

# Pediatric Hearing Aid Management: Challenges among Hispanic Families

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## Abstract

**Background:** Hearing aid fitting in infancy has become more common in the United States as a result of earlier identification of hearing loss. Consistency of hearing aid use is an area of concern for young children, as well as other hearing aid management challenges parents encounter that may contribute to less-than-optimal speech and language outcomes. Research that describes parent hearing aid management experiences of Spanish-speaking Hispanic families, or the extent of their needs, is not available. To effectively support parent learning, in a culturally sensitive manner, providers may benefit from having a better understanding of the needs and challenges Hispanic families experience with hearing aid management.

**Purpose:** The purpose of the current study was to describe challenges with hearing aid management and use for children from birth to 5 yr of age, as reported by Spanish-speaking parents in the United States, and factors that may influence hearing aid use.

**Research Design:** This study used a cross-sectional survey design.

**Study Sample:** Forty-two Spanish-speaking parents of children up to 5 yr of age who had been fitted with hearing aids.

**Data Collection and Analysis:** Responses were obtained from surveys mailed to parents through early intervention programs and audiology clinics. Descriptive statistics were used to describe frequencies and variance in responses.

**Results:** Forty-seven percent of the parents reported the need for help from an interpreter during audiology appointments. Even though parents received information and were taught skills by their audiologist, many wanted to receive more information. For example, 59% wanted to know how to meet other parents of children who have hearing loss, although 88% had previously received this information; 56% wanted to know how to do basic hearing aid maintenance, although 71% had previously received instruction. The two most frequently reported hearing aid use challenges were fear of losing the hearing aids, and not seeing benefit from the hearing aids. Hearing aid use during all waking hours was reported by more parents (66%) when their child had a good day than when their child had a bad day (37%); during the previous two weeks, 35% of the parents indicated their child had all good days.

**Conclusions:** Hispanic parents wanted more comprehensive information, concrete resources, and emotional support from the audiologist to overcome hearing aid management challenges. Understanding

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parents' perspectives, experiences, and challenges is critical for audiologists to provide appropriate support in a culturally sensitive manner and to effectively address families' needs.

**Key Words:** families, hearing aids, hearing loss, Hispanic, pediatric audiology

**Abbreviations:** PHAMI = Parent Hearing Aid Management Inventory; PHQ = Patient Health Questionnaire

## INTRODUCTION

Hearing aid fitting in infancy has become more common in the United States as a result of earlier identification of hearing loss (Muñoz et al, 2013), although not all families are accessing services in a timely manner (Holte et al, 2012). Early access to intervention and auditory experience influences speech and language development (Yoshinaga-Itano et al, 1998; Moeller et al, 2009; Tomblin et al, 2014). Even though advanced hearing technology is available to provide opportunities for communication success for children with hearing loss, there are disparities in children's spoken language outcomes (Sininger et al, 2010; Ching et al, 2013). Consistency of hearing aid use is an area of concern for young children (Walker et al, 2013; Muñoz, Preston, et al, 2014), as well as other hearing aid management challenges parents encounter (Muñoz, Olson, et al, 2014) that may contribute to less-than-optimal speech and language outcomes.

### PARENT CHALLENGES AND HEARING AID USE

Parents have reported a variety of challenges related to hearing aid management and use. For example, studies have found that child temperament, activities, and behavior interfere with hearing aid use (Moeller et al, 2009; Walker et al, 2013). Emotional challenges, such as acceptance of the hearing loss (Muñoz et al, 2013), recognition of benefit from hearing aids (Sjoblad et al, 2001), parent lack of confidence with specific skills (e.g., hearing aid listening check, troubleshooting problems, retention issues), and the skills of other caregivers (Muñoz, Olson, et al, 2014), have also been reported as challenges.

Given the challenges parents have reported, it is not surprising that many parents have also reported that those problems interfere with consistent hearing aid use (Sjoblad et al, 2001; Muñoz et al, 2013; Walker et al, 2013). For example, Muñoz, Olson, et al (2014) found that only one-third of parents of children under 3 yr of age reported use during most waking hours. This is concerning, not only because parents are experiencing difficulties, but also because parents' reports of hearing aid use overestimate hours of use when compared to hearing aid data logging (Walker et al, 2013), and findings from data logging have revealed low average hours of daily use for young children (Jones, 2013; Walker et al, 2013; Muñoz, Preston, et al, 2014). Jones (2013) reported average hearing aid

use of 4.5 h per day for children 0–4 yr (N = 2,162) based on data logging. Additionally, lower hearing aid use time has been found for younger children, milder degrees of hearing loss, and lower maternal education (Walker et al, 2013), suggesting that these factors may serve as indicators of families in need of additional support as they learn to integrate hearing aid use into daily life.

