

# Satisfaction of users with hearing aids provided by the Unified Health System: an integrative review

## Satisfação de usuários com aparelhos de amplificação sonora individual concedidos pelo Sistema Único de Saúde: revisão integrativa

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### ABSTRACT

**Purpose:** Identify user satisfaction with hearing aids (HAs) provided by the Unified Health System (UHS). **Research strategy:** This is an integrative literature review, carried out in the LILACS, SciELO, PubMed and Scopus databases, using the following keywords: “hearing loss”, “public health policy”, “Unified Health System”, “public health”, “patient satisfaction” and “hearing aids”. **Selection criteria:** Articles published from 2004 onwards, without language restrictions, involving users treated by the UHS were selected. Duplicate publications, reviews, opinion articles, editorials, theses and dissertations were excluded. **Results:** A total of 1011 studies were found, 24 of which were included. The studies were published from 2007 onwards, with a predominance in the Southeast region, using quantitative approaches with limited samples comprising adults and older people. Self-assessment questionnaires were used to evaluate satisfaction. **Conclusion:** Most users showed a high level of satisfaction with the HAs provided by the UHS.

**Keywords:** Hearing loss; Hearing aids; Patient satisfaction; Unified Health System; Public health

### RESUMO

**Objetivo:** Identificar a satisfação de usuários com os aparelhos de amplificação sonora individual (AASI) concedidos pelo Sistema Único de Saúde (SUS). **Estratégia de pesquisa:** Trata-se de uma revisão integrativa da literatura, realizada nas bases de dados LILACS, SciELO, PubMed e Scopus, empregando os descritores *hearing loss*, *public health policy*, *Unified Health System*, *public health*, *patient satisfaction* e *hearing aids*. **Crítérios de seleção:** Foram selecionados artigos publicados a partir de 2004, sem restrição quanto ao idioma, envolvendo usuários adaptados pelo SUS. Excluíram-se publicações repetidas, resenhas, artigos de opinião, editoriais, teses e dissertações. **Resultados:** Foram localizados 1011 estudos, dos quais, 24 foram incluídos. As pesquisas veicularam-se a partir de 2007, com predomínio na região Sudeste, por meio de abordagens quantitativas e, em grande parte, com amostras limitadas, compreendendo adultos e idosos. Os questionários de autoavaliação foram os recursos utilizados para avaliar a satisfação. **Conclusão:** A maioria dos usuários revelou elevada satisfação com os AASI concedidos pelo SUS.

**Palavras-chave:** Perda auditiva; Auxiliares de audição; Satisfação do paciente; Sistema Único de Saúde; Saúde pública

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## INTRODUCTION

Hearing loss can have several emotional and social consequences for individuals, impacting their quality of life<sup>(1)</sup>. Given the negative effects of auditory deprivation, hearing aids (HAs) are an indispensable ally, since they amplify sounds, allowing individuals to use their remaining hearing<sup>(2)</sup>.

In Brazil, HAs are provided free of charge by the country's world-renowned national health system, known as the Unified Health System or UHS, created to guarantee universal coverage and access to the country's health services<sup>(3)</sup>.

The provision of HAs was mandated by the implementation of the National Hearing Health Care Policy (PNASA), GM/MS (Ministry of Health) Decree no. 2.073 of 2004, which, by means of a hierarchized, regionalized and integrated network between basic, medium and highly complex care, favored integral care to promote the prevention, treatment and rehabilitation of hearing loss<sup>(4)</sup>. The PNASA was revoked by Decree no. 7.612 of 2011, which launched the National Plan for the Rights of People with Disabilities - Living without Limits Plan (PVSL)<sup>(5)</sup>.

After the PNASA was created, a number of advances were achieved for people with hearing impairment. Thus, analyses on the quality of hearing health care were conducted from the standpoint of users, given their social, political and symbolic roles in assessing health systems and services, including their structure, processes and interventions, which may help optimize public spending<sup>(6,7)</sup>.

