- Dutta P, Dey S, Malakar I (2020) Parental Knowledge and Understanding of Monitoring and Maintenance of Cochlear Implant under ADIP Scheme. *J Indian Speech Language & Hearing Association* 34:17-23.
- Atshan RS, Aziz AR (2022) Assessment of Parents' Knowledge about Home Health Care Management to Children with Beta Thalassemia Major. *Mosul Journal of Nursing* 10(2):311-318.
- Obaid K, Ajil Z, Al-Ganmi A (2014) Mothers' knowledge concerning leukemic children undergoing chemotherapy: treatment in oncology units at Baghdad city. *Asian Academic Research Journal of Multidisciplinary* 1:527-542
- Damad HA, Muttaleb WM (2022) Assessment Knowledge of Parents Regarding Health Preventive Measures and Self-Care of Hemophilia Children. *Pakistan Journal of Medical & Health Sciences* 16(06):425-425
- Kareem SH (2021) Mothers Knowledge about Nutritional Status of their Children in Primary Health Centers at Baghdad City. *Indian Journal of Forensic Medicine & Toxicology* 15(3):5166-5171
- Hussein HSA, Aziz AR (2016) Assessment of mothers' knowledge and beliefs toward care of neonatal jaundice in pediatric teaching hospital in Holy Karbala City. *Read & write* 8(8).
- Hussein KA, Aziz AR (2013) Assessment of knowledge and attitude of colostrum among postnatal mothers. *Mosul Journal of Nursing* 1(1):1-6
- Ali RA, Ajil ZW (2021) Mothers' Knowledge toward Home Care for Children with Wilms Tumors at Pediatric Hospitals in Bagdad City. *Indian Journal of Forensic Medicine & Toxicology* 15(4):3074-3078
- Hachim SN, Muttaleb WM, Mahmood SA (2023). Assessment of Mothers Knowledge towards Care of Children with Erb's Palsy. *Pakistan Heart Journal* 56(2):463-469
- Abd-Alrazzaq A, Aziz A (2021) Assessment of Mothers' Knowledge about Their Children with Sick Cell Anemia and Non-Pharmacological Approaches to Pain Management in Basra Center for Hereditary Blood Diseases. *Iraqi National Journal of Nursing Specialties* 34(1):11-20
- Jumaa FA, Turki SG, Hattab KM (2022) Mothers' Knowledge Toward Oral Health of Children Under 5 Years Old. *Pakistan Journal of Medical & Health Sciences* 16(06):437-437
- Mukari S, Vandort S, Ahmad K, Saim L, Mohamed A (1999) 'Parents' Awareness and Knowledge of the Special Needs of Their Hearing-impaired Child. *Med J Malaysia* 54:87-95.

Copyright: ©2024 Zaid Waheed Ajil, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.