

Positive, Neutral, and Negative Connotations Associated with Social Representation of 'Hearing Loss' and 'Hearing Aids'

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Background and Objectives: In our previous studies we explored the social representation of hearing loss and hearing aids. In this study we aimed at exploring if the positive, neutral and negative connotations associated with the social representation of 'hearing loss' and 'hearing aids' for the same categories vary across countries. In addition, we also looked at if there is an association between connotations and demographic variables. **Subjects and Methods:** A total of 404 individuals from four countries were asked to indicate the words and phrases that comes to mind when they think about 'hearing loss' and 'hearing aids'. They also indicated if the words and phrases they reported had positive, neutral or negative association, which were analyzed and reported in this paper. **Results:** There are considerable differences among the countries in terms of positive, neutral and negative associations report for each category in relation to hearing loss and hearing aids. However, there is limited connection between demographic variables and connotations reported in different countries. **Conclusions:** These results suggesting that the social representation about the phenomenon hearing loss and hearing aids are relatively stable within respondents of each country.

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Introduction

Societal factors play an important role in influencing people's perception towards health and disability. For example, World Health Organizations-International Classification for Functioning, Disability and Health (ICF) model highlights societal factors (e.g., e460 societal attitudes, e465 social norms, practices and ideologies which fall under environmental factors) to be important component of health and disability [1]. Although patients and clinicians acknowledge that societal attitudes may influence help-seeking behavior of people

with hearing disability, there is limited literature in this area.

In our recent studies we explored the social representation (or in other words societal perception) of hearing loss [2] and hearing aids [3] in India, Iran, Portugal, and UK. These studies uncovered important information about people's attitudes and perception and attitude towards the phenomenon 'hearing loss' and 'hearing aids'. The studies highlighted some cross-cultural similarities and differences.

It is important to note that most chronic conditions and disability, including hearing loss, results in adverse consequences (i.e., negative effects) for those who experience the condition and their significant others. However, recent literature suggest that some people with hearing loss and their significant others are able to identify some positive aspects as a result of their condition [4]. According to ICF, various envi-

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ronmental and personal aspects can act as both barriers and facilitators in relation to health and disability [1]. For this reason it is important to explore both positive and negative aspects of environmental and contextual factors (e.g., societal factors) related to disability such as hearing loss [5].

Some researchers have argued that there are cross-cultural differences and similarities in relation to attitudes towards hearing loss help seeking and hearing aid uptake [6]. In our previous cross-cultural studies we have explored the social representation and have presented the main categories associated with the social representation of 'hearing loss' and 'hearing aids' in India, Iran, Portugal, and the UK [2,3]. These studies involved a cross-sectional design, and participants were recruited using the snowball sampling method. A total of 404 people from four countries participated in the study. Data was collected using the free association task, where participants were asked to produce up to five words or phrases that came to their minds while thinking about 'hearing loss' and 'hearing aids'. In addition, they were also asked to indicate if each word they presented had positive, neutral, or negative connotations in their view. Data was analyzed using various qualitative and quantitative methods. The most frequently occurring categories in 'hearing loss' included: assessment and management, causes of hearing loss, communication difficulties, disability, hearing ability or disability, hearing instruments, negative mental state, the attitudes of others, and sound and acoustics of the environment [2]. Some categories were reported with similar frequency in most countries (e.g., causes of hearing loss, communication difficulties, and negative mental state), whereas others differed among countries. In relation to 'hearing loss' participants in India reported significantly more positive and less negative associations when compared to participants from Iran, Portugal, and the UK. However, there was no statistical difference among neutral responses reported among these countries. Also, more differ-

ences were noted among these countries than similarities. The most frequently occurring categories in 'hearing aids' included: improved hearing and communication, hearing instruments, disability, ageing, cost, and appearance and design. Responses varied considerably across countries. For example, improved hearing and communication was the main factor in India, whereas disability and ageing were main factors in Iran, appearance and design were found to be important in Portugal and the UK. When analyzed the overall responses for connotations, no significant differences were found in terms of positive, neutral and negative connotations reported among four countries in relation to 'hearing aids'. However, the frequency count revealed considerable difference in terms of connotations reported for each category (e.g., ageing, disability, appearance, and design). Hence, using the same data set [2,3], in this study we wanted to answer the following questions:

- 1) Do the positive, neutral and negative connotations associated with the social representation of 'hearing loss' and 'hearing aids' for the same categories vary across countries?
- 2) Is there an association between connotations and demographic variables?