The opinion of users involves the needs, expectations and motivation for aural rehabilitation<sup>(8,9)</sup>. As such, their satisfaction is an elementary evaluation of the quality of the intervention provided, since it encompasses individual, physical, social, psychological and financial changes, resulting from the acquisition and use of HAs. Identifying the elements that influence satisfaction and providing these attributes to the processes involved provides more effective results to the auditory health services<sup>(10,11)</sup>.

However, satisfaction is a challenge for audiologists and the high rates of abandoning HAs is a problem for aural health services, prompting the need for studies that assess the impact of these services and the effects promoted by the use of HAs<sup>(12,13)</sup>. Thus, it is essential to understand the accumulated scientific contributions, in order to promote new learning, revise the interventions adopted, increase health production and assess the services offered to users<sup>(14)</sup>.

## OBJECTIVE

Using an integrative literature review, this study aimed to identify user satisfaction with the HAs provided by the UHS.

## Research strategy

This is an integrative literature review, a method that simultaneously includes different research designs and has the potential to present the state of the science, drive theoretical development and guide health practices and policies<sup>(15)</sup>. The methodological process involved the following stages: identifying the issue, preparing the guiding question and establishing the descriptors; defining the inclusion and exclusion criteria of the studies to be analyzed; categorizing the studies

selected; assessing the studies included; interpreting the results and presenting an integrative review with a summary of existing knowledge<sup>(16)</sup>.

The study was based on the following guiding question: "How satisfied are users with the HAs provided by the UHS?". The searches were conducted in the Latin-American and Caribbean Health Science Literature (LILACS), Scientific Electronic Library Online (SciELO), Public Medicine Library (PubMed) and Scopus databases, in October and November 2019.

To locate the studies, the following descriptors were used: hearing loss, public health policy, Unified Health System, public health and patient satisfaction, associated individually with the hearing aids descriptor by the Boolean operator AND.

## Selection criteria

The inclusion criteria established for the studies were original articles published after PNASA implementation (2004), with no restriction for language, as well as articles related to the satisfaction of individuals with HAs provided by the UHS. Excluded were duplicate articles, reviews, opinion articles, editorials, theses and dissertations.

## Data analysis

The articles identified were independently assessed by two reviewers, who selected the studies in three stages: reading of titles, abstracts and entire texts. Article selection divergences were resolved by consensus by the researchers and when necessary, a third researcher was consulted.

After selecting the studies that met the inclusion criteria, the characteristics of each article were extracted considering the following data: authors, study location, type of study, objectives, sample/age range, resource used and results.

