VOLUME 32
NUMBER 2
NOV 2012

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ARTICLES

ISSN 1443 4873

AUSTRALIAN ACADEMIC PRESS · Est. 1987

Journal of the Audiological Society of Australia and New Zealand Audiological Society

The Australian and New Zealand Journal of Audiology

Formerly The Australian Journal of Audiology

GUEST EDITORS
Catherine McMahon
and Louise Hickson

VOLUME 32
NUMBER 2
NOV 2012

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The Australian and New Zealand Journal of

Audiology

Formerly The Australian Journal of Audiology

32 VOLUME
NUMBER 2
NOV 2012

The Australian and New Zealand Journal of Audiology is published two times annually and issued to all financial ordinary, institutional and student members of Audiological Society of Australia Inc. (ASA) and New Zealand Audiological Society Inc. (NZAS).

Published for ASA and NZAS by
AUSTRALIAN ACADEMIC PRESS
Level 5, Toowong Tower
9 Sherwood Road
Toowong QLD 4066
Australia
www.australianacademicpress.com.au

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ARTICLES

The Australian and New Zealand Journal of

Audiology

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Foreword

CATHERINE MCMAHON AND LOUISE HICKSON (CO-EDITORS)

The final three editions of the Australia and New Zealand Journal of Audiology showcase the high quality and broad scope of research being conducted at Australian universities. Much of the work included in these special issues has been undertaken by postgraduate masters student, although there are also contributions from speech pathology honours students, doctoral students and postdoctoral early career researchers. In all cases these more junior researchers have been supervised by university staff who are co-authors on the papers. While undertaking a research project is not a mandatory part of all of the Masters programs, it is viewed as an important part of developing critical analysis and lifelong learning skills. Further, it aims to provide an evidence base for clinical practice in Audiology. We appreciate the hard work and dedication from students who undertake research and hope that future students will be inspired to contribute to the profession in a similar way.

The current issue includes six papers that focus on the perspectives of patients about their hearing impairments and the audiological rehabilitation that they receive. We hope that you enjoy reading these special editions of the journal.

Adaptation of the Amsterdam Inventory for Auditory Disability and Handicap Into Cantonese

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This research aimed to adapt the Amsterdam Inventory for Auditory Disability and Handicap (AIADH) into Cantonese. A total of six Cantonese–English bilingual speakers participated in the adaptation of the AIADH. One-hundred and thirty-three normal-hearing and hearing-impaired Chinese-speaking participants from Hong Kong completed the Cantonese adaptation of the questionnaire (C-AIADH). Good internal consistency and reliability of the questionnaire was indicated by a high Cronbach's alpha coefficient. Statistical analysis showed that the newly adapted questionnaire could differentiate between normal-hearing and hearing-impaired subjects. Percentiles were computed from the data obtained from normal-hearing subjects (n = 35) to obtain normal scores for the C-AIADH. The findings and possible clinical uses are discussed.

Keywords: Assessment, disability, hearing loss

Hearing loss has been considered as one of the most commonly occurring chronic conditions affecting various populations worldwide (Andrews, Leigh, & Weiner, 2004; Bess, Lichtenstein, Logan, Burger, & Nelson 1989; Cruickshanks et al., 1998; Dalton et al., 2003; Davis, 1989; Gates, Cooper, Kannel, & Miller, 1990; Mulrow et al., 1990; Noble & Gatehouse, 2004), including Hong Kong (Kwok, 2001; Tam & Tsui, 2000). It has been extensively indicated that patients with hearing loss experience hearing difficulties beyond poor sound detection abilities (Barcham & Stephens, 1980; Hétu, Riverin, Lalande, Getty, St-Cyr, 1988; Lutman & Robinson, 1992; Noble, 1979; Noble, Ter Horst & Byrne, 1995; Stephens & Hétu, 1991). Two persons with identical pure-tone audiograms may experience different hearing problems in daily life (Ewertsen & Birk-Nielsen, 1973). Also, patients with normal hearing thresholds but with some degree of auditory dysfunction may still experience hearing difficulties other than poor sound detection abilities (Saunders, Field & Haggard, 1992; Zhao & Stephens, 2000). Therefore, pure-tone audiometry (PTA), along with other clinical tools exploring hearing functions other than sound detection, should be carried out. Measures currently used in hearing clinics may not be sufficient to explore a patient's hearing complaints in daily life listening situations and, thus, their hearing disability (Kramer, Kapteyn, Feste & Tobi, 1996; Lutman & Robinson, 1992; Rosen, 1979). This is because the clinical setting represents an artificial situation, from which it is not possible to directly assess the patient's hearing performance in real-life

