

# Translation of Hearing Handicap Inventory (Adults and Elderly) to Kannada

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## Abstract

**Introduction:** The study aimed to translate two questionnaires on hearing handicap to South Indian language - Kannada. The questionnaires translated were Hearing Handicap Inventory for Adults (HHIA) and Hearing Handicap Inventory for Elderly (HHIE). **Materials and Methods:** The procedure of translation included forward translation and back translation done by the experts. The translated questionnaires were administered on 40 individuals with hearing impairment ranging from mild to severe degree. The participants were divided into two groups. In the Group I, there were 20 adults and in the Group II, there were 20 elderly participants. The relation between hearing threshold, Speech Identification Scores (SISs), and handicap scores were found in both the groups. Further, to check internal consistency of the questionnaire Chronbach alpha was obtained. **Results:** In Group II, there was a significant positive correlation between hearing thresholds and handicap score and a significant negative correlation between SISs and handicap score. However, such a correlation was not observed in Group I. The Chronbach alpha value was found to be 0.90 for HHIA and 0.967 for HHIE showing good reliability and internal consistency. **Conclusion:** The results implied that the degree of hearing impairment and speech perception abilities determines the degree of handicap in elderly. However, in adults, due to high-listening needs and emotional reaction to hearing impairment there was no such trend. Chronbach alpha value inferred that the questionnaire can be used to classify hearing impaired population based on the degree of their handicap.

**Keywords:** Pure tone average, questionnaire, Speech Identification Score

## INTRODUCTION

Individuals with hearing impairment experience difficulties in day-to-day communication. Hearing handicap is a measure of impact of hearing impairment on individual's everyday experiences.<sup>[1]</sup> However, various tests of hearing do not give a picture of the handicap caused by the hearing impairment.<sup>[2]</sup> This may be due to the reason that various hearing tests are carried out in laboratory situations that are entirely different from real-life situations.<sup>[3]</sup> In addition to this, the psychological, physical, and social life of an individual may attribute to the handicap caused by the disability.<sup>[4]</sup> Assessing hearing handicap may help audiologist to analyze the problems faced by the individual in the daily life. This will help audiologists to come up with suitable modifications in the amplification strategies, for example, varying the gain at different frequencies or activating noise reduction strategies and so on.

The handicap caused by hearing impairment can be assessed by administering various questionnaires. Self-assessment of communication,<sup>[5]</sup> Hearing Handicap Inventory for

Adults (HHIA)<sup>[6]</sup> and Hearing Handicap Inventory for Elderly (HHIE)<sup>[4]</sup> are a few questionnaires in English which assess the handicap caused by hearing impairment. Hearing Handicap Questionnaire (HHQ),<sup>[7]</sup> the International Outcome Inventory-hearing aids,<sup>[8]</sup> the Self-assessment of Communication,<sup>[5]</sup> and The participation Scale<sup>[9]</sup> are a few questionnaires which are translated into Kannada – a south Indian language. The availability of self-reported questionnaires is scarce in Indian context.<sup>[10]</sup> Since developing language-specific questionnaires is time-consuming and demands a lot of money and effort,<sup>[11]</sup> translating standardized questionnaires to the local languages is very practical.<sup>[10]</sup> In addition, not all Indians are capable of reading or understanding English. This is one of the reasons for translating questionnaires to the regional languages. Hence, it is crucial to develop and

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standardize the questionnaires into the regional languages, especially in a country like India wherein there are numerous regional languages.

The HHIE was developed by Ventry and Weinstein<sup>[4]</sup> [Appendix 1]. It was developed to assess the impact of hearing impairment on social and economic life of the elderly. It includes 13 and 12 questions in the emotional and social subsections, respectively. Each of the 25 questions has 3 options: Yes, Sometimes and No with the ratings of 4, 2, and 0, respectively. The maximum overall score is 100. The maximum number of points for social and emotional subsections is 48 and 52, respectively. A score of 0 implies no handicap while a score of 100 implies total handicap. A score ranging from 0% to 16% indicates no handicap, a score of 18%–42% indicate mild-to-moderate Handicap. Score above 44% indicates significant handicap.

The HHIA was developed by Newman, *et al.*<sup>[6]</sup> [Appendix 2]. It is a modified version of HHIE wherein three questions were replaced. One question was from the emotional domain while the other two were from the social domain. Questions were made in a way to suit the life style of the adults of age <65 years.

Both the questionnaires HHIA and HHIE have been very useful in assessing the degree of handicap in adult and elderly population. Both these questionnaires are known to have good internal consistency.<sup>[4,7]</sup> These questionnaires have been translated to different languages. HHIA has been translated to Italian language,<sup>[12]</sup> The screening version of HHIE has been translated into Spanish.<sup>[13]</sup>

The main aim of this study was to translate the questionnaires HHIE and HHIA from English to Kannada - A South Indian language. In addition, the questionnaires were administered on 40 individuals with hearing impairment.

## MATERIALS AND METHODS

Initially, the English versions of HHIA and HHIE were translated into the South Indian Dravidian language Kannada. Translation was carried by two native Kannada speakers who were proficient in English. One of them was an experienced audiologist, and the other one was a Lecturer in Kannada. Both of them made the translations independently. In addition to the questions, instructions and options were also translated. Thus, there were two versions of translated questionnaires for both HHIA and HHIE.

The experimenter compared the two translated versions of each questionnaire. Questions that were easily understood and had colloquially used words were selected and a single questionnaire was made for both HHIA and HHIE. Certain words such as hotel, radio, TV etc., were retained in English as these words were often used in Kannada.