## RESULTS

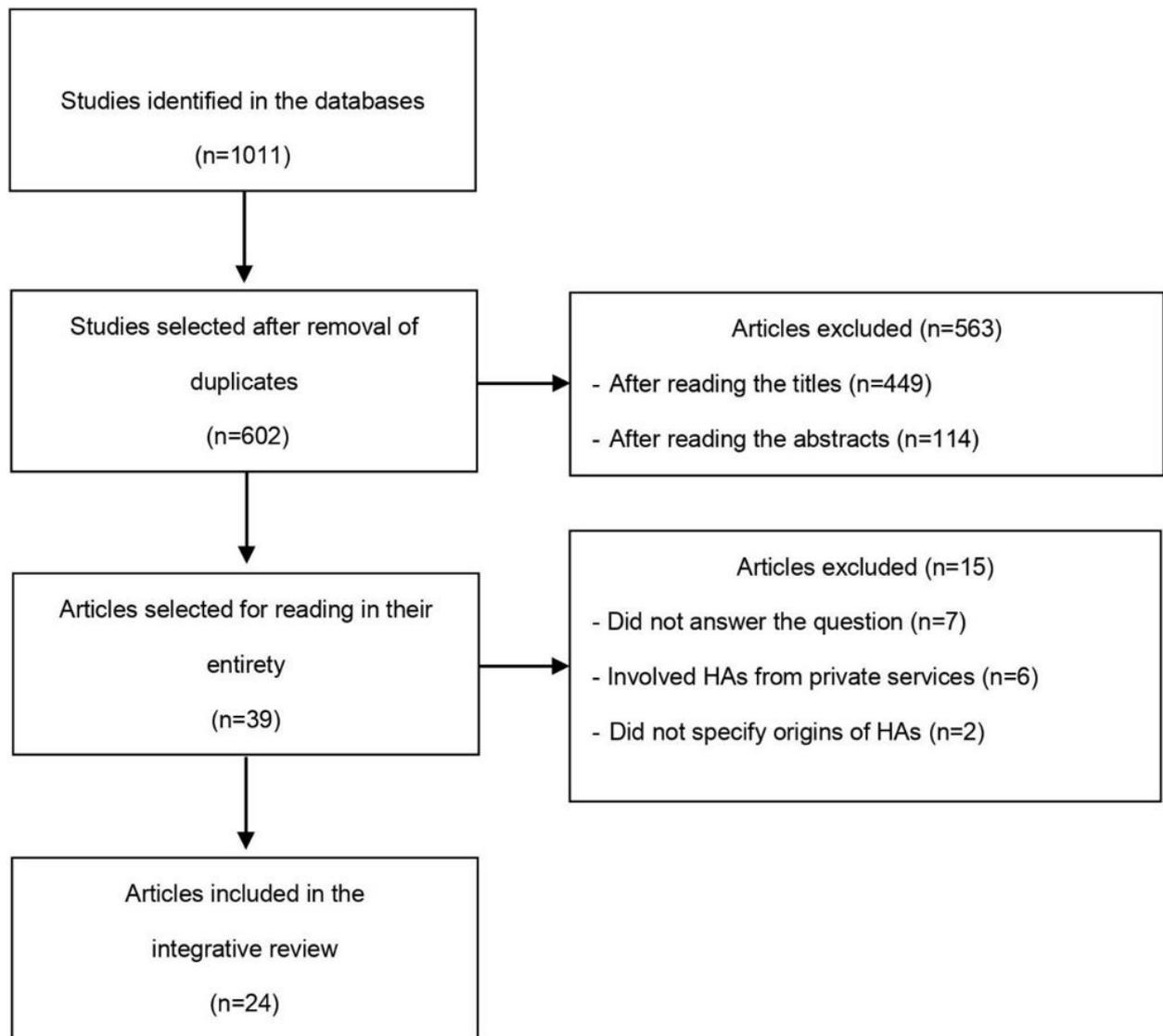
A total of 1011 articles were found on the databases consulted, as follows: 379 on LILACS, 183 on SciELO, 233 on PubMed and 216 on Scopus.

After repeated articles were removed, 602 studies were selected. Of these, 153 abstracts were read and then 39 in their entirety. According to the established criteria, 24 articles made up the sample of this review (Figure 1).

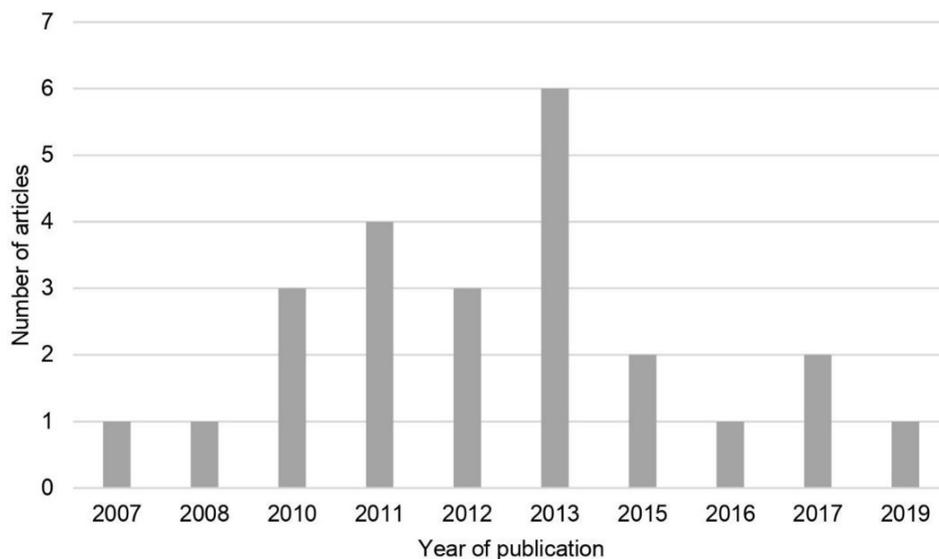
Most of the studies included were published in the decade following implementation of the PNASA, with a predominance in 2013. There was no linearity in the number of articles over the years (Figure 2).