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situations. It has often been suggested that auditory disability may be effectively assessed through self-report questionnaires (Clark, Sowers, Wallace & Anderson, 1991; Coren, & Hakstian, 1992; Gomez, Hwang, Sobotova, Stark, & May, 2001; Kramer, Kapteyn, Festen & Tobi, 1995; Okamoto, Nakanishi & Tatara, 2005; Stephens & Hétu, 1991; Torre, Moyer, & Haro, 2006). Auditory disability in this context has been defined as the hearing problems experienced and complained of by each person (Stephens & Hétu, 1991).

A number of self-report questionnaires have been devised for use in the audiology clinic (Bentler & Kramer, 2000). However, most of these measures have been created and normalised for English-speaking populations (e.g., Cox & Alexander, 1995; Gatehouse & Noble, 2004; McCarthy & Alpiner, 1983). In Cantonese, there is a lack of self-report questionnaires specifically designed to collect information on the patient's level of functioning in everyday-life listening situations. Thus, audiologists working with this population are limited in their scope of practice. For this reason, the purpose of this study was to adapt into Cantonese a self-report, self-administered questionnaire, capable of providing information regarding the individual's performance in a wide range of listening activities. The Amsterdam Inventory for Auditory Disability and Handicap (AIADH) (Kramer et al., 1995) is a questionnaire with such characteristics. The AIADH is comprised of 30 questions, with each being accompanied by a picture representing the listening activity/situation being addressed. The pictures make the questionnaire a user-friendly tool and facilitate the person's understanding of each question. Thus, the AIADH can be easily self-administered.

A factor analysis of the original AIADH (Kramer et al., 1995) showed the presence of five main clusters, which were interpreted by the authors as representing five basic auditory disabilities: (a) distinction of sounds, (b) intelligibility in noise, (c) auditory localisation, (d) intelligibility in quiet, and (e) detection of sounds. These five factors may be easily related to the hearing functions proposed by the World Health Organization ([WHO]; 2001). Thus, using this questionnaire makes it possible to investigate the five hearing functions proposed by WHO (2001). Table 1 shows the hearing functions proposed by WHO (2001) and the factors of the AIADH related to each hearing function. Table 1 denotes items 18 and 30 as excluded items. This is because both items were identified by Kramer et al. (1995) as measuring independent aspects of hearing. Item 18 is about intolerance to loud music and item 30 is about the phenomenon of missing parts of music while listening to music or songs. The AIADH has been previously adapted into Spanish (Fuente, McPherson, Hormazabal, & Kramer 2006), and Swedish (Hallberg, Hallberg, & Kramer 2008). The aim of the present research was to adapt the AIADH into Cantonese (C-AIADH), to consider issues of internal reliability and criterion validity, to determine whether or not the newly adapted questionnaire (C-AIADH) was able to differentiate between normal-hearing and hearing-impaired persons, and to obtain normative data for further clinical use.