The questionnaires in Kannada were given to two translators who were proficient in both Kannada and English. They back translated the questionnaires to English. The two

back-translated versions were found semantically similar and were combined. This single questionnaire of both HHIA and HHIE was compared with their original questionnaires. This procedure was done to identify any errors in the first translation. It was noted that in the reverse translated version, two words related to emotions (mental stress and disappointment) were different from the original version (nervous and frustration). Hence, a discussion with the forward translators was made, and they arrived at a decision for using different words that were more colloquially used. The two questions that used newly suggested words were reverse translated and found similar to the original questionnaires. Thus, final copies of the questionnaires were prepared. The translated versions of the questionnaires are provided in Appendix 3 and 4.

## Participants

There were two groups of participants involved in the study. Demographic and audiological details of participants in Group I and Group II are given in Tables 1 and 2, respectively. Group I had 20 adults in the age range of 18–55 years (mean age = 31.45 years, standard deviation [SD] = 12.25). In Group II, there were 20 adults in the age range of 65–89 years (mean age = 70.8 years, SD = 6.84). The HHIA and HHIE were administered on participants in Group I and Group II respectively. In both the groups, participants had bilateral symmetrical sensorineural hearing impairment ranging from mild-to-severe degree. Individuals with unilateral or asymmetrical hearing impairment were not included in the study because their handicap might vary depending on the status of the better ear. To avoid this, individuals with symmetrical hearing impairment were selected. Otological and immittance evaluation revealed normal middle ear functioning in both ears for all the participants. All the participants were naive hearing aid users.

The mean, standard deviation, and range of pure tone average (PTA) and Speech Identification Score (SIS) for the right and left ears of participants of Group I are depicted in Table 3. An independent *t*-test revealed no significant difference in PTA ( $t = 0.27, P = 0.78$ ) as well as SISs ( $t = -0.24, P = 0.80$ ) between the two ears. Hence, the average was taken for analysis.

Participants in Group II had hearing impairment ranging from mild-to-severe degree. Table 3 shows the mean, standard deviation, and range of PTA and SIS for the right and left ears of participants of Group II. The results of independent *t*-tests showed that there was no significant difference in PTA ( $t = -0.078, P = 0.93$ ) as well as SISs ( $t = 0.0, P = 1.0$ ) between the two ears. Hence, the average was taken for analysis.

## Procedure

Both the questionnaires were administered in a sound-treated room through a face-to-face interview. Some participants with mild hearing impairment were capable of answering the questions without a hearing aid. For those with higher degree of impairment, participants used their hearing aid during

**Table 1: Demographic and audiological details of Group I**

Serial number	Age (years)	Gender	Degree of hearing loss	PTA (dB HL)		SIS (%)		Stapedial reflex	
				Right	Left	Right	Left	Right	Left
1	47	Male	Moderately severe	62	68	100	100	A	A
2	40	Male	Moderate	52	44	92	92	P	P
3	55	Male	Moderate	53	50	84	88	P	P
4	21	Female	Severe	78	86	76	68	A	A
5	35	Male	Severe	86	72	52	48	A	A
6	50	Female	Moderate	55	56	88	92	P	P
7	19	Male	Severe	76	71	68	76	A	A
8	47	Female	Mild	26	30	100	100	P	P
9	20	Male	Severe	79	79	68	72	A	A
10	43	Female	Mild	26	38	100	100	P	P
11	19	Female	Moderate	66	61	100	100	P	P
12	36	Male	Moderate	52	45	72	80	A	A
13	24	Male	Moderately severe	65	58	72	72	A	A
14	27	Male	Mild	36	38	100	100	P	P
15	18	Female	Moderately severe	51	46	88	92	A	A
16	35	Male	Moderate	42	50	76	74	P	P
17	19	Male	Severe	82	70	56	52	A	A
18	18	Female	Moderate	54	50	84	88	P	P
19	27	Male	Mild	35	38	100	100	P	P
20	31	Female	Severe	85	80	52	60	A	A

PTA: Pure-tone average; SIS: Speech Identification Score; P: Present; A: Absent

**Table 2: Demographic and audiological details of Group II**

Serial number	Age (years)	Gender	Degree of hearing loss	PTA (dB HL)		SIS (%)		Stapedial reflex	
				Right	Left	Right	Left	Left	Right
1	71	Male	Moderate	42	50	84	80	P	P
2	68	Male	Mild	28	32	96	92	P	P
3	66	Female	Moderate	54	50	88	92	P	P
4	71	Male	Mild	27	29	92	92	P	P
5	89	Male	Mild	33	27	84	88	P	P
6	80	Male	Moderate	50	54	76	76	P	P
7	79	Male	Moderately severe	62	58	72	76	A	A
8	74	Female	Severe	85	80	48	52	A	A
9	65	Male	Severe	78	75	64	64	A	A
10	66	Male	Mild	32	30	88	88	P	P
11	71	Male	Mild	27	29	92	92	P	P
12	66	Male	Mild	30	30	92	92	P	P
13	67	Male	Moderately severe	58	63	78	74	A	A
14	81	Male	Severe	77	74	56	52	A	A
15	67	Male	Moderate	46	52	88	80	P	P
16	65	Male	Moderately severe	67	69	68	68	A	A
17	75	Female	Moderately severe	59	65	72	68	A	A
18	65	Female	Mild	28	32	88	88	P	P
19	65	Female	Moderate	54	51	74	78	A	A
20	65	Male	Mild	26	28	92	92	P	P

PTA: Pure-tone average; SIS: Speech Identification Score; P: Present; A: Absent

the interview. If they did not possess their own hearing aid, a trial hearing aid was used for the purpose of interview. Each question was read out by the experimenter and the clients were instructed to indicate, "No" or "Sometimes" for each of the question. A score of 4 was given to the response "Yes."