In relation to the original location, the highest concentration of studies was in the Southeast (41.7%), followed by the South (29.1%), North (16.7%) and Northeast (12.5%). São Paulo state had the largest number of publications<sup>(17-24)</sup>, followed by Rio Grande do Sul<sup>(25-29)</sup>, Rondônia<sup>(30-32)</sup> and Minas Gerais<sup>(33,34)</sup>. The states of Santa Catarina<sup>(35)</sup>, Paraná<sup>(36)</sup>, Tocantins<sup>(37)</sup>, Pernambuco<sup>(38)</sup>, Bahia<sup>(39)</sup> and Paraíba<sup>(40)</sup> published only 1 article each.

With respect to types of studies identified, all the articles used quantitative approaches, with 23 cross-sectional (95.9%)



**Figure 1.** Flowchart of study selection  
 Subtitle: n = number of studies



**Figure 2.** Number of articles per year of publication

and 1 longitudinal study (4.1%), and none used a qualitative or quantitative/qualitative approach. In relation to the objectives, the articles assessed user satisfaction with the HAs provided by the UHS, correlating with different factors, such as age, sex, degree of hearing loss, type of HA, adaptation time, duration of daily use, stigma of use, using the telephone, prescribed gain and perceived speech levels.

The samples of the 24 studies varied between 11<sup>(17,29)</sup> and 302 participants<sup>(33)</sup>. The age range of the population showed a predominance of adults and primarily older individuals. The studies did not investigate children and only 3<sup>(27,30,35)</sup> involved adolescents.

All the articles used self-reporting questionnaires to assess user satisfaction. The Satisfaction with Amplification in Daily Life questionnaire (SADL) was applied in 54.2% of the studies<sup>(19,20,22,23,25,27,29,31,32,35-37,39)</sup>, while the International Outcome Inventory for Hearing Aids (IOI-HA)<sup>(17,18,21,24,26,28,30,34,38,40)</sup> and Assessment of Auditory Health Service and Hearing Aid Use questionnaires<sup>(33)</sup> were used in 41.7% and 4.1% of the studies, respectively.

In general, the studies showed that users of HAs provided by the UHS exhibited positive results in terms of satisfaction. By contrast, 2 studies concluded that satisfaction was restricted<sup>(33,40)</sup>. The articles included are presented in Chart 1.