Parents have a central role in the intervention process, and to manage treatment effectively on a daily basis, they need to learn new information and gain confidence with new skills. The Parent Hearing Aid Management Inventory (PHAMI) was developed to better understand parent experiences with hearing aid management (Muñoz, Olson, et al, 2014). Results from mothers and fathers (N = 55) of children 0–3 yr of age with bilateral hearing loss revealed that parents lack confidence with skills, and desire more comprehensive information and more emotional support from the audiologist. A subsequent study used a modified version of the PHAMI to further explore parent learning needs and factors that may influence hearing aid use of young children (N = 318; Muñoz, Rusk, et al, 2016). Important findings included that hearing aid use was variable, regardless of the length of time since hearing aid fitting, and that depression influenced hours of hearing aid use, suggesting a need to identify how to better support parent learning. To further understand the implications for parent learning, the PHAMI was used in the current study to explore experiences of Hispanic Spanish-speaking parents.

Research to date related to pediatric hearing aid use and management has primarily represented the experiences of White American, English-speaking families with a middle-to-high socioeconomic status (Sjoblad et al, 2001; Moeller et al, 2009; Muñoz et al, 2013; Walker et al, 2013; Muñoz, Olson, et al, 2014; Muñoz, Rusk, et al, 2016) and findings have revealed that these parents experienced an array of challenges. There is no research that describes parent hearing aid management experiences of Spanish-speaking Hispanic families or the extent of their needs; therefore, how their experiences may differ from previously published findings is not known. To support parent learning in a culturally sensitive manner, it would be helpful to have a better understanding of the challenges Hispanic families experience with hearing aid management. Attitudes and beliefs related to disabilities are influenced by culture, and it is important to incorporate differing perspectives into the treatment process (ASHA, 2008).

## HISPANIC POPULATION

The Hispanic population is composed of those who derive their cultural identity from multiple countries and regions (Mexico, Puerto Rico, Cuba, Central America, South America, Spain), and a variety of races. For the purpose of this study, the term Hispanic was used broadly to identify individuals who come from Spanish heritage (Steinberg et al, 1997). By 2060, it is projected that the Hispanic population will increase from 55 million in 2014 to 119 million, which will represent 29% of the United States; therefore, Hispanics represent one of the fastest-growing groups of the population (Colby and Ortman, 2015). In the future, health-care providers will attend this population more frequently, and need to be familiarized with characteristics of the Hispanic culture (Antshel, 2002).

Professional practice guidelines in audiology (JCIH, 2007; ASHA, 2008; AAA, 2013) recommend family-centered and culturally sensitive service delivery models. To ensure that priorities and preferences are addressed within the decision-making process, individuals should receive the same quality and quantity of information that is provided to patients from the majority culture (Flores et al, 1996; Guiberson, 2009; Douglas, 2011). For some families, language barriers may limit access to information and resources (Steinberg et al, 1997; 2003), and hence limit understanding of the options important for making educated decisions. Culture is an important consideration for providers in creating a rapport with families and may influence treatment adherence, which is critical to health outcomes (Antshel, 2002). Even though differences exist among families, there are some commonly shared values within the Hispanic culture that may need to be considered when providing audiology services to this population: “familismo” (importance attributed to close family relationships), “personalismo” (tendency toward closeness with others and direct warmth toward others in personal relationships), and “fatalismo” (the belief that all events are predetermined and inevitable).

### Familism

Familism or familialism (familismo) is a core cultural value that results in the extended family playing an important role in treatment decisions and provides an integrated and supportive network, an important factor to consider in service delivery (Steinberg et al, 1997; Antshel, 2002; Rhoades et al, 2004; Calzada et al, 2013). Within the family system, there are also gender role considerations, such that the father is typically the head of the household and the final decision maker, with the mother’s role oriented toward caring for the children (Steinberg et al, 1997; Antshel, 2002; Rhoades et al, 2004; Calzada et al, 2013). Gender roles may influence

parental behaviors that may in turn influence the effectiveness of intervention, particularly if both parents are not part of the process and understand the implications of intervention (Rivera, 1983).

### Personalismo

Personalism (personalismo) is a core cultural value in which close relationships take priority over schedules or rules (Irving et al, 1999). It is the tendency to highly value the person-to-person connection, the establishment of relationships through personal bonds (Inclan, 1990; Bermúdez et al, 2010; Salkas et al, 2016). Research has shown that “personalized” messages that are intended for the Hispanic community tend to be more successful in promoting healthier behaviors (Zea et al, 1994; Ko et al, 2014; Salkas et al, 2016). Personalism can facilitate the establishment of trust and close relationship between the provider and the client.

### Fatalism

Fatalism (fatalismo) can be another important value within the Hispanic culture. Fatalism is the perspective that life events (e.g., disabilities) are determined by God, which encourages trust in “God’s will”; however, people may embrace this belief in different ways. For example, some may believe that disability is an act of God as “punishment” for personal sin (Zea et al, 1994). It is important for audiologists to understand that this is a cultural component that may influence parent acceptance of the disability and engagement, and may need to be included in the conversation to help parents determine how best to move forward with treatment options for their child (Weisner et al, 1991; Falicov, 1996; Skinner et al, 2001; Antshel, 2002; Glover and Blankenship, 2007)

When young children are identified with hearing loss and receive hearing aids, parent education and support is essential for effective integration of daily hearing aid management and consistency of use. To provide effective hearing aid support services for the Hispanic population, audiologists should understand parent challenges and experiences. The purpose of the current study was to describe challenges with hearing aid management and use, for children up to 5 yr of age, as reported by Spanish-speaking parents in the United States, and factors that may influence hearing aid use.

