

Robyn M. Cox*
Dafydd Stephens†
Sophia E. Kramer‡

*The University of Memphis,
Memphis, TN, USA,

†Welsh Hearing Institute,
University Hospital of Wales,
Cardiff, UK,

‡Vrije University Medical Center,
Department of Audiology/
Otolaryngology, Amsterdam,
The Netherlands

Translations of the International Outcome Inventory for Hearing Aids (IOI-HA)

Traducciones del Inventario Internacional de Resultados para Auxiliares Auditivos (IOI-HA)

The International Outcome Inventory for Hearing Aids (IOI-HA) was developed as a product of an international workshop on Self-Report Outcome Measures in Audiological Rehabilitation (Cox et al, 2000). The workshop participants recognized a need to be able to combine and compare data from different investigations and clinical service models. Thus, the inventory was developed to facilitate cooperation among researchers and program evaluators in diverse hearing healthcare settings, including across national boundaries. By design, it is brief and general enough to be appropriate in many different studies. The goal is to append the IOI-HA items to other self-report outcome measures that might be planned for a specific application. The IOI-HA items will then provide directly comparable data that will allow combination or comparison across otherwise incompatible projects.

For this plan to be successful, it is essential to generate psychometrically equivalent translations in the languages in which hearing aid research and treatment assessments are performed. Elsewhere in this issue, there are two reports that reflect psychometric assessments of the original English version of IOI-HA in the USA and in Wales. A further report gives an assessment of the characteristics of a Dutch translation of the IOI-HA, used in The Netherlands. It is encouraging that all three investigations produced data reflecting similar inter-item correlations and two non-overlapping separate factors that were essentially identical across the studies.

These papers were presented at the meeting of the International Collegium of Rehabilitative Audiology (ICRA) held in Cardiff in May 2001. A number of the contributors to the original self-report workshop were present, and it was decided to organize members and their associates to generate translations of the questionnaire into a number of different languages. It was also decided to explore other applications of the questionnaire, of which a preliminary approach is presented in this issue by Noble.

The present article reports a set of 21 careful translations of the IOI-HA into other languages. All translations were performed by individuals who are well versed in the academic discipline and have the target language as their first language. Each translation was checked by at least one additional qualified individual to ensure that each item captures the nuances of the original English wording. Each translator carefully followed the design principles of the original version. There are seven items in the inventory, each accessing a different self-report outcome dimension. The items were written to be unambiguous, with few cognitive requirements and at a low reading level. Negative statements and reversed meanings were avoided. An attempt was made to eschew any cultural bias. All items were designed with five possible responses. The response categories for six of

the items were chosen so that their semantic distinctions (in English) were roughly equal (Levine, 1981). The seventh item requires an estimate of hours of daily use. To maximize the comprehensibility of the inventory, each item has a separate response continuum, and the responses are presented so that the most favorable item appears on the right. It is intended to present the translations in the appendices in copy-ready format so that they can be used immediately. These translations and any others that might have been generated are also available as downloadable files from the website www.ausp.memphis.edu/harl.

With the exception of the Dutch translation, none of the non-English translations presented here has been studied to determine its psychometric properties. The next appropriate step would be for each of the translations to be used with a group of native speakers of the target language. The psychometric properties of the translated inventory should then be determined and compared to those of the English version. The original English version should be used as a criterion, and changes should be made to the wording of translated items that do not appear to replicate the characteristics of the criterion.

This article presents translations of the IOI-HA only. However, this inventory represents the first in what was envisioned by workshop participants as a series of inventories. Other IOI versions could be used to assess and compare the outcomes of audiological rehabilitation using devices other than hearing aids. In addition, a version that addresses the rehabilitation result from the point of view of other individuals (i.e. significant others of the hearing-impaired person) could be very useful. Progress has been made in devising suggested wording for the English language items for these IOI offshoots (Noble, this issue).

Acknowledgements

We are most grateful to our various colleagues from ICRA and elsewhere who provided the translations attached as appendices, and whose names are included with the appendices.

References

- Cox RM, Hyde M, Gatehouse S, et al. (2000) Optimal outcome measures, research priorities and international cooperation. *Ear Hear* 21:106S–15S.
- Levine N. (1981) The development of an annoyance scale for community noise assessment. *J Sound Vibration* 74:265–79.

