



Importance of the patient's point of view in determining the functional success in aural rehabilitation by using the international outcome inventory for hearing aids: (Ioi-ha)

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Abstract

There is a growing awareness of, the importance of the patient's point of view in determining the functional success of treatments in health-related fields. In the past, it was common the success of an intervention to be judged by health care professionals of often based on laboratory or technical date. In the present, evaluations still take account these types of data, but also factor in the judgment of the patient about the extent to which the treatment has alleviated the problems that he or she was experiencing in daily life.

Keywords: present, evaluations, judgment

Introduction

Aim: To evaluate the benefit outcomes after hearing aid fitting resulting in an improvement in the patient's health-related quality of life.

Need of the study: There is a need to know whether there is any functional success after treatment of persons with hearing loss.

Objective: Of the study was to quantify the outcomes, after the hearing aid fitting from patient's point of view and to ascertain the extent to which the responses to different items were related to each other. The upshot is that a treatment is unlikely to be seen as fully successful unless it can be shown to have resulted in an improvement in the patient's health related quality of life. For the present study the international outcome inventory for hearing aids (IOI-HA) a seven-item questionnaire, designed to be generally applicable in evaluating the effectiveness of hearing aid treatments, was used. The inventory was developed to facilitate co-operation among researches or the investigators in diverse settings. It is brief and general enough to be appended to other outcome measures that might be planned in a particular application and will provide directly comparable data across otherwise incompatible projects. For this study plan to be successful, it was essential to generate psychometrically equivalent translations in the languages (Bengali/Hindi) upon which the study was designed. The study was conducted upon 30 adults by using the IOI-HA questionnaire, which included closed ended questions.

There are two formidable obstacles to combine and compare the outcome data that were based on patients report. First, there is no widely accepted standard self-report measure, so investigators tend to adopt different measures. Even when different measures appear to address similar issues and are written in the same language, they typically are dissimilar in subtle ways. As a result, data from various studies in the same language are often not directly comparable. Second, when investigations are pursued in different languages the comparability of data is further comprised by unintentionally different nuances of meaning, even in questionnaire items that are intended to be the same. Although it would facilitate combining and comparing data it is not reasonable or desirable to propose a standard self-report inventory for evaluating hearing aid fitting outcome. This would undoubtedly frustrate researchers stifle innovations and waste resources. Cox *et al.* 2000 proposed an alternative approach for achieving comparable data, called the IOI – HA. Because there are only seven items, this would absorb minimal additional resources. The pay off for including this questionnaire in many different investigations would be the generation of a core of data that are directly comparable across diverse studies. The goals of IOI-HA can be achieved only if there is a set of equivalent translations so that hearing-impaired individuals could understand the answer in their native language. Further, it is highly desirable that there be only one translation for a given language, so that the psychometric properties of that version of that inventory can be clearly established, appropriate changes can be made necessary, and there will

not be confusion in the future when data obtained in a particular language are interpreted after the clients' have filled the inventory form by themselves.

Description of the IOI-HA proposed by Cox *et al* 2000: The inventory comprises seven items, each one targeting a different outcomes domain. The domains are in order: daily use, benefit, residual activity limitations, satisfaction, residual participation restrictions, impact on others, and quality of life. The wording and construction of items were chosen with the intention of minimizing literacy and cognitive demands. Each item has five response choices that are approximately semantically equidistant in English. The response choices always proceed from the worst outcome on the left to the best outcome on the right. It was sufficiently self-explanatory that no formal instructions are needed. Candidates who had purchased the hearing aids since 1 month. were interviewed by the investigators in a one-to-one setting by asking the questions, translating them in their native language and the responses, were marked by putting a tick against each answer belonging to the question. The results were statistically analyzed by using SPSS package, and the derivations were tabulated and conclusions were drawn.

Aim: To evaluate the benefit outcomes after hearing aid fitting resulting in an improvement in the patient's health-related quality of life.

Need of the study: There is a need to know whether there is any functional success after treatment of persons with hearing loss.

Objective of the study

- To quantify the outcomes, after the hearing aid fitting from patients point of view.
- To ascertain the extent to which the responses to different items, were related to each other.

