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HEARING AIDS

Functional health literacy of people with hearing impairment and their caregivers assisted in a public hearing healthcare service.

GB Milsoni[2], AJP Camoiço[1], EAT Castiquini[2], LC Santos[1], DV Ferrari[1]

SLP-Audiology Department - Bauru School of Dentistry. 2 Hospital for Rehabilitation of Craniofacial Anomalies.University of São Paulo.

INTRODUCTION

Functional health literacy (FHL) refers to the reading and numeracy skills that enable individuals to obtain, understand, evaluate, and use information to make decisions and take actions that will affect their health status[1] , being essential for informed decision-making and the empowerment of individuals and their communities[2].

Studies have indicated that inadequate FHL was associated with advanced age, low monthly income, and hearing loss [3],[4].

Inadequate FHL among individuals with hearing impairment can significantly affect treatment outcomes. These individuals may struggle to understand health-related information or navigate healthcare systems effectively. This can lead to poor adherence to treatment plans (e.g. incorrect use of hearing aids) or failure to attend follow-up appointments. Furthermore, low FHL may limit their ability to engage in preventive care and self-management. All these factors likely increase hearing healthcare costs, negatively impacting public settings, where resources are often limited.

GOALS

To characterize and compare functional health literacy for persons with hearing impairment and caregivers, assisted in a public hearing healthcare service. In addition, the influence of audiological and sociodemographic variables on the FHL was analyzed.

METHODS

Design

Descriptive, cross-sectional study.

Ethics Committee's approval # 64667022.9.3001.5441

Participants

The participants, all volunteers, were recruited from two clinics on the USP Bauru campus, accredited by the Ministry of Health to provide free hearing healthcare services, from diagnosis to auditory rehabilitation, including hearing aid fitting. They were divided into two groups: people with hearing loss (PHL) and caregivers (CG). The CG group had no hearing complaints and passed audiometric and immittance hearing screenings. All participants passed the screening of cognitive function (Mini-mental state examination – MMSE[5]). For the PHL the MMSE was administered in the aided condition.

Figure 1. Participants' audiological and sociodemographic data.

Variable		PHL Group (n=100)	CG Group (n=100)
Age (Years)	Mean±SD (Range)	61,8±18,2 (18-89)	4,8±14,8 (18-79)
Gender	Male n(%) Female n(%)	52 (26) 48 (24)	21 (10,6) 79 (39,5)
Years of schooling	Mean±SD (Range)	9,88±4,6 (1-18)	11,8±3,9 (3-25)
Monthly family income (in thousand BRL)	Mean±SD (Range)	4,12±3,06 (0,4-15)	4,93±3,51 (0,6-25)
Degree of hearing loss	Mild n(%) Moderate n(%) Moderately severe n(%) Severe n(%) Profound n(%)	16 (16) 34 (34) 34 (34) 12 (12) 4 (4)	-
Hearing aid experience (months)	Mean±SD (Range)	91,7 ± 92,7 0 - 420	-

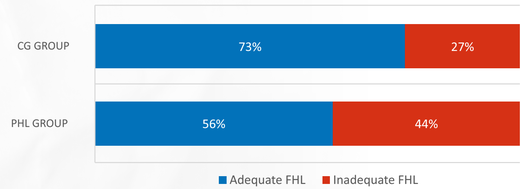
Procedures

FHL was assessed via the Short Assessment of Health Literacy for Portuguese-speaking Adults (SAHLPA-18)[6]. Eighteen cards presented a medical term in bold and two association words, with only one of them being correct. Participants were asked to read the card aloud and indicate, without guessing, which word was associated with the medical term. Correct pronunciation of the term and association was awarded 1 point. The total score may range from 0 to 18 points, with scores <14 points indicating inadequate FHL.

RESULTS

The CG group was significantly younger (p<0.001), had more years of schooling (p=0.012), and higher monthly income (p=0.027) than the PHL group. Inadequate health literacy was significantly higher in the PHL group (p=0.009), however, this may also have been influenced by sociodemographic variables.

Figure 2. Classification of functional health literacy



Multiple logistic regression analysis was conducted solely for the PHL group. Among demographic (age, sex, income, years of schooling) and audiologic variables (degree of hearing loss and months of hearing aid use) only years of schooling and degree of hearing loss were included in the final model (p<0.05), explaining 44.9% of the SAHLPA classification results.

The odds of inadequate functional health literacy increased by a factor of 2.56 for each increase of the degree of hearing loss and decreased by a factor of 0.243% for each additional year of schooling.

Predictor	Estimates	Standard error	Z	p	Odds ratio
Intercept	-0.0355	0.8354	-0.0425	0.966	0.965
Years of schooling	-0.2787	0.0616	-4.5226	<.001	0.757
Degree of hearing loss	0.9424	0.2807	3.3574	<.001	2.566

CONCLUSION

Inadequate health literacy is linked to the severity of hearing loss, highlighting the need for targeted interventions.. Health professionals should adapt their communication strategies and educational materials to meet the specific needs of this population, ensuring that healthcare information is both accessible and comprehensible. By doing so, they can promote better outcomes and enhance the overall quality of care for those with hearing loss.

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