## METHODS

The study used a cross-sectional survey design. The study methods were reviewed and approved by the Utah State University Institutional Review Board and parents received a letter of information with the study materials.

## Participants and Procedures

Primary caretakers for children with bilateral permanent hearing loss were recruited for the study in two phases. The first phase included recruitment via state Early Hearing Detection and Intervention coordinators with the ability to filter their database to identify Spanish-speaking families of children (from birth to 3 yr of age) that met the inclusion criteria: (a) bilateral hearing loss and (b) fitted with hearing aids. The packets provided to families included a flyer describing the purpose of the study, the Institutional Review Board letter of information, three questionnaires [i.e., PHAMI, Family Demographics, Patient Health Questionnaire 9 (PHQ-9)], and an incentive of \$5 for their time to complete the questionnaires (all forms were in Spanish). Responses were anonymous and returned to the researcher in a prepaid envelope.

Five states (North Carolina, Colorado, Ohio, Arkansas, Indiana) agreed to deliver the survey packets to families. Seventy-five families were sent survey packets, and seven completed surveys were returned (9% return rate). One provider reported that most of the parents in their center required help to complete the forms, revealing a possible reason for the low response rate when surveys were mailed to families. Because the return rate was low, a second phase of recruitment was implemented with two changes: the age range was increased to 5 yr and families were invited to participate at audiology clinics during regularly scheduled appointments. Nine clinics in seven states (North Carolina, California, Idaho, Indiana, Nevada, Minnesota, Utah) agreed to assist in recruitment. A total of 80 surveys were distributed to the clinics, and 39 were completed and returned by the clinics (49% return rate).

Both phases taken together, a total of 46 surveys were completed and returned. Four surveys were excluded because the information was incomplete ( $n = 2$ ) or the child did not have hearing aids ( $n = 2$ ); therefore, 42 surveys were included in the analysis. Mothers primarily completed the surveys (80%,  $n = 32$ ), with five surveys completed by the father (12%), three surveys completed by both parents (7%), and two surveys in which the reporter was not specified. See Table 1 for participant demographic information.

## Instruments

1. PHAMI: This questionnaire had three sections: (a) information and skills, (b) hearing aid management challenges and use, and (c) communication and support (see Appendix). The instrument was developed in English (Muñoz, Rusk, et al, 2016) and translated to Spanish by a professional translator that is a native Spanish speaker, then translated back to English by a different bilingual native Spanish speaker. To en-

sure accuracy of the translation, a third bilingual professional with expertise in audiology reviewed the language translation for accuracy, and no discrepancies were found in the translation process. Structured interviews were conducted with four families (seven people) to determine the face-validity of the Spanish version of the instrument; some minor wording modifications were made to improve question clarity; two questions were modified.

2. Family Demographic Form: This questionnaire, developed by the researcher, was used to obtain child and family demographic information (e.g., age, ethnicity, parent educational level, family income).
3. PHQ-9 (Pfizer, 1999): The PHQ is a validated 9-item questionnaire designed to identify symptoms of depression experienced over the past two weeks (Kroenke et al, 2001). PHQ-9 scores from 1 to 4 indicated minimal symptoms of depression, 5 to 9 mild, 10 to 14 moderate, 15 to 19 moderately severe, and 20 to 27 severe symptoms of depression. Responses are reported on a 4-point scale (0 = "not at all"; 1 = "several days"; 2 = "more than half the days"; 3 = "nearly every day"). A total score is obtained for interpretation. A tenth question is included to query how difficult the problems made it to do work, take care of

**Table 1. Participant Demographic Information**

Participant Demographic Information	% (n)
Survey respondent's age (yr)	
20–30	38 (14)
30–40	45 (17)
40–50	16 (6)
Parents in the home	
Two	87 (35)
One	13 (5)
Child age at hearing aid fitting (mo)	
1–6	60 (22)
7–12	24 (9)
13–18	8 (4)
≥19	8 (3)
Languages spoken at home	
English	2 (1)
Spanish	45 (18)
Both	47 (19)
Primary caregiver's education level	
Did not complete high school	45 (18)
High school graduate or GED	27 (11)
Some college	15 (6)
Associate degree	0 (0)
Bachelor's degree	12 (5)
Graduate degree/master/PhD	0 (0)
Family Income	
<\$20,000	38 (15)
\$21,000–\$40,000	33 (13)
\$41,000–\$80,000	18 (7)
>\$81,000	10 (4)

things at home, or to get along with other people. Responses range from “not difficult at all” to “extremely difficult.”

**Analysis**

The survey data were analyzed using SPSS (v23) analysis software. Descriptive statistics were used to identify frequencies and variance of item responses.