Response "No" and "Sometimes" scores 0 and 2, respectively. A total score was obtained by summing up the score of social and emotional domain. Based on the total score, the degree of handicap was found on the basis of classification system given by Ventry and Weinstein.<sup>[4]</sup>

## RESULTS

The scores for social and emotional domain, total score, and the degree of handicap for the participants of Group I and Group II were obtained. The results obtained in the two groups are depicted in Table 4. It was found in Group I that, 15 of them experienced significant handicap, 4 of them showed mild-to-moderate handicap while only 1 of them did not exhibit any handicap.

In Group II, 11 of them exhibited significant handicap, 3 of them showed mild-to-moderate handicap while 6 of them did not experience any handicap [Table 5]. The number of subjects of Group I and Group II, experiencing different degrees of handicap in depicted in Figure 1.

Using Shapiro-Wilk Test, normality was checked. The data obtained using HHIA ( $W = 0.958, P = 0.504$ ) and HHIE ( $W = 0.887, P = 0.203$ ) were found to be normal.

**Table 3: Pure-tone average and Speech Identification Score of Group I and Group II**

	Right ear			Left ear		
	Mean	SD	Range	Mean	SD	Range
Group I						
PTA (dB HL)	58.05	19.01	26-86	56.55	16.05	27-80
SIS (%)	81.4	16.63	48-96	82.7	16.77	52-92
Group II						
PTA (dB HL)	48.15	19.15	26-85	48.9	18.15	27-80
SIS (%)	79.6	13.18	48-96	79.2	13.03	52-92

PTA: Pure-tone average; SIS: Speech Identification Score; SD: Standard deviation; HL: Hearing loss

**Table 4: Scores of hearing handicap inventory of Group I**

Serial number	Score for social	Score for emotional	Total score	Degree of handicap
1	22	16	38	Mild to moderate
2	12	10	22	Mild to moderate
3	30	34	64	Significant
4	16	28	44	Significant
5	32	32	64	Significant
6	40	42	82	Significant
7	18	10	28	Mild to moderate
8	2	6	8	No
9	44	44	88	Significant
10	34	22	56	Significant
11	40	46	86	Significant
12	26	24	50	Significant
13	26	14	40	Mild to moderate
14	30	50	80	Significant
15	26	34	60	Significant
16	34	34	68	Significant
17	34	22	56	Significant
18	32	44	76	Significant
19	24	20	44	Significant
20	36	48	84	Significant

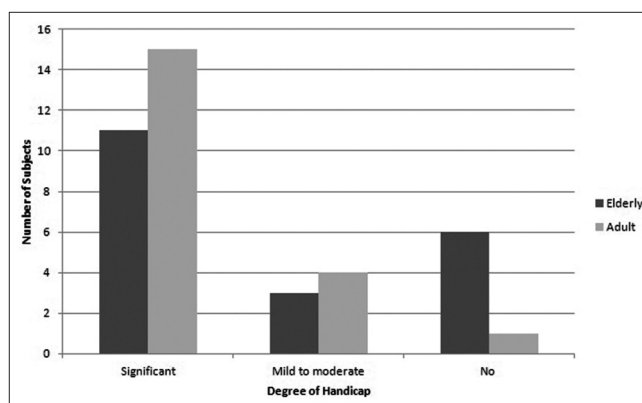
The relation between hearing thresholds, SISs, and the handicap scores were analyzed for both the groups using Pearson’s product-moment correlation. This is depicted in Table 6. The relation between pure tones average and scores of the social subscale in Group II showed a strong positive correlation ( $r = 0.839, n = 20, P = 0.000$ ). This is depicted in Figure 2. The correlation between PTA and scores of emotional domain also revealed a strong positive correlation ( $r = 0.722, n = 20, P = 0.000$ ). Further, there was a strong, positive correlation between pure tone thresholds and total scores of handicap ( $r = 0.787, n = 20, P = 0.000$ ).

Pearson’s correlation was carried out to check the relation between SISs and social handicap score. There was a strong negative correlation between the two variables,  $r = -0.722, n = 20, P = 0.000$ . Further, the relation between SISs and scores of emotional domain was also significantly strong,  $r = -0.643, n = 20, P = 0.000$ . Similarly, there was a strong, negative correlation between SISs and total scores of handicap,  $r = -0.689, n = 20, P = 0.001$ . This implied that individuals with good SISs experienced fewer handicaps than those with poor SISs.

However, there was no correlation between either pure tone thresholds or SISs and the handicap scores of individuals in Group I. There was no correlation between pure tone thresholds and the scores of the emotional subscale,  $r = 0.201, n = 20, P = 0.395$ . The pure tone thresholds and the scores of social subscale also did not show any correlation,  $r = 0.286, n = 20, P = 0.221$ . Similarly, there was no correlation between pure tone threshold and the total score of handicap  $r = 0.252, n = 20, P = 0.283$ .

Unlike the Group II, no correlation was found between SISs and handicap scores. There was no correlation between SISs and total handicap scores,  $r = -0.179, n = 20, P = 0.451$ , scores of social domain,  $r = -0.257, n = 20, P = 0.274$  and scores of emotional domain,  $r = -0.103, n = 20, P = 0.667$ .

