



# Evaluation of parents' performance towards care of children with hearing disorders

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## Abstract

**Objective (s):** To evaluate parents' performance towards the care of children with hearing disorders and determine the relationship between such performance and their socio-demographic characteristics.

**Methodology:** A descriptive design is employed on a non-probability, convenient, sample of (25) parents of children with hearing disorders. An observational checklist of (18) items is developed to evaluate these parents' performance. Content validity and inter-observer reliability are determined through a 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 poor levels of performance (76%) and their performance is significantly related to their age only.

**Conclusion:** The study concludes that parents lack the opportunity to be engaged in educational and training sessions to perform towards children with hearing disorders. Parents' socio-demographic characteristics unfortunately have not influenced their performance towards children with hearing disorders except their age.

**Recommendations:** The study recommends a well-designed, constructed and implemented instructional program for parents to motivate their performance towards children with hearing disorders. Further research can be carried out on a large sample size with the use of different research approaches.

**Keywords:** evaluation, parents' performance, children with hearing disorders

## Introduction

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 [CDC], 2023) <sup>[1]</sup>.

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 (Fink, 2021) <sup>[2]</sup>.

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 (Haile *et al.*, 2021), 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 (Koletheekkat *et al.*, 2020) <sup>[3]</sup>.

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 (Shah, 2022) <sup>[4]</sup>.

Caring for a Child with hearing impairment is composed of encouraging the child to wear the hearing aid for all his/her waking hours; the child should be exposed to only one language until s/he develops his/her basic language skills (a second language can be introduced at the appropriate time); facing the child while speaking; talking to the child all the time in a natural manner and give him/her adequate time and opportunity to express himself/herself; do not avoid talking to the child assuming that s/he will not understand; encouraging the child to attend to parents when they speak; the imitation of the child's utterances is extremely useful in encouraging the child to speak; talking to the child in simple short sentences and encouraging the child to imitate your speech/lip movements as it facilitates his/her attempts to speak (Vikaspedia, 2023) <sup>[5]</sup>.

Raising a deaf child can have significant impacts on parents' wellbeing, their relationship with the deaf child, and their ability to parent effectively. Survey, of (84) parents with a deaf child aged 5–12 years, has examined whether hearing parents treat and perceive their deaf and hearing children differently while controlling for parent characteristics (including resolution of diagnosis), specifically in terms of parenting styles and perceived vulnerability and whether hearing parents' ability to resolve their feelings about their child's hearing loss diagnosis is related to their parenting morale, and whether they perceived their deaf child as vulnerable. Findings suggest that unresolved feelings of diagnosis are linked to lower parenting

morale and greater perception of child vulnerability. Sibling comparisons indicated that parents also reported a higher perceived child vulnerability score for the deaf child compared to the hearing sibling. No sibling differences were found regarding parenting styles (Sealy, McMahon, & Sweller, 2023) [6].

Parents of deaf and hard of hearing (DHH) children play an important role, not only in making important decisions regarding language, use of technologies, education and identity for their children, but also in ensuring that all their developmental needs are met. They have developed a unique expertise regarding parenting and managing family dynamics surrounding the DHH child. Therefore, they see themselves as active contributors to the services offered to their children (Flowers, Duchesne, & Guacher, 2022) [7].

A qualitative study, of (17) parent who have children aged (6-9) years with hearing loss, is conducted to explore the nature of parental involvement in the intervention of children with hearing loss, as experienced by parents. The study explores the overarching theme connected five themes which describe the nature of parental involvement: (1) parents work behind the scenes; (2) parents act as ‘case managers’; (3) parents always have their child’s language development in mind; (4) parents’ role extends to advocacy for all children with hearing loss; and (5) parents serve a number of roles, but at the end of the day, they are parents. The results indicate that parental involvement in the intervention of children with hearing loss is multifaceted in nature and incorporates a broad range of behaviors and practices (Erbasi, Scarinci, Hickson, & Ching, 2018) [8].

Parenting children who are deaf or hard of hearing presents unique long-term challenges that can place the parents at a greater risk of experiencing series of challenges. It is revealed that there are no significant differences between mothers and fathers regarding parenting stress, child acceptance, or parental support systems (Zaidman-Zait, Most, Tarrasch, Haddad-eid, & Brand, 2016) [9].

The role that parents play in the education of their children has potential to strengthen the support provided by school and improves the education outcomes of a child with learning needs. Mixed design study explores that only 29% of the children had a one to one interaction with their parents in a period of three months. Majority of parents expressed

communication as the main problem due to language barrier. The study recommends that parents of children with hearing impairment be trained for language and awareness of special education needs and assessments, for early identification and placement of such children (Wanjiru, Mutisya, & Aloka, 2015) [10].