**RESULTS**

Parents were asked about their need for assistance when communicating with the audiologist, and almost half (47%, n = 19) reported the need for help, and of those, 84% (n = 16) used an interpreter as their primary way of communicating with the audiologist. Thirty-five families (90%) reported spoken language as their primary mode of communication, 5% (n = 2) reported sign language, and two families (5%) reported both modes of communication (sign language and spoken language). One-third of the families (36%, n = 9) reported having other family members with hearing loss (parents, cousins, grandparents, or siblings). Nine families reported that their child also had additional disabilities (down syndrome, chromosome 18, visual impairments, low muscular tone, and developmental delays), representing 23% of the sample.

**Information**

Parents were queried about information they received and if more information was desired for each of the ten items on the questionnaire (Table 2). Most of the parents (80–95%) reported receiving information for six of the items listed; however, approximately one-quarter to one-third of the parents reported that they

did not receive information related to how to get loaner hearing aids, how to find financial assistance, how to know when the audiologist needs to check the hearing aids, and how to help the children hear better in noisy environments. Many parents (48–66%) reported that they wanted more information for each item listed, regardless of whether they had already received information previously, with two-thirds indicating a desire to better understand what their child can and cannot hear without the hearing aids. Even though parents received information and were taught skills by their audiologist, many wanted to receive more information. For example, 59% wanted to know how to meet other parents of children who have hearing loss, although 88% had previously received this information; 56% wanted to know how to do basic hearing aid maintenance, although 71% had previously received instruction. However, even though audiologists had provided this information, the amount or adequacy was insufficient, and many families desired additional information or support.

**Skills**

Parents were asked to consider eight hearing aid skills and report if they had received training or if they wanted more help with the skill indicated (see Table 3). The majority of parents (71–97%) reported being taught each of the skills queried; however, many parents (27–56%) reported that they wanted more assistance with each of the skills listed, regardless of whether they had received previous training for the skill, with many parents indicating a desire to better understand how to use a listening stethoscope to check hearing aid function, how to do the Ling 6 sound test, and how to do basic hearing aid maintenance.

Parents need tools to monitor how the hearing aids are functioning. Results indicated that many parents had a battery tester 94% (n = 33), an air blower 88%

**Table 2. Information Parents Received and Desired**

Information	Received, No Help Desired % (n)	Received, but Help Desired % (n)	Not Received, but Help Desired % (n)
1. How to determine if the hearing aids are helping	49 (20)	46 (19)	3 (1)
2. How to prevent losing the hearing aids	54 (22)	39 (16)	8 (3)
3. Meeting other parents with children with hearing loss	37 (15)	51 (21)	8 (3)
4. What child can/cannot hear “without” hearing aids	34 (14)	49 (20)	17 (7)
5. Knowing about hearing aid options/accessories	49 (20)	34 (14)	8 (3)
6. What child can/cannot hear “with” hearing aids	39 (16)	42 (17)	20 (8)
7. How to get loaner hearing aids	44 (18)	27 (11)	27 (11)
8. Finding financial assistance	42 (17)	32 (13)	25 (10)
9. Knowing when the audiologist needs to check the hearing aids	39 (16)	34 (14)	24 (10)
10. How to help the child hear better in noisy places	34 (14)	27 (11)	34 (14)

**Table 3. Skill Training Parents Received and Training Desired**

Training	Received, No Help Desired % (n)	Received, but Help Desired % (n)	Not Received, but Help Desired % (n)
1. When to change the hearing aid batteries	73 (30)	24 (10)	3 (1)
2. Clean earmolds and reattach tubing to the hearing aid	66 (27)	27 (11)	7 (3)
3. How to know when the child needs new earmolds	56 (23)	34 (14)	7 (3)
4. How to keep hearing aids on when child resists	51 (21)	34 (14)	10 (4)
5. How to teach others to help manage the hearing aids	49 (20)	29 (12)	10 (4)
6. How to use listening stethoscope to check hearing aid function	49 (20)	29 (12)	17 (7)
7. How to do the Ling 6 sound test	46 (19)	27 (11)	25 (10)
8. How to do basic hearing aid maintenance	42 (17)	29 (12)	27 (11)

(n = 29), a listening stethoscope 77% (n = 27), and cleaning tools 71% (n = 25).

**Hearing Aid Use Challenges**

Parents were asked to consider 14 hearing aid use challenges and to indicate how frequently each item was a challenge on a scale from never to always (see Table 4). Responses for frequent and always were combined. The types of challenges that parents encountered frequently varied widely, with the two most frequently reported challenges being fear of losing hearing aids (17%), and not seeing benefit from hearing aids (14%).

Parents were asked to estimate the number of hours their child typically used their hearing aids with respect to their perception of whether the child had a good day or a bad day. Responses indicated that on good days, the child typically uses hearing aids all waking hours (66%, n = 27); 8–9 h (12%, n = 5); 5–7 h (19%, n = 8); and <5 h (2%, n = 1). On bad or difficult days, parents reported that the child wears hearing aids all waking hours (37%,

n = 15); 8–9 h (24%, n = 10); 5–7 h (27%, n = 11); and <5 h (12%, n = 5). Parents were asked to estimate the number of good days and bad days in the previous two weeks. Results from the parents that responded (n = 37) revealed that 35% (n = 13) had all good days, 38% (n = 14) had between 8 and 13 good days, and 27% had one week or fewer good days (n = 10).