TABLE 1
Hearing Functions According to World Health Organization* and the Corresponding Hearing Disability Factors With the Respective Items of the AIADH**

ICF Hearing Functions	Factor Structure of the AIADH/ Sections of the Inventory, Basic Hearing Disabilities	Cronbach's Alpha for the C-AIADH
Speech discrimination	Intelligibility in quiet (items 8, 11, 12, 14, 20)	.86
Speech discrimination	Intelligibility in noise (items 1, 7, 13, 19, 25)	.90
Sound discrimination	Distinction of sounds (items 4, 5, 6, 17, 23, 24, 26, 29)	.91
Sound detection	Detection of sounds (items 2, 10, 16, 22, 28)	.85
Sound localisation/ sound lateralisation	Auditory localisation (items 3, 9, 15, 21, 27)	.89
Excluded items	18, 30	

Note: *World Health Organization (2001)
**Kramer et al. (1995)
The table also shows the Cronbach's alpha of the C-AIADH for each factor structure.

METHOD

Adaptation of the Questionnaire Into Cantonese

The 30 questions contained in the English version of the Questionnaire (Kramer et al., 1995) were given to three English–Cantonese bilingual individuals, who were native speakers of Cantonese Chinese from Hong Kong. These persons translated the inventory (30 questions) into Cantonese Chinese, as spoken in Hong Kong. Three Cantonese–English bilingual speakers, who were native speakers of English, then translated the questionnaire back into English. During the process of these three reverse translations, a comparison of each question with those contained in the English version of the questionnaire (Kramer et al., 1995) was made. Of the items contained in the reverse translations, only those which were in agreement (in terms of meaning) with the English version of that item were considered for inclusion in the Chinese version (Guillemin, Bombardier, & Beaton, 1993). Upon completion of this procedure, identical pictures to those used in the original version were added to each item, to represent the situation which the reader was being asked to consider. A pilot study with two native Cantonese-speaking patients (one male aged 60, one female aged 63) was conducted in Hong Kong, while they waited for a hearing assessment at a local hospital. The questionnaire was given to each person individually. The aim of this pilot study was to determine whether or not the questions were clear and easy to understand, and whether or not the pictures were culturally suitable for Cantonese-speakers from Hong Kong. After the completion of the questionnaires, both participants reported that the questions were clear and that the pictures were culturally suitable for Cantonese speakers from Hong Kong, clearly conveying the meaning of each question. Therefore, no modifications were made to either the pictures or the questions. The final version of the questionnaire (C-AIADH) consisted of 30 question items, accompanied by a picture representing the situation addressed in each question, and four alternatives regarding how often the person was able to carry out the addressed activity. The alternatives were 差不多完全不能 (*almost never*, was scored as 1), 間中能夠 (*occasionally*, scored as 2), 經常能夠 (*frequently*, scored as 3), and 不多完全能夠 (*almost always*, scored as 4). The higher the score, the better a person's hearing function was considered to be. Figure 1 shows one item from the questionnaire, and the appendix shows all of the questions in Cantonese Chinese, with their respective English translations.

1. 你能在擠擁的商店內明白店員的說話嗎?

O 差不多完全不能　O 間中能夠　O 經常能夠　O 差不多完全能夠

FIGURE 1
Example of one item of the C-AIADH questionnaire.

Participants

A total of 133 (80 females and 53 males) participants, aged between 18 to 75 years, successfully completed the questionnaire. This group was divided into two subgroups: (1) normal-hearing subjects (n = 35; 26 females and 9 males, mean age = 41.2 years, SD = 9.8); and (2) hearing-impaired subjects (n = 98; 54 females and 44 males, mean age = 51.7, SD =13.5). Among hearing-impaired subjects, 47 of them presented with mixed hearing loss, 35 with sensorineural hearing loss, and 16 with conductive hearing loss. A total of 53 subjects had bilateral hearing loss, and the remaining 45 had unilateral hearing loss. Thirty-eight participants had mild hearing loss, 23 subjects had moderate hearing loss, 21 subjects had moderately severe hearing loss, 5 subjects had severe hearing loss, and 11 subjects had profound hearing loss. All research participants provided a signed informed consent form.