**Chart 1.** Characteristics of studies included in the integrative review

Authors	State	Type of study	Objectives	Sample/Age range	Resource used	Results
Carvalho <sup>(37)</sup>	TO	Cross-sectional	Determine the level of satisfaction with the hearing aid.	40 (62-87)	SADL	85% overall satisfaction with the hearing aid.
Teixeira et al. <sup>(38)</sup>	PE	Cross-sectional	Determine the level of satisfaction with the hearing aid and their environment.	256 (> 60)	IOI-HA	68% of patients (mainly men) were satisfied with their improved quality of life.
Farias and Russo <sup>(39)</sup>	BA	Cross-sectional	Characterize the level of satisfaction of HA users and its relation with sex, age, degree of hearing loss, electroacoustic type and profile.	39 (18-90)	SADL	High level of satisfaction, with no relation to the variables investigated.
Arakawa et al. <sup>(30)</sup>	RO	Cross-sectional	Assess the level of user satisfaction with HA.	18 (15-82)	IOI-HA	High level of satisfaction.
Lessa et al. <sup>(25)</sup>	RS	Cross-sectional	Analyze the satisfaction of hearing aid users and determine the factors that can hinder adaptation.	56 (18-86)	SADL	High level of satisfaction, using the telephone being the largest problem reported.
Picolini et al. <sup>(17)</sup>	SP	Cross-sectional	Subjectively assess the level of satisfaction of open fit HA users.	11 (44-81)	IOI-HA	High level of satisfaction with open fit HAs.
Lopes et al. <sup>(26)</sup>	RS	Cross-sectional	Assess the performance and satisfaction with hearing aids.	49 (19-60)	IOI-HA	Both groups reported a high level of satisfaction with the hearing aids.
José et al. <sup>(18)</sup>	SP	Cross-sectional	Measure the benefit and satisfaction of unilateral HA users.	15 (18-60)	IOI-HA	Satisfaction observed in individuals with unilateral adaptation.
Danieli et al. <sup>(19)</sup>	SP	Cross-sectional	Culturally adapt the Portuguese version of the SADL questionnaire, to apply to users of HAs provided by the UHS.	19 ( $\geq$ 60)	SADL	Users were satisfied with HAs provided by the UHS and the questionnaire was effective in assessing their satisfaction.
Buriti and Oliveira <sup>(40)</sup>	PB	Cross-sectional	Assess adaptation to hearing aids of UHS users and propose educational measures.	32 (21-95)	IOI-HA	Low level of satisfaction.
Aurélio et al. <sup>(31)</sup>	RO	Cross-sectional	Determine the auditory satisfaction of patients and associate this finding with age, sex, adaptation time, duration of daily use and type of HA.	60 (18-91)	SADL	Participants were very satisfied with the HA, but satisfaction was not related to the variables investigated.
Laperuta and Fiorini <sup>(20)</sup>	SP	Longitudinal	Analyze the satisfaction of older users of HA, after one, three and six months of HA use.	22 (63-87)	SADL	High level of satisfaction.

**Subtitle:** HA = Hearing aid; UHS = Unified Health System; TO = Tocantins; PE = Pernambuco; BA = Bahia; RO = Rondônia; RS = Rio Grande do Sul; SP = São Paulo; PB = Paraíba; MG = Minas Gerais; SC = Santa Catarina; PR = Paraná; SADL = Satisfaction with Amplification in Daily Life; IOI-HA = International Outcome Inventory for Hearing Aids

Chart 1. Continued...