To check the internal consistency of both the questionnaires, Chronbach alpha was performed for both the questionnaires



**Figure 1: Number of subjects in Group I and Group II having different degrees of handicap**



**Table 5: Scores of hearing handicap inventory for the elderly of Group II**

Serial number	Score for social	Score for emotional	Total score	Degree of handicap
1	40	50	90	Significant
2	12	0	12	No
3	44	42	86	Significant
4	6	6	12	No
5	6	8	14	No
6	48	52	100	Significant
7	24	16	40	Mild to moderate
8	48	50	98	Significant
9	42	36	78	Significant
10	12	12	24	Mild to moderate
11	4	0	4	No
12	8	0	8	No
13	46	44	90	Significant
14	48	52	100	Significant
15	34	40	74	Significant
16	32	14	46	Significant
17	28	24	52	Significant
18	20	12	32	Mild to moderate
19	36	28	64	Significant
20	4	4	8	No

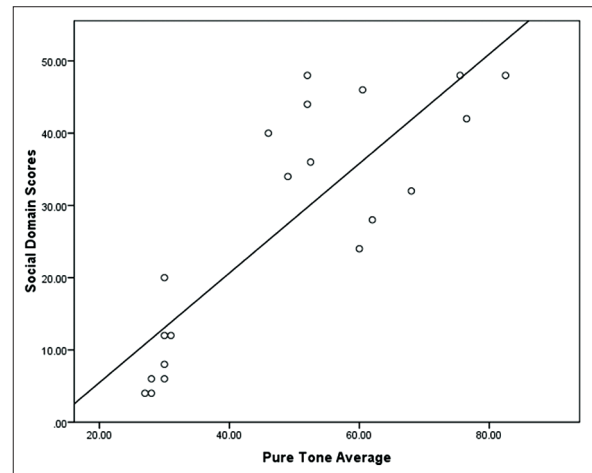
**Table 6: Relation between different domains of handicap, pure-tone average, and Speech Identification Score (*r*)**

	Social domain	Emotional domain	Total handicap score
Group I			
PTA	0.839	0.722	0.787
SIS	-0.772	-0.643	-0.689
Group II			
PTA	0.286	0.201	0.252
SIS	-0.257	-0.103	-0.179

PTA: Pure-tone average; SIS: Speech Identification Score

separately. It was found that the Chronbach alpha was found to be 0.967 for the HHIE and the inter-item correlation ranged from 0.230 to 1. Similarly, for the HHIA, it was found to be 0.900, and the inter-item correlation ranged from 0.297 to 1. This implies that both the questionnaires had good internal consistency and reliability, to administer on the individuals with hearing impairment in the Kannada population.

In the current study, for the HHIE, the Chronbach alpha for the social and emotional subscale was found to be 0.928 (interitem correlation ranging from 0.23 to 1) and 0.945 (interitem correlation ranging from 0.058 to 1), respectively. While, it was 0.88 and 0.93 for the social and emotional subscale in the English version of HHIE.<sup>[4]</sup> For HHIA, the Chronbach alpha values for the social subscale was 0.786 (interitem correlation ranging from 0.297 to 1) and for the emotional subscale was 0.866 (inter-item correlation ranging from 0.143 to 1). It

**Figure 2: Relation between pure tone average and social domain scores of Group II**

was found to be 0.85 for the social subscale and 0.88 for the emotional subscale for the English version of HHIA.<sup>[6]</sup>

## DISCUSSION

The aim of the study was to translate the English version of HHIA and HHIE to Kannada. These questionnaires mainly focus on the different types of situations or environment where individual with hearing impairment face difficulties to cope up with communication. The focus of the social subscale is to assess if the hearing impairment has an effect on the social life of the individual. The emotional subscale of the questionnaire expresses the effect of the hearing impairment on the emotions of the individual with hearing impairment, his/her family and colleagues; and the impact of their reactions on the individual with hearing impairment. The questionnaires quantify the extent of effect of hearing impairment in both social and emotional aspects of communication.

In the elderly population, there was a significant positive correlation between hearing thresholds and handicap score. This implies that as the degree of hearing impairment increased, they experienced more handicaps in their social and emotional life. A similar result was found by Ventry and Weinstein,<sup>[4]</sup> where in a moderate correlation was obtained between pure tone thresholds and handicap scores. It was found in the current study that there was a negative correlation between SISs and handicap scores. This implies that if speech perception in quiet is good, handicap experienced in day-to-day life is less and vice versa.

Unlike Group II, there was no correlation between PTA, SISs, and handicap scores for participants of Group I. The probable cause could be that the younger population is keener on their listening needs and a slight change in their thresholds too might have caused them a drastic handicap. In addition, a sudden onset of hearing impairment might have affected them emotionally which might have led to the increase in the handicap score in the emotional subscale.

Further, the listening environment of each individual seems to be different with respect to their occupation and style of living, unlike the elderly participants where all of them are retired from their job. In addition, when we retrospectively analyze the data of adults, depending on job and listening needs handicap varied. In the current study, all the elderly participants were retired from their job. However, this may be interpreted with caution as elderly listeners can have higher listening needs. Individuals with the same degree of hearing impairment might be exposed to a completely different listening environment, and as a result, their responses to the questions might vary. This might have resulted in varied degrees of handicap in them. In addition, irrespective of their degree of hearing impairment, a majority of them (75%) experienced significant handicap. This shows that neither their thresholds nor their ability to understand speech in quiet reflect the handicap faced by them in different listening environment. This is in consonance with the study by Newman *et al.*,<sup>[14]</sup> wherein a large intersubject variability was found in the handicap scores of HHIA, and the audiogram did not determine the communication or psychosocial handicap. However, there are differences in methods between these two studies.