Based on the early stated evidence, the present study endeavors to evaluate parents’ performance towards the care of children with hearing disorders and to determine the relationship between such performance 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. An observational checklist of (18) item is developed to evaluate these parents’ performance toward the care of children with hearing disorders.

Content validity and inter-observer reliability of the observational checklist 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**

**Table 1:** Overall evaluation of parents’ performance

Parents’ performance	f	%
Poor (1-1.66)	19	76.0
Fair (1.67-2.33)	6	24.0
Good (2.34-3)	0	0
Total	25	100
Mean ±SD	1.54 ±.265	

f=frequency, %= percent

Results, out of this table, depict that majority of parents (76%) of parents have poor level of performance.

**Table 2:** Mean of scores on items of parents’ performance

List	Items	MS	Standard deviation	Evaluation
1	I encourage the child to wear the hearing aid throughout the day except during sleep and bathing	1.84	0.898	F
2	I always keep the child’s external ear canal clean and unobstructed	1.76	0.663	F
3	I put the hearing aid battery on charge overnight with the battery doors open to allow moisture to evaporate	1.56	0.506	P
4	I give the child the opportunity to speak and express himself	1.72	0.613	F
5	I train the child to read my lips while I talk to him	1.58	0.653	P
6	I encourage the child to inquire and question, give him the appropriate answer and explanation, and not answer on his behalf, but rather clarify what he wanted to express.	1.52	0.714	P
7	I tell others about my child’s hearing loss when he responds in the expected way and speaks slowly and clearly	1.56	0.650	P
8	Set the TV or video game volume to the lowest volume level	1.52	0.714	P
9	I enroll the child in a special kindergarten for the hearing impaired to teach the child reading and writing	1.64	0.757	P
10	I use sign language, visual vision, writing, pictures, films, and television programs to enhance communication and interaction when speaking with the child	1.60	0.707	P

11	I remove the hearing aid from the child while performing a motor activity such as sports	1.48	0.653	P
12	I use earplugs or earmuffs for the child when he is exposed to very loud sounds	1.32	0.556	P
13	I train the child to use a hearing aid in different sound-emitting environments	1.44	0.650	P
14	I collaborate and communicate with professionals such as audiologists, speech therapists and educators	1.84	0.746	F
15	I participate in advocacy for the deaf community and work to ensure the child's full participation in society	1.56	0.768	P
16	I spend more time with the child to reduce his feeling of loneliness	1.52	0.714	P
17	Wash your hands well before changing the battery in your child's hearing aid	1.60	0.763	P
18	I carry a set of batteries with me at all times to avoid sudden battery discharge	1.44	0.650	P
	Overall performance	1.54	0.265	P

MS= mean of score, P=Poor (1-1.66), F=Fair (1.67-2.33), G=Good (2.34-3

Results, out of this table, indicate that the mean of scores on 7, 8, 9, 10, 11, 12, 13, 15, 16, 17 and 18. items of parents' performance is poor on most items of 3, 5, 6,

**Table 3:** Relationships between parents' performance and their socio demographic characteristics

Characteristics		Performance			Relationship
		Fair	Good	Total	
Age (Years)	30-less than 40	7	11	18	$r_s = .339$ $p\text{-value} = .048$ Sig= S
	40-less than 50	0	4	4	
	50-59	1	2	3	
	Total	8	17	25	
Gender	Female	5	8	13	$r_{pb} = .079$ $p\text{-value} = .708$ Sig= NS
	Male	3	9	12	
	Total	8	17	25	
Education	Illiterate	3	2	5	$r_s = .066$ $p\text{-value} = .755$ Sig= NS
	Read and write	0	2	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	8	17	25		
Occupation	Government employee	3	8	11	$r_{pb} = .119$ $p\text{-value} = .572$ Sig= NS
	Self-employee	3	5	8	
	Housewife	2	4	6	
	Total	8	17	25	
Monthly income	Less than 300 thousand	1	7	8	$r_s = .176$ $p\text{-value} = .400$ Sig= NS
	301-600 thousand	4	4	8	
	601-900 thousand	3	5	8	
	901 thousand -1,200,000	0	1	1	
	Total	8	17	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

Results, out of this table, reveal that there is significant relationship between parents' performance and their age at p value (0.048).

**Discussion**

**Part I: Discussion of evaluation of parents' performance toward children with hearing disorders**

Such analysis designates that parents have presented poor performance among their children with hearing disorders. Such performance is evidenced in the mean of scores on items of parents' performance of items 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17 and 18 (Table 1 & 2). This can be interpreted in a manner that these parents may lack experience and role in how to deal with these children.