Authors	State	Type of study	Objectives	Sample/Age range	Resource used	Results
Moda et al. <sup>(21)</sup>	SP	Cross-sectional	Assess the satisfaction of HA users and correlate the characteristics of individuals, hearing loss and the HA adaptation process.	98 (27-89)	IOI-HA	There was satisfaction with adaptation and no correlations were observed between the variables studied and the level of user satisfaction.
Mondelli et al. <sup>(22)</sup>	SP	Cross-sectional	Characterize the level of HA satisfaction of adults and older individuals and the relation with age, degree of hearing loss and type of HA.	110 ( $\geq 18$ )	SADL	A high level of satisfaction in all areas of the SADL, with no relation with the variables investigated.
Barbosa et al. <sup>(33)</sup>	MG	Cross-sectional	Determine satisfaction with HA and identify the factors associated with the perception of care provided.	302 (19 e > 80)	Assessment of the hearing health service and HA use.	An indicator of fair and good satisfaction with the device and service, respectively, was observed.
Silva et al. <sup>(32)</sup>	RO	Cross-sectional	Assess the benefit and degree of satisfaction of adults and older individuals with their HA.	34 (> 18)	SADL	The subjects assessed exhibited benefits with the use of hearing aids and were very satisfied with the results.
Dell'Antônia et al. <sup>(35)</sup>	SC	Cross-sectional	Assess the level of satisfaction of hearing aid users.	180 (14-94)	SADL	High satisfaction with hearing aids, particularly in-the-ear devices.
Iwahashi et al. <sup>(23)</sup>	SP	Cross-sectional	Assess the use of hearing aids, necessary interventions and user satisfaction after one year of adaptation.	200 (> 18)	SADL	Individuals exhibited a high level of satisfaction.
Barbosa et al. <sup>(34)</sup>	MG	Cross-sectional	Analyze the self-assessment results after adaptation to the HA and associated factors.	272 (19 e $\geq 80$ )	IOI-HA	High level of satisfaction with HAs.
Peruzzo et al. <sup>(27)</sup>	RS	Cross-sectional	Analyze the satisfaction of HA users after one month of use and determine satisfaction after two months.	50 (17-84)	SADL	Users were satisfied between the first and second assessment.
Mantello et al. <sup>(24)</sup>	SP	Cross-sectional	Assess speech perception and user satisfaction with HAs before and after adaptation and determine whether these measures are correlated.	65 (18-89)	IOI-HA	Users displayed a high level of satisfaction, with no correlation with speech perception.
Kozłowski et al. <sup>(36)</sup>	PR	Cross-sectional	Assess the level of satisfaction of users with hearing aids.	91 (60-96)	SADL	High level of satisfaction with the HAs.
Picinini et al. <sup>(28)</sup>	RS	Cross-sectional	Determine the benefit, satisfaction and perceived social participation restriction, as a function of hearing loss, in adults and older users of HAs.	42 ( $\geq 18$ )	IOI-HA	Satisfaction with HAs and no intergroup difference.
Costa et al. <sup>(29)</sup>	RS	Cross-sectional	Investigate the speech recognition in silence and noise of subjects with unilateral hearing loss, with and without hearing aid, and analyze the benefit, self-perception of functional performance, satisfaction and hearing aid use in this population.	11 ( $\geq 18$ )	SADL	The individuals improved speech recognition and satisfaction with amplified sound.

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## DISCUSSION

This integrative review demonstrated that the number of studies related to user satisfaction with HAs provided by the UHS has grown in the last decade, but that there is still ample space for investigations from different perspectives. In addition to the regional distribution discrepancies of the articles, user satisfaction was based on limited sampling size and specific age ranges, in addition to the homogeneous methodological approach and lack of diversity of the resources employed.

It is important to add that the Ministry of Health has historically sought to validate the monitoring indicators aimed at developing the PNASA, in order to plan aural health actions<sup>(41)</sup>. Despite the initiatives adopted, there was limited standardization of assessment tools that contributed to the care provided to individuals with hearing loss<sup>(6)</sup>. It is important to underscore that the PVSL aimed to create, amplify, integrate and diversify public services for people with disability<sup>(5)</sup>.

In this study, the articles included were concentrated in the PVSL, revealing disproportionate participation in terms of geographic regions and Brazilian states. Most of the integrative review studies come from the Southeast region, representing a large portion of the speech therapists, institutions and courses in Brazil<sup>(42)</sup>, in addition to most of the medium-complexity procedures and aural health services certified by the UHS<sup>(43)</sup>.

However, over time, the spatial heterogeneity of production and scientific collaboration underwent regional decentralization, consisting of the gradual hegemonic decline in the Southeast region, particularly in São Paulo state, with an increase in the South and Northeast and erratic growth in the North and Midwest<sup>(44)</sup>. In order to investigate the care offered, it is essential to understand the use of HAs in different localities, assuming that satisfaction may vary between individuals and geographic regions or Brazilian states<sup>(23,33)</sup>.

It is important to underscore that audiology has considered the benefit and satisfaction of HA users as ways to assess the results of interventions, despite the high cost of providing the devices<sup>(6,13)</sup>. Given that the individuals benefitted may influence discussions that involve their quality of life, planning and coordinating public health care, their satisfaction is treated as a strong evaluation of auditory health care<sup>(45)</sup>.