Subjects and Methods

Data collection

Ethical approval was obtained for each country from local institutional ethical boards in all four countries. The study involved cross-sectional survey design and the participants were recruited using the snowball sampling method. The study sample included 404 participants from general population from four different countries (Table 1).

Participants completed a questionnaire, which asked them to report up to five words or phrases that immediately comes to mind (i.e., free association) while thinking about 'hearing

Table 1. Demographic details

Variables	All countries (n=404)	India (n=101)	Iran (n=100)	Portugal (n=103)	UK (n=100)
Age in years (mean \pm SD)	41.14 \pm 16.8	42.82 \pm 14.6	41.47 \pm 14.8	38.70 \pm 19.6	41.62 \pm 17.5
Gender (% male)	50.2	46.6	51	49.5	54
Education (%)					
Compulsory	17.4	24.8	7	29.1	8
Secondary	24.4	7.9	11	44.7	33
Tertiary	58.2	67.3	82	26.2	59
Profession (%)					
Non-manual	46.3	49.5	53	19.4	64
Manual	16.6	16.8	27	13.6	9
No occupation	37.1	33.7	20	67	27
Family history of hearing loss (% yes)	40.1	29.7	31	49.5	50

loss' and 'hearing aids'. In each country we presented the questions in local language with translations of the terms 'hearing loss' and 'hearing aids'. No additional details, definitions and cues were presented to ensure we have consistency on data collection across countries and across individuals. After reporting five words or phrases, participants were asked to indicate if each word or phrase they have reported had positive, neutral or negative connotations. In addition, some demographic information (i.e., age, gender, education, profession, and family history of hearing loss) was also recorded.

The free association method is well established and frequently used to collect and analyze the semantic content of social representations [7,8]. A stimulus word or short phrase (i.e., hearing loss and hearing aids) is used to prompt associations. The spontaneous and unconsidered response from the respondent, which is less affected by the discursive context compared to a well thought-out response, provides an opportunity to investigate the semantic universe of the term or subject studied [9].

Data analysis

In the first instance, the data were categorized using the

qualitative content analysis, which involves grouping the words and phrases that have similar meaning [10]. Results of those are reported elsewhere [2,3]. For the purpose of this study we counted the positive, neutral and negative connotations indicated by participants for different categories and also according to different demographic variables. We then performed chi-square analysis to see if there is any association between demographic variables and connotations reported.

Results

Connotations associated with social representation categories

Table 2 represents positive, neutral and negative connotations associated with top 10 categories of social representation of 'hearing loss' and 'hearing aids' respectively in India, Iran, Portugal, and UK. For example, Fig. 1 indicates the connotations for communication difficulties category in relation to hearing loss and also appearance and design category in relation to hearing aids. Communication difficulties are largely seen as negative aspect of hearing loss, although some positive associations can be found especially in India. However, for the appearance and design category there appears to

Table 2. Positive (+), neutral (0), and negative (-) connotations for social representation of 'hearing loss' and 'hearing aids' categories in percentage

Connotations	All countries			India			Iran			Portugal			UK		
	+	0	-	+	0	-	+	0	-	+	0	-	+	0	-
Hearing loss															
Aging	17	33	50	25	25	50	32	21	47	13	37	50	0	47	53
Assessment and management	63	13	24	29	23	48	82	18	0	77	4	19	63	6	31
Causes of hearing loss	15	23	62	39	25	36	11	17	72	6	23	71	4	26	70
Communication difficulties	20	19	61	53	19	28	19	18	63	8	11	81	4	26	70
Disability	9	14	77	20	20	60	4	4	92	6	7	87	6	25	69
Hearing ability or disability	35	24	41	35	24	41	38	37	25	32	18	50	35	18	47
Hearing instruments	54	33	14	60	40	0	40	42	18	63	26	11	51	22	27
Isolation	16	9	75	50	25	25	9	6	85	5	5	90	0	0	100
Negative mental state	8	14	78	25	25	50	4	4	92	0	20	80	3	9	88
Sound and acoustics of the environment	21	26	53	0	0	100	26	31	43	42	22	36	17	50	33
Hearing aids															
Appearance and design	50	19	31	44	26	30	60	10	30	35	26	39	61	12	27
Assessment and management	20	24	56	42	18	40	15	15	70	18	16	66	6	47	47
Activity limitations	71	9	20	42	18	40	-	-	-	100	0	0	-	-	-
Cost	77	13	10	74	8	18	85	7	8	76	10	14	73	27	0
Disability	58	35	7	0	100	0	71	15	4	82	8	10	75	12	13
Ease or difficulty in using	43	13	44	52	16	32	0	0	100	54	22	24	64	14	22
Hearing instruments	29	29	42	42	22	36	10	50	40	28	10	62	37	34	29
Improved hearing and communication	7	7	86	21	21	58	8	0	92	0	0	100	0	6	94
Improved life condition	9	6	85	28	16	56	0	0	100	9	7	84	0	0	100
Aging	55	32	13	-	-	-	60	10	30	35	55	10	69	31	0