Parents completed a screening questionnaire to determine if they were experiencing symptoms of depression during the previous two weeks. Of the 42 responses, 56% (n = 23) reported no symptoms, 32% (n = 13) minimal, 7.3% (n = 3) mild, 2% (n = 1) moderate, and 2% (n = 1) moderately severe symptoms of depression. Some parents also reported that, because of this, their ability to perform daily tasks was compromised or considered somewhat difficult (31%, n = 10). The study by Muñoz, Rusk, et al (2016) also found that when mothers reported severe depressive symptoms, compared to no depressive symptoms, children wore their hearing aids fewer hours per day. In this study, 44% of the parents reported symptoms of depression, from minimal to moderately

**Table 4. Hearing Aid Use Challenges**

Challenges	Always % (n)	Frequent % (n)	Sometimes % (n)	Never % (n)
1. Fear of losing hearing aids	14 (6)	3 (1)	52 (22)	31 (13)
2. Not seeing my child benefiting from hearing aids	2 (1)	12 (5)	24 (10)	62 (26)
3. Difficulties getting a set routine	2 (1)	10 (4)	21 (9)	67 (28)
4. Frequent feedback	7 (3)	5 (2)	31 (13)	57 (24)
5. Frequent ear infections	5 (2)	7 (3)	14 (6)	74 (31)
6. Activities (playing outside, riding in the car)	0 (0)	10 (4)	31 (13)	60 (25)
7. Other caregiver's ability to manage hearing aids	2 (1)	7 (3)	27 (11)	63 (26)
8. The child not wanting to wear the hearing aids	2 (1)	7 (3)	26 (11)	64 (27)
9. The hearing aids not working	2 (1)	5 (2)	19 (8)	73 (30)
10. Pressure from others not to use the hearing aids	2 (1)	2 (1)	12 (5)	83 (35)
11. Costs	2 (1)	2 (1)	27 (11)	68 (28)
12. Not being convinced that my child needs hearing aids	2 (1)	2 (1)	12 (5)	82 (34)
13. Concerns about how the hearing aids look	0 (0)	5 (2)	12 (5)	83 (34)
14. Distractions and needs of other children at home	0 (0)	2 (1)	28 (12)	69 (29)

severe; however, the sample size was not large enough to explore relationships with hearing aid use.

**Support and Communication**

Parents were asked to consider 13 items related to communication with their audiologist and were asked to report if the type of communication and support was meeting their needs or if they desired more communication of that kind with their audiologist (see Table 5). The majority of the parents reported their communication needs were being met; however, 42% of the parents (n = 17) reported they would like the audiologist to check in with them more frequently to see if there is any need for support or help, 37% (n = 15) reported they would like to receive concrete resources, and 35% (n = 14) reported that they needed help to monitor problems and resolve concerns.

In response to an open-ended question querying if parents had other comments related to communication with their audiologist, some parents (29%, n = 12) provided additional insights into ways audiologists could better address their needs. Two themes were identified that expressed a need for the audiologist to (a) recognize or address how they were feeling (n = 3), for example, “*Ser más paciente*” (Be more patient), and (b) recognize or address their need for help and support (n = 6), for example, “*Analizar mi caso con más profundidad, para que me pueda dar respuestas más específicas a mis preguntas, en vez de ser tan general*” (Analyze my case more in depth, so she could give me more specific responses to my questions instead of being so general). Parents also expressed satisfaction with their audiologist (n = 3), for example, “*Estoy muy satisfecha de todo lo que me han ayudado, y he aprendido mucho*” (I am very satisfied with all they have helped me with, and I have learned a lot).

**DISCUSSION**

Access to auditory information for children with hearing loss is critical, and early hearing aid fitting and consistent use of well-functioning hearing aids are foundational for spoken language development. This study evaluated hearing aid management experiences of Hispanic parents of young children to better understand their needs for learning and support. Survey responses were received from parents of children up to 5 yr of age in ten states. Although the sample was small (N = 42), insights into considerations for service providers and practice implications were identified. For this sample of families, 40% were fitted with hearing aids later than 6 mo of age, suggesting delays in accessing needed services based on Joint Committee on Infant Hearing guidelines (JCIH, 2007); however, it should be noted that the families were not asked to report if their child received a newborn hearing screening, and the extent that this sample includes late-onset hearing loss is not known.

Many families reported low educational levels for the primary caregiver (72% high school degree or less), including a report from one center that most parents needed help completing the study forms, even though they were in Spanish, a factor that may have influenced the relatively low return rate for the study. This has implications regarding health literacy and considerations for how providers can effectively approach patient education and support for hearing loss management. According to the World Health Organization (2001) poor treatment adherence can be attributed to factors that are related to the patient, health settings, and/or health professionals. In the United States, it is estimated that 90 million adults have inadequate health literacy, increasing their risk for poor treatment adherence and poor clinical outcomes (Brown and Bussell, 2011).