Selection and Data Collection Procedures

The inclusion criteria for the hearing-impaired group were (a) age (18–75 years old), and (b) the presence of hearing loss defined as mean hearing thresholds of at least 25 dB HL for the frequencies 500, 1,000, 2,000, and 4,000 Hz, in at least one ear. The inclusion criteria for the normal-hearing group were (a) age (18–75 years), and (b) bilateral normal-hearing thresholds (better than 25 dB HL) for the frequencies 500 Hz to 4000 Hz, based on the results of the PTA. All research participants were patients attending the outpatient audiology centre of the Queen Elizabeth Hospital (Hong Kong) for a hearing assessment. During data collection, 13 participants were excluded as they presented with a hearing loss, but without meeting the inclusion criteria for the hearing-impaired group. A further two subjects were excluded because of incomplete answers on the questionnaire. Before knowing the hearing assessment results, each patient from both the normal-hearing and hearing impaired groups was informed of the study and individually invited to participate by answering the questionnaire either orally, or in written form. Hearing-aid users were asked to complete the questionnaire on the basis of their experience without hearing aids.

Statistical Analysis

Frequency distributions of participants' responses for all 30 questions were obtained initially. Cronbach's alpha was computed using the data obtained from all subjects (n = 133) to determine the internal consistency of the questionnaire. Cronbach's alpha coefficients were obtained for the entire questionnaire and separately for each cluster (hearing disability/hearing function), as identified by Kramer et al. (1995) in the original version of the questionnaire. Criterion validity was tested with the data obtained from hearing-impaired subjects (n = 98) by correlating scores on the predictor test with scores on the criterion variable (defined as the gold standard for that purpose). Hearing thresholds in dB HL were chosen as the gold standard for the determination of hearing levels. Criterion validity was estimated by correlating the scores (Spearman's rho) of the C-AIADH with the better-ear average (BEA) audiometric thresholds (500, 1,000, 2,000, and 4,000 Hz) and worse-ear average (WEA) audiometric thresholds. Also, a Mann-Whitney U test was computed to determine score differences across the questionnaire items between hearing-impaired (n = 98) and normal-hearing subjects (n = 35), and to determine whether or not the questionnaire could differentiate between hearing-impaired and normal-hearing subjects. A Bonferroni adjustment was included in order to control for Type II error when multiple comparisons were performed. The adjusted p value for determining statistical differences was .0016 (.05 divided by 30, the total number of comparisons). Finally, from the data obtained from normal-hearing subjects (n = 35), the 10th, 25th, 50th, 75th, and 90th percentiles were computed to provide norms for C-AIADH. The percentiles were obtained for each hearing function explored in the questionnaire: distinction of sounds, intelligibility in noise, auditory localisation, intelligibility in quiet and detection of sound (previously identified by Kramer et al., 1995 as factors of hearing disability), and for the overall score of the C-AIADH. The sum of the scores (1–4), obtained for each of the questions comprising each hearing function explored in the C-AIADH (see Table 1), were the raw data used to obtain the percentiles. It is important to note that items 18 and 30 did not correspond with any of the hearing disability factors/hearing functions (WHO, 2001), according to the factor analysis carried out with the original version of the AIADH (Kramer et al., 1995), as explained in the introduction section. Therefore both items were only included in the calculation of the overall score of the questionnaire and not as part of one of the hearing functions explored with the C-AIADH.

RESULTS

Figure 2 shows the frequency distributions of subjects' responses for all 30 questions. The distributions show that great variability existed among the subjects' responses. This