A qualitative study using a phenomenological design is carried

out to determine the life experiences of (20) parents of children with hearing loss. It is determined that parents of children with hearing loss experienced anxiety, sadness, and happiness during diagnosis. They needed more information at first, but then they gained knowledge in the process, and it took work to accept this process. These parents have stated that having a child with hearing loss requires more time, responsibility, and effort than other children. This situation affects their social life, and they experience interpersonal conflicts. When parents are asked how they coped, they say they did it through prayer, social support, or time to themselves (Dike, 2023) [11].

A descriptive study aims to determine the communication approaches used by parents whose children are diagnosed with hearing impairment. The study findings depict that these parents have used the information about such approaches to

interact with their child and shared it with other members of the family and this information made them more knowledgeable about the preferred language of their child (Unido, Lucero, & Vargas, 2022) <sup>[12]</sup>.

A 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 practice towards their children's hearing impairment is found to be good (Riddhima & Ranjan, 2021) <sup>[13]</sup>.

In a survey, of (787) parents of children with hearing loss, communication methods are generally inappropriate with (41.3%) of the mothers and (48.5%) of the fathers reporting ignorance of Bahasa Malaysia Kod Tangan, the sign language that is commonly used by their children (Mukari, Vandort, Ahmad, Saim, & Mohamed, 1999) <sup>[14]</sup>.

Also, a non-experimental study conducted at Ibn Al-Baladi for Maternity and Pediatric Hospital found that the performance of parents was moderate among (85.7 %) of mothers regarding nutritional management of children with phenylketonuria (Abdulnabi & Mohammed, 2023) <sup>[16]</sup>.

Moreover, studies conducted by Mohammed and Hattab (2013) <sup>[17]</sup>; Aziz (2013a) <sup>[18]</sup>; Aziz (2013b) <sup>[19]</sup>; Jumaa, Turki, and Hattab (2022) <sup>[20]</sup>, revealed that the practice of mothers ranged from poor to moderate.

Furthermore, the same results were found by Shawq, Ajil, and Al-Musawi (2020) <sup>[21]</sup>; Hussein and Aziz (2016) <sup>[22]</sup>; Hussein & Aziz, 2013 <sup>[23]</sup>; Atshan and Aziz (2022) <sup>[24]</sup>; Damad and Muttaleb (2022) <sup>[25]</sup>.

## Part II: Discussion of the relationship between parents' performance of children with hearing disorders and their socio-demographic characteristics

At the end of the course of data analysis, the relationship between parents' performance and their demographic characteristics has been investigated.

The findings of this relationship depict that parents' performance is significantly influenced by their age differences (Table 3). This can be interpreted in a fashion that young parents have not performed more adequately toward their children with hearing disorders than others. It may be due to a lack of experience or not being greatly involved with their care.

A descriptive research design is carried out on a purposive sample of (25) parents. Results reveal that parental involvement significantly influenced the academic performance of children with hearing impairment (Balogun, 2023) <sup>[15]</sup>.

A mixed-design study is conducted on a purposive sample of (17) parents of children with hearing loss. The findings indicate that the overarching theme of parents taking the central role was identified using thematic analysis. This overarching theme has connected five themes which describe the nature of parental involvement: (1) parents work behind the scenes; (2) parents act as 'case managers'; (3) parents always have their child's language development in mind; (4) parents' role extends to advocacy for all children with hearing loss; and (5) parents serve many roles, but at the end of the day, they are parents.

The study concludes that parental involvement in the intervention of children with hearing loss is multifaceted and incorporates a broad range of behaviors and practices. These findings have important implications for the provision of family-centered practices (Erbasi, Scarinci, Hickson, & Ching, 2018) <sup>[8]</sup>.

In a survey, of (787) parents of children with hearing loss, the parents' choice of communication method is not significantly influenced by socioeconomic level (Mukari, Vandort, Ahmad, Saim, & Mohamed, 1999) <sup>[14]</sup>.

## Conclusion

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

- Parents lack the opportunity to be engaged in educational and training sessions to perform toward children with hearing disorders.
- Parents' socio-demographic characteristics unfortunately have not influenced their performance towards children with hearing disorders except that of their age.

## Recommendations

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

- Well-designed, constructed and implemented instructional program for parents to improve their performance toward children with hearing disorders.
- Monitoring, supervision, directing and appraising parents regarding
  - their roles toward children with hearing disorders.
  - Further research can be carried out on large sample size with the use of different approaches.

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