In the study by Newman *et al.*<sup>[6]</sup> too, the correlation between pure tone sensitivity and the handicap score was found to be weak. The correlation was found to be even weaker for word recognition scores and handicap scores. Rosen<sup>[15]</sup> also concluded that the suprathreshold Speech Discrimination measures do not correlate with any of the self-perceived hearing handicap. This is observed in the present study too. The hearing handicap experienced by individuals in Group I did not correlate with the suprathreshold measurement of SISs.

The results of the present study can be compared with the other studies in literature. Translation of handicap-related questionnaire has been done to Kannada by Thammaiah *et al.*<sup>[16]</sup> Among the different questionnaires translated, the HHQ is similar to HHIA and HHIE. All these questionnaires have social and emotional domains. The internal consistency of the Kannada version of the HHQ is reported to be high. The internal consistency of Kannada version of HHIA and HHIE is also reported to be high. All the three questionnaires have Chronbach values above 0.7. Another questionnaire in Kannada which assesses the hearing handicap is Self-assessment of Hearing Handicap. The results of the present study have similarities with the result of that study too. A significant correlation was found between the handicap score of SAHH and the pure tone thresholds and SISs in quiet. In addition, high value of Chronbach alpha is also observed in the study.<sup>[17]</sup> Hence, the psychometric properties of all these questionnaires are observed to be equivalent signifying that all these questionnaires are apt to analyze hearing handicap.

The results of the present study showed a good internal consistency and reliability of the questionnaire. Overall, the Cronbach alpha values are above 0.9 for both the questionnaires.

This implies that the questionnaire completely reflects what it is supposed to measure. Hence, this questionnaire can be used to classify hearing impaired population based on the degree of their handicap. However, small sample size is the limitation of the study. The results of the study can be considered as preliminary findings to devise a future study with a larger population.

## CONCLUSION

In the current study, it was found that there was a strong relation between PTA, SISs, and handicap in elderly individuals. However, there was no such relation in the adult group. This implied that degree of hearing impairment and speech understanding determine the extent of handicap in elderly individuals. However, in the adult group, majority of the clients reported significant handicap though the degree of hearing impairment was mild. This could probably be due to their high-listening needs and emotional reaction to hearing impairment.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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## APPENDICES

## Appendix 1: Hearing Handicap Inventory for Elderly

## Hearing Handicap Inventory for Elderly (HHIE)

Ventry and Weinstein (1982)

S 1	Does a hearing problem cause you to use the phone less often than you would like?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 2	Does a hearing problem cause you to feel embarrassed when meeting new people?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 3	Does a hearing problem cause you to avoid groups of people?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 4	Does a hearing problem make you irritable?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 5	Does a hearing problem cause you to feel frustrated when talking to members of your family?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 6	Does a hearing problem cause you difficulty when attending a party?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 7	Does a hearing problem cause you to feel "stupid" or "dumb"?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 8	Do you have difficulty hearing when someone speaks in a whisper?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 9	Do you feel handicapped by a hearing problem?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 10	Does a hearing problem cause you difficulty when visiting friends, relatives, or neighbors?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 11	Does a hearing problem cause you to attend religious services less often than you would like?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 12	Does a hearing problem cause you to be nervous?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 13	Does a hearing problem cause you to visit friends, relatives, or neighbors less often than you would like?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 14	Does a hearing problem cause you to have arguments with family members?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)



S 15	Does a hearing problem cause you difficulty when listening to TV or radio?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 16	Does a hearing problem cause you to go shopping less often than you would like?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 17	Does any problem or difficulty with your hearing upset you at all?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 18	Does a hearing problem cause you to want to be by yourself?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 19	Does a hearing problem cause you to talk to family members less often than you would like?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 20	Do you feel that any difficulty with your hearing limits or hampers your personal or social life?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 21	Does a hearing problem cause you difficulty when in a restaurant with relatives or friends?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 22	Does a hearing problem cause you to feel depressed?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
S 23	Does a hearing problem cause you to listen to TV or the radio less often than you would like?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E24	Does a hearing problem cause you to feel uncomfortable when talking to friends?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)
E 25	Does a hearing problem cause you to feel left out when you are with a group of people?	<input type="checkbox"/> Yes (4)	<input type="checkbox"/> Sometimes (2)	<input type="checkbox"/> No (0)

Reference: Ventry IM , Weinstein BE. The Hearing Handicap Inventory for the Elderly : a New

Tool. Ear Hear 1982; 3:128–134

## Appendix 2: Hearing Handicap Inventory for Adults

### Appendix

#### Hearing Handicap Inventory for Adults (HHIA)

Newman, Weinstein, Jacobson and Hug (1990)

NAME:

DATE:

INSTRUCTIONS: The purpose of the scale is to identify the problems your hearing loss may be causing you. Check YES, SOMETIMES, or NO for each question. DO NOT skip a question if you avoid a situation because of your hearing problem. If you use a hearing aid, please answer the way you hear **WITHOUT** your aid.

		YES (4)	SOME- TIMES (2)	NO (0)
S 1	Does a hearing problem cause you to use the phone less often than you would like?			
E 2	Does a hearing problem cause you to feel embarrassed when meeting new people?			
S 3	Does a hearing problem cause you to avoid groups of people?			
E 4	Does a hearing problem make you irritable?			
E 5	Does a hearing problem cause you to feel frustrated when talking to members of your family?			
S 6	Does a hearing problem cause you difficulty when attending a party?			
S 7	Does a hearing problem cause you difficulty hearing/understanding coworkers, clients, or customers?			
E 8	Do you feel handicapped by a hearing problem?			
S 9	Does a hearing problem cause you difficulty when visiting friends, relatives, or neighbors?			
E 10	Does a hearing problem cause you to feel frustrated when talking to coworkers, clients or customers?			
S 11	Does a hearing problem cause you difficulty in the movies or theater?			
E 12	Does a hearing problem cause you to be nervous?			
S 13	Does a hearing problem cause you to visit friends, relatives, or neighbors less often than you would like?			
E 14	Does a hearing problem cause you to have arguments with family members?			
S 15	Does a hearing problem cause you difficulty when listening to TV or radio?			