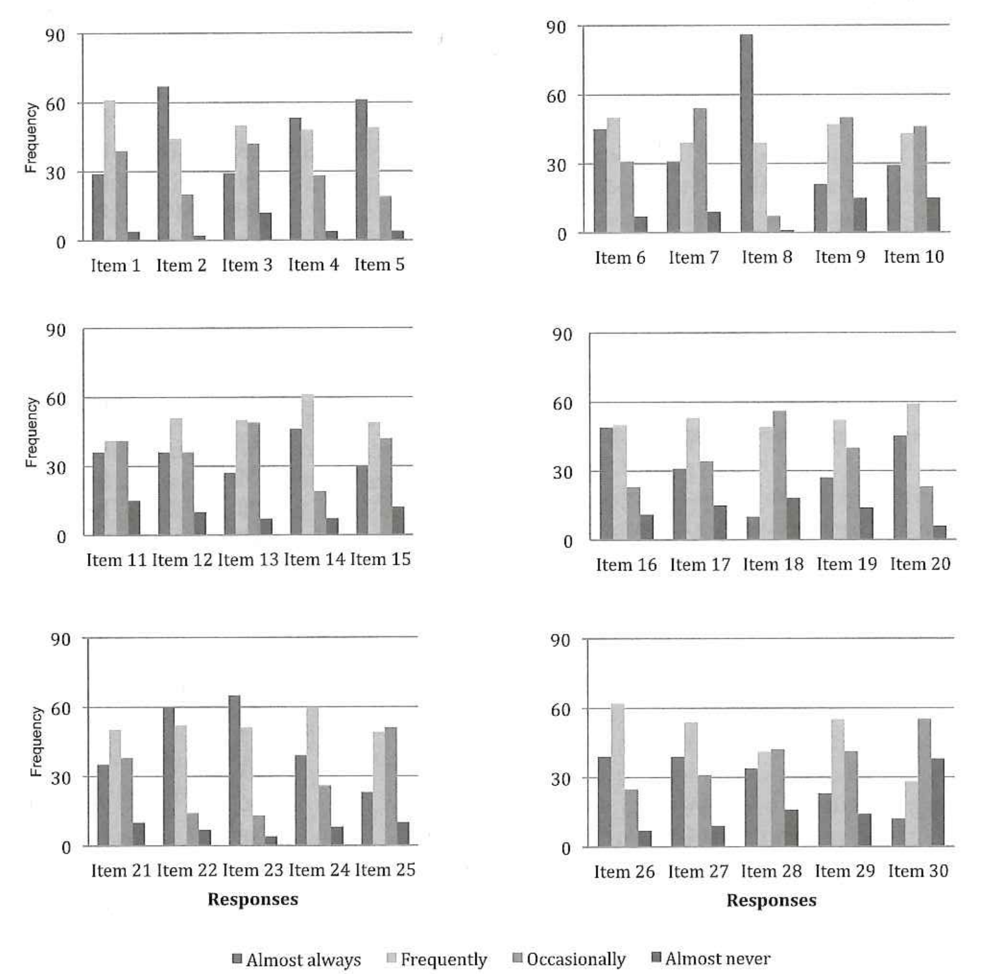

FIGURE 2
Frequency distribution for all C-AIADH items for both groups of subjects (n = 133).

indicates that the items provide information about individual differences.

Internal Reliability

Internal reliability analysis for the answers to all 30 questions yielded a Cronbach's alpha of 0.96 for internal consistency. Cronbach's alpha coefficients were also calculated for each of the five factors found in the original version of the AIADH (Kramer et al., 1995). All Cronbach alpha values were at or above .85 (see Table 1).

Criterion Validity

For the group of participants with hearing loss (n = 98), the better-ear average (BEA) hearing threshold over 500, 1,000, 2,000, and 4,000 Hz was 33.52 dB HL (SD = 20.34),

TABLE 2
Mean Scores and Standard Deviation (SD) for Each Inventory Question Within Normal-Hearing Subjects (NH) and Hearing-Impaired Subjects (HI)