**Table 5. Communication with Audiologists**

Communication Needs	Needs Met % (n)	Desired % (n)
1. Check in with me to see if I need help or support	50 (21)	40 (17)
2. Provide me with concrete resources	59 (25)	36 (15)
3. Help me to monitor problems until the concern is resolved	62 (26)	33 (14)
4. Teach me in ways I can learn	64 (27)	31 (13)
5. Give me the opportunity to talk about how I am feeling	57 (24)	31 (13)
6. Ask for my thoughts and opinions	70 (28)	30 (12)
7. Talk in a way I can understand	69 (29)	26 (11)
8. Help me explore solutions to problems with hearing aids	69 (29)	26 (11)
9. Respond to my input in a way that I feel understood	69 (29)	26 (11)
10. Help me gain confidence managing the hearing aids	71 (30)	24 (10)
11. Help me recognize what I am doing right	67 (28)	24 (10)
12. Be accepting of my challenges	79 (33)	17 (7)
13. Respect my culture and beliefs	81 (34)	14 (6)

Communication with the audiologist is a factor that can influence patient understanding and their ability to implement recommendations. Forty-seven percent of the families in the current study reported they needed assistance when communicating with the audiologist, an additional layer for providers to consider related to effective communication. In 2014, ASHA reported that only ~7% of their members were from a racial/ethnic minority background, and <6% considered themselves to be bilingual or multilingual (ASHA, 2014). Many clinicians will likely need to provide services through collaborative relationships with translators/interpreters to effectively communicate information to clients and their families when English is not their primary language. Practice guidelines for communicating with an interpreter are available and may help providers navigate this important communication link (ASHA Practice Portal: <http://www.asha.org/Practice-Portal/Professional-Issues/Collaborating-With-Interpreters/>).

Additionally, many families reported having a low-income level (71% earning ≤\$40,000 annually). This may have implications that relate to access to services and/or hearing aid supplies (e.g., batteries, earmolds). Many families reported financial barriers to hearing aid management, with 56% indicating that they wanted information about financial assistance, 32% reported that costs presented them with challenges for hearing aid use, and 54% wanted to know how to access loaner hearing aids. Meibos et al (2015) surveyed pediatric audiologists (N = 349) and found that one-third of the respondents did not provide financial support options to parents or information about loaner hearing aids in their routine practices.

### Patient Education

Patient-centered care is a quality component of effective health-care delivery, and this includes an individualized process that recognizes and values patient participation and engagement (Rogo, 2014). For parents to participate in shared decision-making about intervention for their child, it is essential that they receive accurate, evidence-based information. Many parents in this study reported wanting additional information and support for skill learning for all items queried, even though many had received it previously. Learning and gaining confidence with new skills is a process. Audiologists can support learning through implementation of intentional, patient-centered communication (e.g., Motivational Interviewing; Rollnick et al, 2008). The desire for more support was also reflected by 42% of the parents reporting that they wanted the audiologist to check in with them more frequently about their needs, and many (37%) wanting concrete resources. It is not known if, when families received information, it was in Spanish. A recent study to

identify Website information related to hearing loss, hearing technology, and spoken language development available to Spanish-speaking parents of children who are deaf or hard of hearing found that information in Spanish is often fragmented and less in-depth than Internet resources in English (Muñoz, Nelson, et al, 2016). Audiologists can help meet the needs of Spanish-speaking parents by providing access to comprehensive educational resources and facilitating a support network of other Spanish-speaking parents to help them adjust and learn with others who share similar cultural beliefs and attitudes toward hearing loss.

Access to peer support from other parents with children who are deaf or hard of hearing is another important component for parent learning, emotional support, and gaining confidence in managing their child's hearing loss (Henderson et al, 2014; Maddell, 2015). Parent-to-parent support can help parents learn more about hearing loss and management from families experiencing similar situations. In this study, 59% of the parents expressed a desire to meet other parents of children with hearing loss. This may be information that is not routinely provided to parents by audiologists or other service providers. Meibos et al (2015) found that connecting parents with parent support organizations was not an aspect routinely included by pediatric audiologists in that study.

### Factors Affecting Hearing Aid Use

Hearing aid use is variable for young children, and various factors have been found to influence how much children use their hearing aids during the day. In this study, 66% of the parents reported that on good days their child wore hearing aids all waking hours, and only 37% reported all-day hearing aid use on bad days; however, when asked how often they experienced good days, 35% of the parents indicated their child had all good days during the previous two weeks. In previous studies, Muñoz, Olson, et al (2014) found that 34% of the parents reported their child used hearing aids during all waking hours, and Muñoz, Rusk, et al (2016) found that 42% of the parents reported that their child wore hearing aids all waking hours on good days. Parent report of hearing aid use is often overestimated (Walker et al, 2013; Muñoz, Preston, et al, 2014), and a greater percent of parents in the current study reported hearing aid use during all waking hours compared to previous studies. Further research to understand Hispanic families' hearing aid use patterns based on data logging would be helpful.