S 16	Does a hearing problem cause you to go shopping less often than you would like?			
E 17	Does any problem or difficulty with your hearing upset you at all?			
E 18	Does a hearing problem cause you to want to be by yourself?			
S 19	Does a hearing problem cause you to talk to family members less often than you would like?			
E 20	Do you feel that any difficulty with your hearing limits or hampers your personal or social life?			
S 21	Does a hearing problem cause you difficulty when in a restaurant with relatives or friends?			
E 22	Does a hearing problem cause you to feel depressed?			
S 23	Does a hearing problem cause you to listen to TV or the radio less often than you would like?			
E 24	Does a hearing problem cause you to feel uncomfortable when talking to friends?			
E 25	Does a hearing problem cause you to feel left out when you are with a group of people?			

Reference: Newman CW, Weinstein BE, Jacobson GP, Hug GA. The Hearing Handicap Inventory for Adults : Psychometric Adequacy and Audiometric Correlates. *Ear Hear* 1990;11: 6–9

## Appendix 3

## Hearing Handicap Inventory for Adults (HHIA)

ವಯಸ್ಕರಿಗೆ ಶ್ರವಣ ಪ್ರತಿಬಂಧಕ ತಪಶೀಲು ಪಟ್ಟಿ

ಹೆಸರು: \_\_\_\_\_

ದಿನಾಂಕ: \_\_\_\_\_

ಸೂಚನೆಗಳು- ಈ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉದ್ದೇಶ, ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದಾಗುವ ತೊಂದರೆಗಳನ್ನು ಗುರುತಿಸುವುದು. ಪ್ರತಿ ಪ್ರಶ್ನೆಗೂ 'ಹೌದು' 'ಕೆಲವೊಮ್ಮೆ' ಮತ್ತು 'ಇಲ್ಲ' ಎಂಬ ಆಯ್ಕೆ ಇದ್ದು, ನಿಮಗೆ ಯಾವ ಆಯ್ಕೆ ಸೂಕ್ತವಾಗಿದೆ ಅನಿಸುತ್ತದೆಯೋ ಆ ಆಯ್ಕೆಗೆ / (ಟಿಕ್ ಮಾಡಿ) ಗುರುತು ಮಾಡಿ. ಶ್ರವಣದೋಷದಿಂದ ಯಾವುದಾದರೂ ಸನ್ನಿವೇಶಗಳಿಂದ ನೀವು ದೂರವಿದ್ದರೆ ಆ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸದೇ ಇರಬೇಡಿ. ನೀವು ಶ್ರವಣಯಂತ್ರವನ್ನು ಉಪಯೋಗಿಸುತ್ತಿದ್ದಲ್ಲಿ, ಅದನ್ನು ಉಪಯೋಗಿಸದೇ ಇರುವಾಗ ನಿಮ್ಮ ಅನುಭವ ಹೇಗಿರುತ್ತದೆಯೋ ಹಾಗೆ ಉತ್ತರಿಸಿರಿ.

		ಹೌದು 4	ಕೆಲವೊಮ್ಮೆ 2	ಇಲ್ಲ 0
S 1	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ದೂರವಾಣಿಯ ಬಳಕೆಯನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?			
E 2	ನೀವು ಅಪರಿಚಿತ ವ್ಯಕ್ತಿಗಳನ್ನು ಭೇಟಿ ಮಾಡಿದಾಗ, ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ಮುಜುಗರ ಉಂಟಾಗಿದೆಯೇ?			
S 3	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಜನರ ಗುಂಪಿನಿಂದ ದೂರವಿರುವಿರಾ?			
E 4	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು ನಿಮ್ಮನ್ನು ಕೆರಳಿಸುವುದೇ?			
E 5	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮ್ಮ ಕುಟುಂಬ ಸದಸ್ಯರೊಡನೆ ಮಾತನಾಡುವಾಗ ನೀವು ಹತಾಶೆಗೊಂಡಿರುವಿರಾ?			
S 6	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ಸಮಾರಂಭಗಳಿಗೆ ಹೋದಾಗ ನಿಮಗೆ ಕಷ್ಟವಾಗುವುದೇ?			
S 7	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮ್ಮ ಸಹೋದ್ಯೋಗಿ,			