Methodology

Tool: International outcome inventory for hearing aids (IOI-HA) developed by Cox *et al* was used for the purpose of the study. A seven-item inventory with domains such as; daily use, benefit, residual activity limitations, satisfaction, residual participation restrictions, impact on others and quality of life was used as the tool.

Candidacy: Subjects were 45 adults, among which there were 30 males and 15 females. Reportedly, they had been using hearing aids since last 1 month. When asked to estimate their aided hearing outcomes, for each question, the maximum answers were towards the positive effects. The investigation was an interview form where the participants were asked questions from IOI-HA questionnaire. The investigator filled the questionnaire after the participant's report as it was translated to their respective native language. The data were statistically analyzed and the results were drawn.

Result

Each item was scored from 1 to 5 for the responses from left (worst) to the right (best), respectively. Thus, a higher score is indicative of a better outcome.

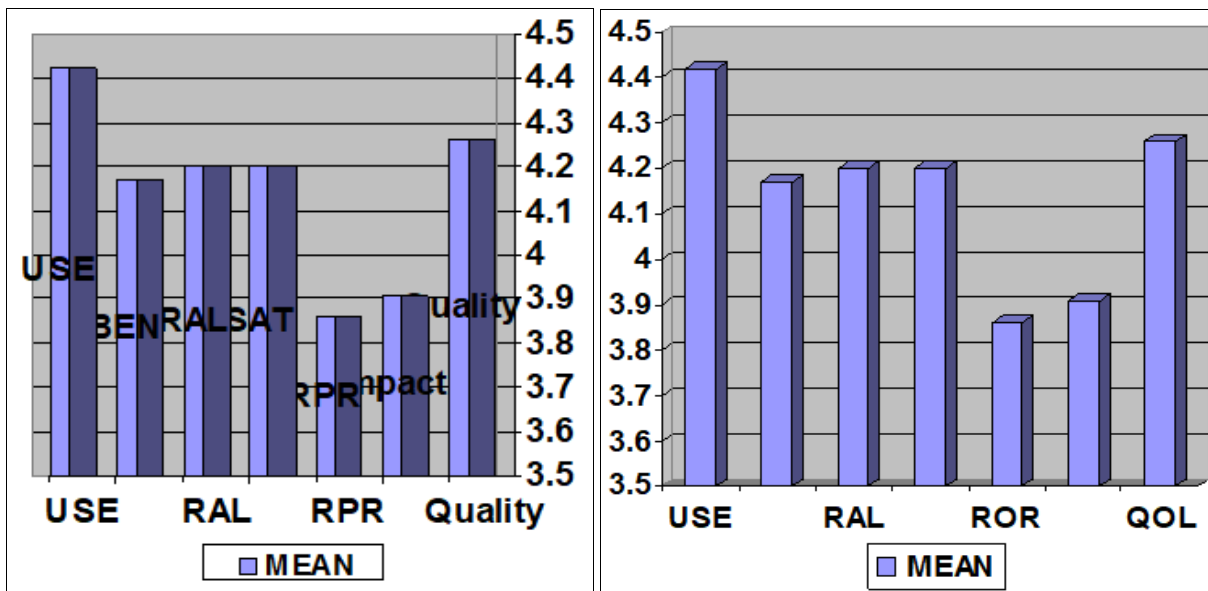


Fig 2: The mean score for each question is shown in the form of percentage

Table 1: On an average day, how many hours did the participant use the hearing aid?

Q1.	Frequency	Percent (%)	Mean	Standard deviation
a) None	0	0	4.42	.75
b) <1 hr/day	1	2.2		
c) 1-4 hr/day	4	8.9		
d) 4-8 hr/day	15	33.3		
e) >8 hr/day	25	55.6		

Table 2: How much has the hearing aid helped in the hearing situation?

Q2.	Frequency	Percent (%)	Mean	Standard deviation
a) Helped not at all	1	2.2	4.17	.96
b) Helped slightly	2	4.4		
c) Helped moderately	5	11.1		
d) Helped quite a lot	15	37.8		
e) Helped very much	20	44.4		

Table 3: How much difficulty do you still have in the hearing situation?