Quantitative and qualitative approaches can be used to investigate user satisfaction. Qualitative methods, such as interviews, generally use open techniques that explain the viewpoint of users under different dimensions, which can take time. On the other hand, quantitative methods allow answers on a scale, classification and a choice of alternatives to structured questions<sup>(46,47)</sup>. In some cases, the quantitative material can be complex for some users and conceal less positive assessments in the health area<sup>(48)</sup>. Moreover, researchers maintain that there is no consensus on valid and reliable methods to assess user satisfaction<sup>(49)</sup>.

All the articles included in the present study applied structured self-reporting questionnaires that measure the impact of hearing loss, assess rehabilitation techniques and document treatment<sup>(48)</sup>. In addition, it is important to note that these instruments exhibit different formats, dimensions and scopes, and in the studies selected, were used with distinct objectives in mind.

Some articles reported that the SADL questionnaire is a practical and suitable resource to estimate satisfaction with the HA<sup>(19,31,36,37)</sup>, but its efficacy was called into question by

the fact that the high degree of satisfaction found raises doubt regarding its reliability<sup>(20,37)</sup>, since it contains questions that can produce inconsistent results, and professionals offer additional explanations to help users complete it<sup>(19,20,23,27)</sup>.

SADL is composed of 15 questions, with seven answer options that rate satisfaction from 1 (“not at all”) to 7 (“very much”). Overall satisfaction is quantified using the average scores of four subscales: positive effects (acoustic and psychological benefit); negative factors (performance in a noisy environment, feedback and telephone use); services and costs (professional competence, price and quality of the device); and personal image (esthetics and stigma of using HA)<sup>(48)</sup>.

In the studies included, the positive effects subscale obtained the highest means<sup>(20,22,25,27,31,32,37)</sup> and negative factors the lowest<sup>(19,25,29,31,35-37,39)</sup>. In general, the averages of all the subscales were considered satisfactory when compared to the original study<sup>(48)</sup>. When other factors are correlated, satisfaction may be influenced by the type of HA used<sup>(22,27,35,37,39)</sup>, degree of hearing loss<sup>(22,25,27,35-37)</sup>, age<sup>(27,36,37)</sup>, adaptation time<sup>(20,27,36)</sup>, duration of daily use<sup>(31)</sup>, stigma about HA use<sup>(29,35,37)</sup> and performance on the telephone<sup>(25)</sup>.

The IOI-HA questionnaire<sup>(10)</sup>, in turn, is valid, fast, easy to apply and understand<sup>(21,26,30,38)</sup>, contradicting a study<sup>(34)</sup> in which older adults with low schooling levels had difficulties understanding it. This instrument, included by the PNASA<sup>(4)</sup> in the HA Adaptation and Selection Form, consists of eight questions assessing seven domains, as follows: use; benefit; limitation of residual activities; satisfaction; restriction of residual participation; impact on others and quality of life. Scores vary from 1 (worst result) to 5 (best result), with a maximum score of 35 points<sup>(10)</sup>.

Studies with the IOI-HA obtained good results in all the domains, especially satisfaction. It is important to underscore<sup>(40)</sup> that the study that obtained the lowest average on this question concluded that individuals exhibited difficulties using or handling the HA, in addition to reduced daily use. The UHS does not supply HA batteries, which could explain the lower daily use, especially among low-income users.

In addition, the lack of trained professionals and specific government programs revealed an association with patient dissatisfaction<sup>(30)</sup>. One study emphasized that discomfort with HA and the difficulties in remembering instructions for use caused dissatisfaction and favored abandoning the device, compromising the patient’s quality of life and optimization of the financial resources of the UHS. In this respect, audiological follow-up plays an essential role in advising users of their needs, monitors hearing loss and makes possible adjustments to the HA<sup>(34)</sup>. According to other studies analyzed, factors such as sex<sup>(21)</sup>, age<sup>(21)</sup>, degree of hearing loss<sup>(21,38)</sup>, type of HA<sup>(21)</sup>, adaptation time<sup>(17,21)</sup>, prescribed gain<sup>(18)</sup> and perceived speech levels<sup>(24)</sup> were not correlated with satisfaction.