Fig. 1. Positive, neutral, and negative connotations for communication difficulties category of hearing loss and appearance and design category of hearing aids.

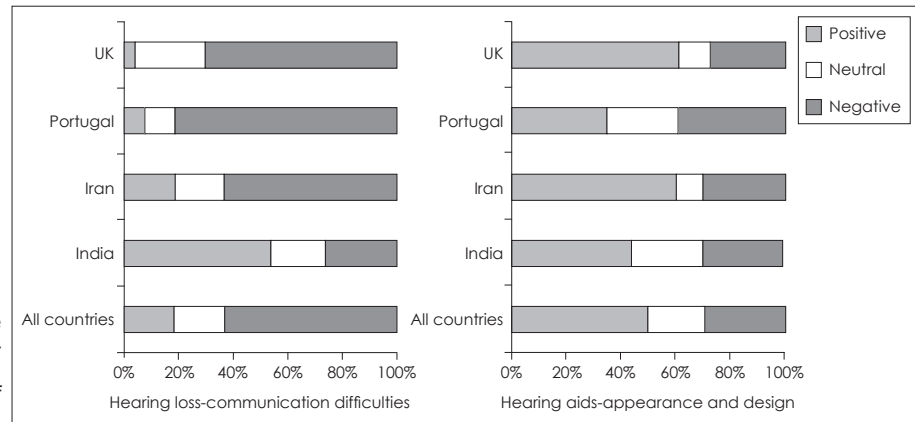


Table 3. Significant association between demographic variables and connotations of hearing loss and hearing aids

	Age	Gender	Education	Family history	Work type
Hearing loss	Portugal		UK		
Hearing aids	Iran	Portugal	UK	Portugal	UK

be more positive associations from respondents in UK and Iran, whereas equal spread of positive and negative associations from respondents in India and Portugal. Generally, the results suggest that there are considerable differences among the countries in terms of positive, neutral and negative associations report for each category in relation to hearing loss and hearing aids.

Association between connotation and demographic variables

Age

There was significant association between age (i.e., younger and older responders) and connotations reported for hearing loss in Portugal ($\chi^2=17.97$, $df=2$; $p=0.0001$) and Iran ($\chi^2=8.15$, $df=2$; $p=0.017$). Generally, younger respondents reported more positive connotations.

Gender

In Portugal, there was significant association between gender (i.e., men and women) and the hearing aids connotations ($\chi^2=9.66$, $df=2$; $p=0.008$).

Education

In United Kingdom, there was significant association between education groups and connotations for hearing loss ($\chi^2=10.82$, $df=4$; $p=0.028$), and also for connotations for hearing aids ($\chi^2=11.52$, $df=4$; $p=0.021$). For hearing loss, no significant difference between compulsory and secondary education; no significant difference between compulsory and ter-

tiary; but significant association were found between secondary and tertiary education ($\chi^2=8.73$, $df=2$; $p=0.012$). For hearing aids, no association between compulsory and secondary education; no association between secondary and tertiary, but significant association between compulsory and tertiary education ($\chi^2=10.38$, $df=2$; $p=0.005$) were observed.

Family history

In Portugal there was significant association between gender (men and women) and connotations reported for hearing aids ($\chi^2=13.16$, $df=2$; $p=0.001$).

Work type

In UK, there a significant association between work type and connotations for hearing aids ($\chi^2=12.00$, $df=4$; $p=0.017$). No relationship was found between non-manual and manual, between manual and not working categories, but significant association were found between non-manual and not working categories ($\chi^2=10.60$, $df=2$; $p=0.005$).

No other significant association between demographic variables and connotations of hearing loss and hearing aids were found in all four countries. To summarize, there were slightly more significant relationship when it comes to hearing aids social representation and especially in Portugal and UK. However, it is important to note that significant association was only seen for few factors suggesting that the responses were stable within each country despite demographic factors (Table 3).