Question Number	Mean NH	Mean HI	Z (Mann-Whitney)	p value
1	3.34 (.59)	2.69 (.77)	-4.21	p < .0001*
2	3.37 (.50)	3.17 (.81)	-3.80	p < .0001*
3	3.20 (.63)	2.55 (.93)	-3.69	p < .0001*
4	3.60 (.60)	2.96 (.86)	-3.91	p < .0001*
5	3.69 (.53)	3.10 (.84)	-3.74	p < .0001*
6	3.40 (.65)	2.86 (.90)	-3.08	P = .0020
7	3.29 (.71)	2.48 (.87)	-4.60	p < .0001*
8	3.77 (.42)	3.51 (.67)	-1.96	P = .0500
9	3.14 (.60)	2.35 (.88)	-4.75	p < .0001*
10	3.06 (.72)	2.50 (.97)	-3.01	P = .0030
11	3.17 (.82)	2.58 (.99)	-2.97	P = .0030
12	3.17 (.74)	2.73 (.93)	-2.34	P = .0190
13	3.11 (.67)	2.59 (.86)	-3.22	P = .0010*
14	3.54 (.56)	2.94 (.85)	-3.74	p < .0001*
15	3.17 (.70)	2.57 (.93)	-3.33	P = .0010*
16	3.63 (.49)	2.82 (.96)	-4.647	p < .0001*
17	3.17 (.61)	2.60 (.99)	-3.01	P = .0030
18	2.66 (.63)	2.59 (.87)	-0.22	P = .0230
19	3.17 (.70)	2.52 (.99)	-3.60	p < .0001*
20	3.57 (.50)	2.90 (.85)	-4.16	p < .0001*
21	3.34 (.63)	2.64 (.92)	-3.93	p < .0001*
22	3.63 (.54)	3.10 (.89)	-3.17	P = .0010*
23	3.60 (.55)	3.23 (.82)	-2.27	P = .0230
24	3.34 (.68)	2.85 (.87)	-2.90	P = .0040
25	2.94 (.76)	2.53 (.86)	-2.38	P = .0170
26	3.40 (.65)	2.86 (.84)	-3.32	P = .0010*
27	3.40 (.65)	2.76 (.90)	-3.67	p < .0001*
28	3.23 (.77)	2.51 (.98)	-3.32	p < .0001*
29	2.97 (.78)	2.54 (.89)	-2.28	P = .0230
30	3.62 (.54)	2.62 (.89)	-5.73	p < .0001*

Note: *Significant differences at a p < .0016
The table also displays group differences for items scores between groups.

TABLE 3
Normative Data (10th, 25th, 50th, 75th and 90th Percentiles) and Maximum Possible Scores for the Hearing Functions and Overall Score of the C-AIADH

Hearing Functions	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Maximum Possible Score
SP quiet	14	15	18	20	20	20
SP noise	12	14	15	18	20	20
S. discr	22	24	28	31	32	40
S. detec	14	16	17	19	20	20
Loc	13.6	14	16	18	19.4	20
Overall	77.6	83	94	102	110	112

Note: SP quiet: Speech discrimination in quiet; SP noise: Speech discrimination in noise; S. discr: Sound discrimination; S. detec: Sound detection; Loc: Localisation; Overall: Overall score of the 30 items of the C-AIADH.

while the worse-ear average (WEA) was 52.60 dB HL (SD = 24.40). The average score over all items of the C-AIADH was 2.74 (SD = 0.89). The correlation (Spearman's rho) between BEA and AIADH average was -0.50. The correlation between WEA and AIADH average was -0.42. Thus, moderate negative correlations between impairment (pure-tone thresholds) and disability (AIADH) were observed.

Differences Between Groups

A Mann-Whitney U test showed statistically significant differences between normal-hearing and hearing-impaired subjects for most of the items on the questionnaires. Only for items 6, 8, 10, 12, 17, 18, 23, 24, and 25 no significant differences were observed between normal-hearing and hearing-impaired subjects after a Bonferroni adjustment of the p value for multiple comparisons. Normal-hearing subjects presented with higher (better) scores than hearing-impaired subjects. Table 2 shows mean group scores for each question and Mann-Whitney U test results (Z, and p value).

Normative Data

Table 3 displays the 10th, 25th, 50th, 75th, and 90th percentiles and maximum score that can be obtained for each hearing function and for the overall score of the C-AIADH. The percentiles shown in Table 3 are based on the data obtained from normal-hearing subjects (n = 35).