	ಕಕ್ಷಿಗಾರ, ಅಥವಾ ಗ್ರಾಹಕರೊಂದಿಗೆ ಮಾತನಾಡುವಾಗ, ಮತ್ತು ಅರ್ಥ ಮಾಡಿಕೊಳ್ಳಲು ಕಷ್ಟವಾಗುವುದೇ?			
E 8	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ಅಂಗವೈಕಲ್ಯ ಉಂಟಾದಂತೆ ಅನಿಸುತ್ತದೆಯೇ?			
S 9	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮ್ಮ ಮಿತ್ರರು, ಸಂಬಂಧಿಕರು ಹಾಗೂ ನೆರೆಹೊರೆಯವರನ್ನು ಭೇಟಿ ಮಾಡಿದಾಗ ನಿಮಗೆ ಕಷ್ಟವಾಗುತ್ತದೆಯೇ?			
E 10	ನಿಮ್ಮ ಸಹೋದ್ಯೋಗಿ, ಕಕ್ಷಿಗಾರ, ಅಥವಾ ಗ್ರಾಹಕರೊಂದಿಗೆ ಮಾತನಾಡುವಾಗ, ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ಹತಾಶೆ ಉಂಟಾಗಿದೆಯೇ?			
S 11	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ಚಿತ್ರ ಮಂದಿರಗಳಲ್ಲಿ ಕಷ್ಟವಾಗುತ್ತದೆಯೇ?			
E 12	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಧೈರ್ಯಹೀನರಾಗುವಂತೆ ಆಗಿದೆಯೇ?			
S 13	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ನಿಮ್ಮ ಮಿತ್ರರು, ಸಂಬಂಧಿಕರು ಹಾಗೂ ನೆರೆಹೊರೆಯವರನ್ನು ಭೇಟಿ ಮಾಡುವುದನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?			
E 14	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು, ನಿಮ್ಮ ಕುಟುಂಬ ಸದಸ್ಯರೊಡನೆ ವಾದಗಳನ್ನು ಉಂಟುಮಾಡಿದೆಯೇ?			
S 15	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ಟಿ.ವಿ ಅಥವಾ ರೇಡಿಯೋ ಕೇಳುವುದರಲ್ಲಿ ಕಷ್ಟವಾಗಿದೆಯೇ?			
S 16	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಅಂಗಡಿಗೆ ಹೋಗುವುದನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?			
E 17	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು ನಿಮಗೆ ಅಸಮಾಧಾನ ಉಂಟು ಮಾಡಿದೆಯೇ?			
E 18	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಒಂಟಿಯಾಗಿರಲು ಇಷ್ಟ ಪಡುವಿರಾ?			
S 19	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ನಿಮ್ಮ ಕುಟುಂಬ ಸದಸ್ಯರೊಡನೆ ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾತನಾಡುವಂತೆ ಮಾಡಿದೆಯೇ?			



E 20	ಕೇಳುವಿಕೆಯ ಯಾವುದಾದರೂ ತೊಂದರೆಯಿಂದ ನಿಮ್ಮ ವ್ಯಕ್ತಿಕ ಅಥವಾ ಸಾಮಾಜಿಕ ಬದುಕು ನಿಯಮಿತ ಅಥವಾ ಕುಂಠಿತಗೊಂಡಿದೆ ಎಂದು ಅನಿಸುತ್ತದೆಯೇ?			
S 21	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮ್ಮ ಸಂಬಂಧಿಕರು ಅಥವಾ ಗೆಳೆಯರೊಂದಿಗೆ ಹೋಟಲಿನಲ್ಲಿ ಇದ್ದಾಗ ನಿಮಗೆ ಕಷ್ಟವಾಗುವುದೇ?			
E 22	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು ನಿಮಗೆ ವಿನ್ಯತೆಯನ್ನು ಉಂಟು ಮಾಡಿದೆಯೇ?			
S 23	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ಟಿ.ವಿ ಅಥವಾ ರೇಡಿಯೋ ಕೇಳುವುದನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?			
E24	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ನಿಮ್ಮ ಗೆಳೆಯರೊಡನೆ ಮಾತನಾಡುವಾಗ ಅಹಿತಕರವಾದ ಅನುಭವ ಉಂಟಾಗಿದೆಯೇ?			
E 25	ನಿಮಗೆ ಶ್ರವಣದೋಷವಿರುವುದರಿಂದ, ನೀವು ಜನರ ಗುಂಪಿನಲ್ಲಿರುವಾಗ ಏಕಾಂಗಿ ಎಂಬ ಭಾವನೆ ಬರುವುದೇ?			

## Appendix 4

## Hearing Handicap Inventory for Elderly (HHIE)

ಹಿರಿಯರಿಗೆ ಶ್ರವಣ ಪ್ರತಿಬಂಧಕ ತಪಶೀಲು ಪಟ್ಟಿ

ಹೆಸರು: \_\_\_\_\_

ದಿನಾಂಕ: \_\_\_\_\_

ಸೂಚನೆಗಳು- ಈ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉದ್ದೇಶ, ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದಾಗುವ ತೊಂದರೆಗಳನ್ನು ಗುರುತಿಸುವುದು. ಪ್ರತಿ ಪ್ರಶ್ನೆಗೂ 'ಹೌದು' 'ಕೆಲವೊಮ್ಮೆ' ಮತ್ತು 'ಇಲ್ಲ' ಎಂಬ ಆಯ್ಕೆ ಇದ್ದು, ನಿಮಗೆ ಯಾವ ಆಯ್ಕೆ ಸೂಕ್ತವಾಗಿದೆ ಅನಿಸುತ್ತದೆಯೋ ಆ ಆಯ್ಕೆಗೆ / (ಟಿಕ್ ಮಾಡಿ) ಗುರುತು ಮಾಡಿ. ಶ್ರವಣದೋಷದಿಂದ ಯಾವುದಾದರೂ ಸನ್ನಿವೇಶಗಳಿಂದ ನೀವು ದೂರವಿದ್ದರೆ ಆ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸದೇ ಇರಬೇಡಿ. ನೀವು ಶ್ರವಣಯಂತ್ರವನ್ನು ಉಪಯೋಗಿಸುತ್ತಿದ್ದಲ್ಲಿ, ಅದನ್ನು ಉಪಯೋಗಿಸದೇ ಇರುವಾಗ ನಿಮ್ಮ ಅನುಭವ ಹೇಗಿರುತ್ತದೆಯೋ ಹಾಗೆ ಉತ್ತರಿಸಿರಿ.