Discussion

This paper was aimed at exploring the positive, neutral and negative connotations associated with the social representation of 'hearing loss' and 'hearing aids' in different countries. Also, association between connotations and demographic variables were explored.

It is important to note that different people can see the same aspect as positive, negative or neutrally. Also, when participants reported positive aspects, it was not with the view of celebrating deafness, as many Deaf people might do within the Deaf culture. Conversely, it relates more on finding solutions to manage the hearing loss as a condition.

The study reveals some cross-cultural similarities and differences in connotations related to 'hearing loss' and 'hearing aids'. For example, for categories 'aging', 'negative mental state' and 'disability' in hearing loss social representation the high negative connotations were seen in all four countries. For category 'assessment and management' higher positive connotations were reported in countries Iran, Portugal, and the UK, whereas higher negative connotations were reported in India. Also, for categories 'communication difficulties', 'causes of hearing loss' and 'isolation' higher negative connotations were noticed in countries Iran, Portugal, and UK, where as it was relatively less negative in India. This can be to some degree explained by considering the social and family structure where in India large proportion of people live together in joint families where hearing loss may not cause much of negative effects due to communication difficulties and isolation. Almost all negative connotations seen in India for the category 'sound and acoustics of the environment' can be due to higher noise levels seen. Overall, we have reported in our previous papers that significantly more positive aspects have been reported by Indian participants for 'hearing loss' when compared to Iran, Portugal, and UK [2], although no significant differences were observed for connotations related to 'hearing aids' [3]. The general tendency of respondents in India focusing on solutions to hearing loss rather than on consequences may have contributed to this sample having more positive aspects as when compared to other countries. Moreover, we anticipate that Indian population may be facing various other social consequences with much more adverse consequences than hearing loss, and that may have led them to think more positively about hearing loss when compared to other countries. These observations provide some interesting insights into cross-cultural aspects about hearing loss and hearing aids in general population.

Similar results were also found in relations to connotations for social representation of hearing aids. For example, sur-

prising to see a relatively large proportion of neutral and negative connotations towards the 'appearance and design' aspect of hearing aids in all countries. This may be due to pre-conception of people who may not have seen up to date hearing aid designs, which have more stylish appearance. However, very high negative connotations for categories 'improved hearing and communication' and 'improved life condition' in relation to hearing aids were seen in Iran, Portugal, and UK. This may indicate that the study participants may not agree that the hearing aids may benefit in terms of improving communication and life condition. For category 'ageing' larger proportions of positive connotations were reported in Iran and UK. This may be suggesting that people in these countries may see hearing aids to be appropriate for older adults.

Even though some connections were seen, generally, there was limited association between the connotations reported for 'hearing loss' and 'hearing aids' and the demographic variables of the study sample in different countries. This may suggest that the social representation phenomenon is relatively stable across the population in terms of age, gender, education, and occupational group. This may be because the social representation may be more fundamental to society than the concept of attitude, as it takes into account of broader social dialogues and explores the socially constructed reality based on common understanding of a phenomenon in a particular social group [11].

Implications of the study

The current study may have important implications in understanding the underlying principles and mechanisms behind stereotyping. For example, it would be interesting to study the perception towards 'hearing loss' and 'hearing aids' of people with hearing loss, their significant others and also hearing healthcare professionals (i.e., audiologists). By comparing those results with the current study results we may be able to say if the responses by general public (or other groups) are stereotypes. It is important to recognize that perspectives of different groups may differ, and that may be one of the reasons for some communication gap between clinician and patient. Developing more knowledge on this area may help in building common language for dialogue between clinician and patients, as the clinician-patient communication have important implications to health outcomes [12]. Hence, we suggest the current study results are important in relation to counseling patients and their significant others during audiological rehabilitation sessions and also in public education.

Study limitations

Generalization of the study results are limited due to the

following reasons: 1) this is an exploratory study with limited sample size; 2) snowball sampling method may have introduced some sample bias; 3) participants were from one city in each country and may not represent the general population of the country.

Directions for future research

The possible next step is to explore the social representation of people with hearing loss and also hearing healthcare professionals. It is important to explore what factors determine the social attitudes in terms of positive, neutral and negative connotations. Subsequently, the influence of these connotations towards behavior of people with chronic conditions and disability can be explored. Moreover, the ICF classification can be used to code the positive and negative aspects related to different environmental and personal factors [5].

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