Parent confidence and their ability to overcome frustration and obstacles that interfere with hearing aid use is a factor that audiologists and other providers can address with parents. In the current study, a relationship between parent challenges and parent-reported hearing aid use was not identified. Muñoz, Olson, et al (2014),

however, found that when parent challenges with hearing aid management increased, hours of parent-reported hearing aid use decreased. An earlier study (Muñoz et al, 2013) found that parent confidence levels with hearing aid management skills varied considerably. Having gaps in understanding can undermine confidence; for example, in this study, parents reported not knowing when the audiologist needs to check the hearing aids, how to help the children hear better in noisy environments, and knowing what their child can and cannot hear with and without the hearing aids.

Many parents in this study (40%) reported that they would like the audiologist to check in with them more frequently to see if there is any need for support or help, and 35% reported that they needed help to monitor problems and resolve concerns. Muñoz, Rusk, et al (2016) found in a related study that 27% of English-speaking parents of young children wanted the audiologist to check in more frequently with them about how they were feeling related to their child's hearing aid management. The Hispanic cultural value of personalismo may be a contributing factor in a greater percentage of Hispanic families reporting a desire to have the audiologist check in with them more often, suggesting an important cultural consideration in service provision for Hispanic families. The study by Muñoz, Rusk, et al (2016) also found that when mothers reported severe depressive symptoms, compared to no depressive symptoms, children wore their hearing aids fewer hours per day. In this study, 44% of the parents reported symptoms of depression, from minimal to moderately severe; however, the sample size was not large enough to explore relationships with hearing aid use.

## CONCLUSIONS

The Spanish version of the PHAMI was used to identify parent learning needs and hearing aid management experiences. Parents wanted more comprehensive information, more concrete resources, and more emotional support from the audiologist to overcome hearing aid management challenges. Considering that a culturally important value for Hispanic families is the desire to have a strong relationship with the audiologist, the audiologist should be proactive in initiating contact with Hispanic families for monitoring and follow-up. Understanding Hispanic parents' perspectives, experiences, and challenges is critical for audiologists to provide appropriate support in a culturally sensitive manner and to effectively address families' needs.

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Appendix

I. Información y habilidades: Por favor escoja la casilla de cada enunciado que mejor describe sus necesidades de información e instrucción.

<b>¿Le gustaría recibir información o ayuda con cualquiera de los siguientes puntos?</b>	<b>NO</b> Porque ya lo comprendo y sé como hacerlo	<b>NO</b> Porque aunque no lo comprendo ni se como hacerlo, <b>tampoco me interesa</b>	<b>Sí</b> Porque aunque lo comprendo y lo hago, <b>necesito más ayuda</b>	<b>Sí</b> Porque <b>no lo comprendo ni lo hago</b> , y me gustaría aprender
1. Saber cómo determinar si los audífonos benefician a mi niño				
2. Saber lo que mi niño puede y no puede oír <u>sin</u> los audífonos				
3. Saber lo que mi niño puede y no puede oír cuando tiene los audífonos puestos				
4. Saber maneras para prevenir la pérdida de los audífonos (por ejemplo: los clips para abrochar los audífonos)				
5. Encontrar opciones/accesorios (por ejemplo: opciones en color, dispositivos de ayuda, compartimiento de pilas a prueba de niños)				
6. Encontrar ayuda financiera (por ejemplo: audífonos, pilas, moldes, reparaciones)				
7. Saber cómo conseguir audífonos prestados cuando los audífonos de mi niño se deben reparar				
8. Saber cuándo el audiólogo debe revisar la configuración del audífono				
9. Ayudar a mi niño a oír mejor en lugares ruidosos (por ejemplo: el uso de un sistema FM)				
10. Conocer a otros padres de niños con pérdida auditiva/encontrar organizaciones de apoyo para los padres				
11. Saber cuándo cambiar las pilas de los audífonos				
12. Limpiar los moldes y conectar nuevamente los tubos al audífono				
13. Saber cuándo mi niño necesita nuevos moldes (por ejemplo: el molde queda suelto)				
14. Utilizar un estetoscopio para saber cuándo el audífono no funciona (por ejemplo: débil, distorsionado)				
15. Hacer una prueba de Ling de 6 sonidos (ah, ee, oo, mm, sh, s)				
16. Hacer mantenimiento del audífono (por ejemplo: cambiar el gancho de oreja/tono, cambiar la cubierta del micrófono)				
17. Mantener los audífonos puestos cuando mi niño se resista a hacerlo				
18. Enseñarle a otros para ayudarles a manejar los audífonos (por ejemplo: revisar funcionamiento, poner los audífonos)				

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19. ¿Qué otra información y/o habilidades le ayudarían con el manejo y el uso de los audífonos de su niño?  
 20. ¿Qué herramientas tiene usted para mantener los audífonos de su niño? (Seleccione todo lo que aplique):

\_\_\_\_\_ Estetoscopio (se conecta al audífono para que pueda escuchar cómo suena) \_\_\_\_\_ Probador de pilas (para verificar funcionamiento de las pilas)  
 \_\_\_\_\_ Perilla sopladora (para soplar y aspirar el tubito del molde para eliminar humedad) \_\_\_\_\_  
 Herramientas de limpieza (para remover la cera del molde)

**II. Uso del audífono:** Marque por favor la casilla que mejor describa con qué frecuencia los siguientes problemas interfieren para que su niño use los audífonos.