DISCUSSION

Internal reliability analysis for the answers to all 30 questions yielded a high Cronbach's alpha of 0.96 (Cronbach, 1990). Nunnally and Bernstein (1994) have indicated 0.7 to be an acceptable reliability coefficient, though lower thresholds are sometimes used in the literature. In view of this, the present numerical coefficient of 0.96 indicated a good internal consistency or correlation for items in the C-AIADH. It could be estimated that the same set of items will elicit the same responses if the same questions are recast and re-administered to the same respondents (Hatcher, 1994).

The original version of the AIADH showed that items may be clustered into five different groups of factors. Kramer et al. (1995) suggested that these five categories correspond to five different hearing disabilities. Clustering the questions of the C-AIADH in the same manner as the original version of the questionnaire yielded high Cronbach's alpha values (at or above .85) for each factor. Therefore, we may conclude that the C-AIADH appears to be a reliable tool with which to explore the hearing functions suggested by WHO (2001): sound detection, sound discrimination, speech discrimination (in quiet and in noise), and sound localisation/lateralisation in native Cantonese speakers.

The criterion validity of the C-AIADH was found to be good. Moderately significant correlations were found between the mean score of the C-AIADH and the BEA and WEA for the data set obtained from hearing-impaired participants. Similar results were found by Meijer, Wit, TenVergert, Albers, and Muller Kobold (2003) using a modified version of the AIADH. Meijer et al. (2003) found a moderate, but significant correlation between the total score of the AIADH and average audiometric hearing thresholds. Moderate correlations between both measures may well indicate that the AIADH explores hearing functions other than solely sound detection abilities, as PTA does (Meijer et al., 2003).

The comparison between normal-hearing and hearing-impaired subjects showed significant differences for most of the test items. Eleven out of 30 questions did not show significant differences between normal-hearing and hearing-impaired subjects. We believe that this was due to the fact that among hearing-impaired subjects, 45 out of 98 presented with unilateral hearing loss. All the aforementioned questions corresponded to items comprising the hearing functions of sound detection, sound discrimination and speech intelligibility in quiet — all aspects of audition that are not markedly affected by unilateral hearing losses. Items which were part of the hearing functions of speech intelligibility in noise and sound localisation did show significant differences between normal-hearing and hearing-impaired subjects. Also, it should be taken into consideration that a smaller number of normal-hearing subjects (n = 35) in comparison to hearing-impaired subjects (n = 98), was investigated. The unequal number of subjects in each group, combined with the fact that a high proportion of hearing-impaired subjects presented with unilateral hearing loss, may likely account for the non-significant differences observed between groups for these questions. Despite these results, the C-AIADH was, overall, able to differentiate between normal-hearing and hearing-impaired subjects. Further research with a larger sample size of normal-hearing subjects and/or including only persons with bilateral hearing loss should be conducted, to determine whether the questions are able to differentiate between normal-hearing and hearing impaired persons presenting with a bilateral loss.

The AIADH relates different hearing situations to different aspects of hearing such as spatial hearing, sound source, speech discrimination in quiet and noise and sound discrimination. All of these aspects should be explored by clinical audiologists when assessing hearing. Individuals with normal hearing thresholds may still encounter some hearing difficulties such as those suffering from auditory processing disorder. The AIADH has been previously used in patients with normal peripheral hearing but with signs of central auditory dysfunction (Van Toor, Neijenhuis, & Blokhorst, 2006).

In the current study we have provided normative data (percentiles) for the overall score of C-AIADH, as well as for each hearing function explored in the C-AIADH. Thus, clinicians working with native Cantonese-speaking populations can use this questionnaire not only as a screening tool for peripheral hearing when equipment is not available, but also as a screening tool for auditory dysfunctions other than peripheral hearing loss.