Q3.	Frequency	Percent (%)	Mean	Standard deviation
a) Very much difficulty	0	0	4.2	.69
b) Quite a lot difficulty	1	2.2		
c) Moderate difficulty	4	8.9		
d) Slightly difficulty	25	55.6		
e) No difficulty	15	33.3		

Table 4: How much is your hearing aid worth the trouble?

Q4.	Frequency	Percent (%)	Mean	Standard deviation
a) Not at all worth it	0	0	4.2	.75
b) Slightly worth it	1	2.2		
c) Moderately worth it	5	11.1		
d) Quite a lot worth it	19	42.2		
e) Very much worth it	20	44.4		

Table 5: How much have your hearing difficulties affected the things you do?

Q5.	Frequency	Percent (%)	Mean	Standard deviation
a) Affected very much	2	4.4	3.86	1.05
b) Affected quite a lot	3	6.7		
c) Affected moderately	7	15.6		
d) Affected slightly	20	44.4		
e) Affected not at all	13	28.9		

Table 6: How much do you think other people were bothered by your hearing difficulties?

Q6.	Frequency	Percent (%)	Mean	Standard deviation
a) Bothered very much	0	0	4.26	0.91
b) Bothered quite a lot	2	4.4		
c) Bothered moderately	8	17.8		
d) Bothered slightly	11	24.4		
e) Bothered not at all	24	53.3		

Table 7: How much has your hearing aid changed your enjoyment of life?

Q7.	Frequency	Percent (%)	Mean	Standard deviation
a) Worse	0	0	3.91	.87
b) No change	3	6.7		
c) Slightly better	10	22.2		
d) Quite a lot better	20	44.4		
e) Very much better	12	26.7		

This seems to be indicative of a subject group that is relatively happy with their fitting outcomes, on the whole. Nevertheless, there is a room for improvement in the scores, which is a desirable feature if the inventory is to be useful for discriminating among treatments.

Although the goal of the inventory is to quantify the

outcome of a hearing aid fitting from the patient’s point of view, each of the items of the IOI-HA is internationally devised to address a different domain of outcome data. It is of interest, therefore, to ascertain the extent to which the responses to the different items are related to each other.

Table 8: Inter question correlation

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
Q1	-	.805	.834	.896	.814	.817	.921
Q2	.805	-	.764	.865	.837	.723	.799
Q3	.834	.764	-	.882	.842	.854	.773
Q4	.896	.865	.882	-	.815	.829	.871
Q5	.814	.897	.842	.815	-	.847	.813
Q6	.817	.723	.854	.829	.847	-	.854
Q7	.921	.799	.773	.871	.813	.854	-

r = Karl Pearson Product Moment Correlation Coefficient

Discussion

This investigation examined the psychometric characteristics of the IOI-HA by analyzing the responses given by a group of adults who were using the hearing aid since...mths. The data obtained in this investigation are hearing aid wearers in general, the IOI-HA appears to be well suited to detection if individuals who are negatively affected by their experience with amplification. Responses distributions show that relatively few subjects selected the responses indicative of the poorest outcomes. Given, the results of this investigation, it is timely to consider how response to the IOI-HA should be reported. Should the inventory be treated, as a mini-profile in which each item is separately reported and, perhaps, compared with normative data? Should the item responses be summed to give an overall total score or some particular scores? Arguments can be made for and against each one of these possibilities, and the best choice might depend on whether the inventory is being used for research, administrative or clinical purpose. An overall score is certainly the most parsimonious option and the simplest to interpret. This would seem to be a good choice if the IOI-HA is used administratively to document the outcomes of a service facility.

Conclusion

Finally, the approach that employs a mini-profile with norms could be quite useful for targeting areas in need of improvement for a particular individual if the inventory is used clinically to validate a fitting. It is important to keep in mind that all the results reported were translated versions of the IOI-HA. It is highly desirable for all the translations of the inventory to produce similar psychometric data. Data for one translation is reported in this study. Additional studies are needed to determine the psychometric characteristics of the other translation of other languages as for the better outcomes.

Conflict of Interest

Not available

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Not available

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