<b>Con qué frecuencia se afecta el uso del audífono por su niño debido a:</b>	<b>NUNCA es un problema</b>	<b>A VECES es un problema</b>	<b>CON FRECUENCIA es un problema</b>	<b>SIEMPRE es un problema</b>
1. Distracciones y necesidades de los otros niños en el hogar				
2. Actividades (por ejemplo: jugar afuera, viajar en automóvil)				
3. Mi niño no queriendo ponerse los audífonos				
4. Dificultad en establecer una rutina				
5. Las audífonos no funcionan				
6. La habilidad de otras personas encargadas del cuidado del niño para manejar los audífonos				
7. Costos (por ejemplo: pilas, moldes, reparaciones)				
8. Preocupaciones acerca de cómo se ven los audífonos				
9. No ver a mi niño beneficiándose del uso de los audífonos				
10. Infecciones frecuentes del oído				
11. Frecuente retroalimentación (silbido/chillido) de los audífonos				
12. No estoy convencido de que mi niño deba utilizar audífonos				
13. Presión de otros para no utilizar los audífonos (por ejemplo: la familia, otros profesionales)				
14. Temor de perder o dañar los audífonos				

15. Liste por favor cualquier otra razón que dificulta el uso de los audífonos:

16. En días buenos mi niño usualmente utiliza sus audífonos:

\_\_\_\_\_ siempre que está despierto \_\_\_\_\_ casi todo el día (8-9 horas) \_\_\_\_\_ parte del día (5-7 horas) \_\_\_\_\_ un poco durante el día (menos de 5 horas)

17. En días difíciles mi niño usualmente utiliza sus audífonos:

\_\_\_\_\_ siempre que está despierto \_\_\_\_\_ casi todo el día (8-9 horas) \_\_\_\_\_ parte del día (5-7 horas) \_\_\_\_\_ un poco durante el día (menos de 5 horas)

18. Durante las últimas dos semanas, estime el número de los días que fueron buenos y de los días que fueron malos para el uso de los audífonos:

\_\_\_\_\_ Número de días buenos \_\_\_\_\_ Número de días malos

19. ¿En promedio cuántas horas al día otra persona cuida a su niño (por ejemplo: abuelo, guardería, niñera)?

III. **Comunicación y apoyo:** Los audiólogos pueden ayudar a los padres a identificar problemas con el manejo del audífono y a explorar soluciones. Las maneras en que los padres quieren ser apoyados pueden variar de persona a persona. Seleccione por favor la casilla que mejor describe que tan bien la comunicación con su audiólogo satisface su aprendizaje individual y ayuda con las necesidades de apoyo para manejar los audífonos de su niño.

<i>Quando me reúno con el audiólogo él/ella:</i>	<b>SÍ</b> Mis necesidades son satisfechas	<b>SÍ</b> Pero deseo esto con más frecuencia	<b>NO</b> Pero lo quisiera	<b>NO</b> Ni tampoco lo quisiera
1. Pregunta mis pensamientos y opiniones, y escucha lo que tengo que decir (por ejemplo: las preocupaciones que tengo, las ideas que pienso quizás ayuden)				
2. Responde a mi contribución de una manera que me siento comprendido (por ejemplo: incluye lo que he mencionado en la discusión/planeamiento)				
3. Acepta mi diferencia de opinión (por ejemplo: no me juzga)				
4. Me contacta para ver si necesito ayuda o apoyo				
5. Me da una oportunidad de hablar de cómo me siento (mis emociones)				
6. Me ayuda a reconocer lo que hago bien				
7. Me ayuda a explorar soluciones a problemas con el uso de los audífonos				
8. Me ayuda a monitorizar problemas hasta que estén resueltos (por ejemplo: las citas son lo suficientemente frecuentes como para ayudarme a ver si estoy progresando)				
9. Habla de una manera que puedo comprender				
10. Me ayuda a ganar confianza en el manejo de los audífonos de mi niño (por ejemplo: mantenerlos puestos, resolver problemas)				
11. Respeta mi cultura y creencias al tener en cuenta mi punto de vista				
12. Me brinda recursos concretos (por ejemplo: verbalmente y por escrito)				
13. Me enseña de la manera que yo aprendo mejor (por ejemplo: visual, auditivo, por escrito, prácticas)				

14. ¿Qué mas puede hacer el audiólogo para ayudarle a manejar los audífonos de su niño?

**Por favor regrese el cuestionario completado en el sobre proporcionado –  
¡Gracias!**