S 1	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ದೂರವಾಣಿಯ ಬಳಕೆಯನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 2	ನೀವು ಅಪರಿಚಿತ ವ್ಯಕ್ತಿಗಳನ್ನು ಭೇಟಿ ಮಾಡಿದಾಗ, ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ಮುಜುಗರ ಉಂಟಾಗಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 3	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಜನರ ಗುಂಪಿನಿಂದ ದೂರವಿರುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 4	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು ನಿಮ್ಮನ್ನು ಕೆರಳಿಸುವುದೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 5	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮ್ಮ ಕುಟುಂಬ ಸದಸ್ಯರೊಡನೆ ಮಾತನಾಡುವಾಗ ನೀವು ಹತಾಶೆಗೊಂಡಿರುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 6	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ	

	ಸಮಾರಂಭಗಳಿಗೆ ಹೋದಾಗ ನಿಮಗೆ ಕಷ್ಟವಾಗುವುದೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 7	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು ನೀವು ಮೂರ್ಖ ಅಥವಾ ಮಂದಬುದ್ಧಿ ಎನಿಸುವಂತೆ ಮಾಡಿದೆಯೇ ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 8	ಯಾರಾದರು ಪಿಸುಗುಟ್ಟಿದಾಗ ನಿಮಗೆ ಕೇಳಲು ಕಷ್ಟವಾಗುವುದೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 9	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ಅಂಗವೈಕಲ್ಯ ಉಂಟಾದಂತೆ ಅನಿಸುತ್ತದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 10	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮ್ಮ ಮಿತ್ರರು, ಸಂಬಂಧಿಕರು ಹಾಗೂ ನೆರೆಹೊರೆಯವರನ್ನು ಭೇಟಿ ಮಾಡಿದಾಗ ನಿಮಗೆ ಕಷ್ಟವಾಗುತ್ತದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 11	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಧಾರ್ಮಿಕ ಸೇವೆಗಳಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳುವುದನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 12	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಧೈರ್ಯಹೀನರಾಗುವಂತೆ ಆಗಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 13	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ನಿಮ್ಮ ಮಿತ್ರರು, ಸಂಬಂಧಿಕರು ಹಾಗೂ ನೆರೆಹೊರೆಯವರನ್ನು ಭೇಟಿ ಮಾಡುವುದನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 14	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು, ನಿಮ್ಮ ಕುಟುಂಬ ಸದಸ್ಯರೊಡನೆ ವಾದಗಳನ್ನು ಉಂಟುಮಾಡಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 15	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ	

	ಟಿ.ವಿ ಅಥವಾ ರೇಡಿಯೋ ಕೇಳುವುದರಲ್ಲಿ ಕಷ್ಟವಾಗಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 16	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಅಂಗಡಿಗೆ ಹೋಗುವುದನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 17	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು ನಿಮಗೆ ಅಸಮಾಧಾನ ಉಂಟು ಮಾಡಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 18	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ಒಂಟಿಯಾಗಿರಲು ಇಷ್ಟ ಪಡುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 19	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನೀವು ನಿಮ್ಮ ಕುಟುಂಬ ಸದಸ್ಯರೊಡನೆ ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾತನಾಡುವಂತೆ ಮಾಡಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 20	ಕೇಳುವಿಕೆಯ ಯಾವುದಾದರೂ ತೊಂದರೆಯಿಂದ ನಿಮ್ಮ ವ್ಯಕ್ತಿಕ ಅಥವಾ ಸಾಮಾಜಿಕ ಬದುಕು ನಿಯಮಿತ ಅಥವಾ ಕುಂಠಿತಗೊಂಡಿದೆ ಎಂದು ಅನಿಸುತ್ತದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 21	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮ್ಮ ಸಂಬಂಧಿಕರು ಅಥವಾ ಗೆಳೆಯರೊಂದಿಗೆ ಹೋಟಲಿನಲ್ಲಿ ಇದ್ದಾಗ ನಿಮಗೆ ಕಷ್ಟವಾಗುವುದೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E 22	ನಿಮ್ಮ ಶ್ರವಣದೋಷವು ನಿಮಗೆ ಖಿನ್ನತೆಯನ್ನು ಉಂಟು ಮಾಡಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
S 23	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ಟಿ.ವಿ ಅಥವಾ ರೇಡಿಯೋ ಕೇಳುವುದನ್ನು ನೀವು ಇಚ್ಛಿಸುವುದಕ್ಕಿಂತ ಕಡಿಮೆ ಮಾಡಿರುವಿರಾ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
E24	ನಿಮ್ಮ ಶ್ರವಣದೋಷದಿಂದ ನಿಮಗೆ ನಿಮ್ಮ ಗೆಳೆಯರೊಡನೆ ಮಾತನಾಡುವಾಗ ಅಹಿತಕರವಾದ ಅನುಭವ ಉಂಟಾಗಿದೆಯೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)

E 25	ನಿಮಗೆ ಶ್ರವಣದೋಷವಿರುವುದರಿಂದ, ನೀವು ಜನರ ಗುಂಪಿನಲ್ಲಿರುವಾಗ ಏಕಾಂಗಿ ಎಂಬ ಭಾವನೆ ಬರುವುದೇ?	<input type="checkbox"/> ಹೌದು (೪) <input type="checkbox"/> ಕೆಲವೊಮ್ಮೆ (೨) <input type="checkbox"/> ಇಲ್ಲ(೦)
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