CONCLUSION

The AIADH has been adapted into Cantonese. The C-AIADH appears to be a reliable tool by which to explore patients' self perception of their performance in hearing activities related to sound detection, sound discrimination, speech discrimination in quiet and in noise and sound localisation. In this study, the C-AIADH was able to differentiate between normal-hearing and hearing-impaired subjects, making the questionnaire a valuable clinical tool for screening purposes. Finally, normative data of the C-AIADH is provided for clinical use.

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APPENDIX

1. Can you understand a shop-assistant in a crowded shop?
   你能在擠擁的商店內明白店員的說話嗎?
2. Can you carry on a conversation with someone in a quiet room?
   你能在安靜的房間裡，與人持續對話嗎?
3. Do you immediately hear from what direction a car is approaching when you are outside?
   你能否在室外立刻聽到汽車是從那個方向駛來的嗎?
4. Can you hear cars passing by?
   你能聽見汽車經過嗎?
5. Do you recognise members of your family by their voices?
   你能單靠聲線辨認家中各人嗎?
6. Can you recognise melodies in music or songs?
   你能認出音樂或歌曲的旋律嗎?
7. Can you carry on conversation with someone during a crowded meeting?
   你能在人數眾多的會議中，與人持續對話嗎?
8. Can you carry on a telephone conversation in a quiet room?
   你能在安靜的房間裡傾電話嗎?
9. Can you hear from what corner of a lecture room someone is asking a question during a meeting?
   當你在演講室出席會議時，你能聽見別人是在哪一個角落提問嗎?
10. Can you hear somebody approaching form behind?
    你能聽見別人從後面走近嗎?
11. Do you recognise a presenter on TV by his/her voice?
    你會憑聲音認出電視節目主持人嗎?
12. Can you understand text that's being sung?
    你能明白歌曲中的歌詞嗎?
13. Can you easily carry on a conversation with somebody in a bus or car?
    你能在巴士或汽車裡，與人容易傾談嗎?
14. Can you understand the presenter of the news on TV?
    你能明白電視新聞報導員的報導嗎?
15. Do you immediately look in the right direction when somebody calls you in the street?
    當街上有人呼喊你的名字時，你能否立刻望向正確的方向?
16. Can you hear noises in the household, like running water, vacuuming, and a washing machine?
    你能聽到家中的噪音嗎，例如流水聲、吸塵機及洗衣機聲?
17. Can you discriminate the sound of a car and a bus?
    你能分辨由巴士或汽車發出的聲音嗎?
18. Do you experience that music is too loud for you, while others around don't complain about the loudness?
    你有否試過你認為音樂太大聲，但別人不認為太大聲？

19. Can you follow a conversation between a few people during dinner?
    你能在晚飯中，聽懂幾個人之間的對話嗎?
20. Can you understand the presenter of the news on the radio?
    你能明白收音機 / 電台新聞報導的內容嗎?
21. Can you hear from what corner of a lecture room someone is asking a question during a meeting?
    當你在一間安靜的房子時，你能聽見別人是在哪一個角落跟你說話嗎?
22. Can you hear the door-bell at home?
    你能聽到家中的門鈴聲嗎?
23. Can you distinguish between male and female voices?
    你能分辨男性或女性的聲線嗎?
24. Can you hear rhythm in music or songs?
    你能聽到音樂或歌曲中的節奏嗎?
25. Can you carry on a conversation with someone in a busy street?
    你能在繁忙的街道上，與人持續對話嗎?
26. Can you distinguish intonations and voice inflections in people's voices?
    你能辨認別人的聲調語氣嗎?
27. Do you hear from what direction a car horn is coming?
    你能聽到汽車響「安」的方向嗎?
28. Do you hear birds singing outside?
    你能聽到小鳥在屋外唱歌嗎?
29. Can you recognise and distinguish different musical instruments?
    你能認出及分辨不同的樂器嗎？
30. Do you miss parts of music while listening to music or songs?
    樂或歌曲時聽不到其中某段音樂