Only one study<sup>(33)</sup> applied the Assessment of Hearing Health Service and HA use, considered easy to apply and understand. The instrument, which consists of 17 questions on service, accessibility and patient needs, has a scale from 0 to 10, classified as follows: poor (0 to 2), fair (3 to 5), good (6 to 8) and excellent (9 and 10). The average assessment of user satisfaction with the service and HA was good and fair, respectively. User dissatisfaction with their HAs was greater among those with doubts regarding their use. The authors mention two studies using SADL<sup>(19)</sup> and IOI-HA<sup>(26)</sup>, reporting that the samples were limited, when compared to their investigation.

Similarly, other studies had small samples with certain populations predominating. Researchers sustain that the literature on satisfaction with HAs in children is rare and that questionnaires aimed at the results of child hearing behavior and parents' opinion about the use of amplification are both essential to effective decision making<sup>(50)</sup>. Only three studies investigated adolescents<sup>(27,30,35)</sup>, which shows the need for new experiments, since this group displays peculiarities in their psychological development and may manifest certain diseases, associated with different behavior in the use of HAs<sup>(35)</sup>.

The studies selected prioritized older adults because hearing loss is more prevalent in this group, thereby favoring the use of amplification, but it was concluded that there is no difference in the degree of satisfaction with HA between adults and older individuals<sup>(26,28,32,37)</sup>. However, financial difficulty is a determining factor in this age group, who often have few resources, or only their retirement to live on, resorting to the UHS as an alternative<sup>(49,51)</sup>.

In this respect, it is believed that UHS users generally express gratitude for the services provided rather than assume they are their right as citizens. They avoid criticism, due to their dependence on or affinity with health professionals, in addition to their fear of being denied access. The gratitude bias usually manifests itself in developing countries such as Brazil, which encompasses different sociocultural realities and vulnerable groups that express high satisfaction, even with poor performances<sup>(6,7,47)</sup>.

Studies included in this review<sup>(20,23,25,26,33,34,36,37)</sup> showed that gratitude may be justified by the fact that the HA is provided free of charge to the users, representing a limitation intrinsic to the studies that identified satisfaction in UHS users<sup>(49)</sup>. In a study that assessed user satisfaction with cochlear implants provided by the UHS also found high satisfaction among those interviewed<sup>(52)</sup>.

With respect to HAs acquired from private facilities, one study reported that individuals with higher socioeconomic levels and family support had greater access to purchased HAs, demonstrating that the universality principle of the UHS, restricted by lack of investments compatible with supply and demand, exists side by side with a vast network of private services and companies<sup>(51)</sup>. Researchers point out that users who acquired HAs from private facilities also demonstrated a high level of satisfaction<sup>(53)</sup>.

A study conducted in the United States found that users of HAs treated at a private service exhibited lower levels of satisfaction when compared to their public service counterparts<sup>(8)</sup>. However, the contribution of international studies is limited due to the specific differences of each country. In this respect, it is essential to assess the quality of auditory health care in a national setting, by investigating the feelings and proposals that permeate the area<sup>(6,14)</sup>.

The results of this integrative review exhibit a number of limitations, such as the time constraints and small number of databases used. Moreover, there was difficulty in fully understanding the findings, due to the absence of articles in one geographic region and studies with children. The purely quantitative methods and resources used also restricted other interpretations.

It is hoped that the results presented in this integrative review will stimulate discussion on user satisfaction with HAs provided by UHS. Furthermore, new studies should be conducted in order

to enable professionals, managers and researchers to devise strategies that improve the quality of HAs in UHS.

## CONCLUSION

Most of the users showed a high degree of satisfaction with HAs provided by the UHS. However, satisfaction was sustained by social, economic and methodological factors. We underscore the contribution of the studies found, given that they revealed the level of satisfaction with HAs in the public domain, paving the way for new investigations.

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