ශ්‍රවණාධාර පිළිබඳ ජාත්‍යන්තර ප්‍රතිඵල ලැයිස්තුව
(සිංහල පරිවර්තනය වෙදා කේ එස් සිරිමාන්න)

1) පසුගිය සති දෙක ඇතුළත, දළ වශයෙන් කොපමණ පැය ගණනක් ඔබ ඔබේ ශ්‍රවණාධාර(ය) භාවිතා කලාද?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| භාවිතා කලේ නැත | දිනකට පැයකට අඩුයි | දිනකට පැය 1 සහ පැය 4 අතර | දිනකට පැය 4 සහ පැය 8 අතර | දිනකට පැය 8 කට වඩා |

2) ශ්‍රවණාධාර(ය) ලබා ගැනීමට පෙර, ඔබට වඩා හොඳට ශ්‍රවණය කිරීමට අවශ්‍යතාවය තිබූ අවස්ථාවක් ගැන සිතන්න. එම අවස්ථාවේදී ඔබේ ශ්‍රවණාධාර(ය) ඔබට කොපමණ ප්‍රයෝජනවත් වී ඇත්ද?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ප්‍රයෝජනවත් වී නැත | තරමක් දුරට ප්‍රයෝජනවත් | සාමාන්‍යයෙන් ප්‍රයෝජනවත් | බොහෝ දුරට ප්‍රයෝජනවත් | ශ්‍රවණාධාර(ය) සමග කිසිම අපහසුතාවයක් නොමැත |

3) ශ්‍රවණාධාර(ය) ලබා ගැනීමට පෙර, ඔබට වඩා හොඳට ශ්‍රවණය කිරීමට අවශ්‍යතාවය තිබූ අවස්ථාව ගැන නැවත සිතන්න. එම අවස්ථාවේදී ඔබේ ශ්‍රවණාධාර(ය) ඔබට කොපමණ ප්‍රයෝජනවත් නොවේද?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| තවමත් ඉතාම අපහසුයි | බොහෝ දුරට අපහසුයි | සාමාන්‍ය තරමට අපහසුයි | සුලු වශයෙන් අපහසුයි | ශ්‍රවණාධාර(ය) සමග කිසිම අපහසුතාවයක් නොමැත |

4) ඔබේ ශ්‍රවණාධාර(ය) ලබා ගැනීමට ඔබ වෙහෙසුන ප්‍රමාණය වටහවායැයි ඔබ සිතනවාද?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| සම්පූර්ණයෙන්ම නොවටි | තරමක් දුරට වටි | සාමාන්‍ය තරමට වටි | බොහෝ දුරට වටි | සම්පූර්ණයෙන්ම වටි |

5) පසුගිය දෙසතිය ඇතුළත, ඔබගේ ශ්‍රවණාධාර(ය) පැළඳ සිටියදී, ඔබගේ කණ ඇසීමේ දුර්වලතාවය ඔබේ එදිනෙදා කටයුතු වලට කොපමණ අපහසුතාවයක් වීද?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| සම්පූර්ණයෙන්ම අපහසු විය | බොහෝ දුරට අපහසු විය | සාමාන්‍ය තරමට අපහසු විය | සුලු වශයෙන් අපහසු විය | කිසිම අපහසුතාවයක් නොතිබුණි |

6) පසුගිය දෙසතිය ඇතුළත, ඔබගේ ශ්‍රවණාධාර(ය) පැළඳ සිටියදී, අනිකුත් අයට ඔබගේ කණ ඇසීමේ දුර්වලතාවය කොපමණ අපහසුතාවයක් වීද?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| සම්පූර්ණයෙන්ම අපහසු විය | බොහෝ දුරට අපහසු විය | සාමාන්‍ය තරමට අපහසු විය | සුලු වශයෙන් අපහසු විය | කිසිම අපහසුතාවයක් නොතිබුණි |

7) මේ සැමදෙයක්ම සලකා බැලූ කල ඔබේ ජීවිතයේ සතුටු වන්නන් සඳහා ඔබගේ ශ්‍රවණාධාර(ය) කුමන විදිහකට බලපා ඇත්ද?

- | | | | | |
|-------------------------------------|----------------------------------|---|---|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| සතුටු වන්නන්ට සම්පූර්ණයෙන්ම බාධාවක් | සතුටු වන්නන්ට බොහෝම දුරට බාධාවක් | සතුටු වන්නන්ට සාමාන්‍ය තරමට ප්‍රයෝජනවත් විය | සතුටු වන්නන්ට බොහෝ දුරට ප්‍රයෝජනවත් විය | සතුටු වන්නන්ට සම්පූර්ණයෙන්ම ප්‍රයෝජනවත් විය |