Does the Ida tool 'My Hearing Explained' result in improved understanding of the consequences of hearing loss among older hearing impaired individuals seeking help for their hearing for the first time?

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Introduction

Although the audiogram has been used for relaying test results to patients since 1922 (Jerger 2013), its graphical format can be difficult for patients to understand (Niall 2021). Indeed, a 2020 UK based study identified that 19.4% of British adults had some level of difficulty reading and understanding written health information, and 23.2% had difficulty discussing health concerns with health care providers (Simpson 2020).

There is a move to develop tools that improve patients' understanding of their hearing loss. Ida's My Hearing Explained (MHE) is one such tool. It is a single-page conversation guide and handout that is completed by the audiologist and patient together. We explored whether the MHE tool impacted audiologists' use of language and patients' understanding of their hearing test results by comparing:

1. The language used by audiologists prior to and following use of the MHE
2. Patients' understanding of the information audiologists provided about their hearing loss when using and not using the MHE

Method

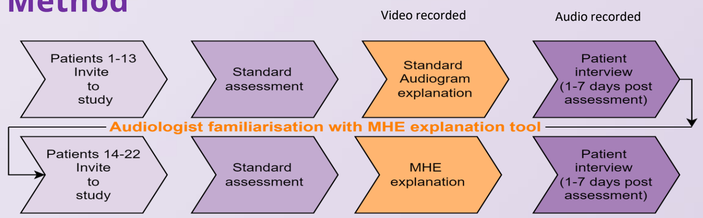

Figure 1. Flow chart of method

Participants: Four experienced audiologists from one National Health Service clinic in the UK who had never used the MHE tool and 22 newly referred patients (12 female, mean age 63.5 years.)

Analyses: Video transcripts were analysed for linguistic complexity and use of jargon terms. Audio-transcripts of post-assessment patient interviews were analysed using content analysis.

Figure 2. QR code for full publication
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Results

General language complexity

When using the MHE the Audiologists utilized fewer passive sentences and employed simpler language (Flesch 1948). See table 1. Turn taking increased from 1.6 to 3.2 per min. and use of single word utterances, repetition and simple affirmations from the patients decreased by 21%. However, using the MHE increased the time taken to deliver the explanation on average and the number of sentences used in comparison to the standard explanation.

	No. of audiologist appointments	No.of sentences M (SD)	Words per sentence M (SD)	% passive sentences M (SD)	Flesch Reading Ease, M(SD)	Flesch-Kincaid Reading Grade M (SD)
Standard	13	55.5 (36.1)	20.8 (7.1)	3.1 (3.4)	75.7 (7.8)	7.8 (2.8)
MHE tool	9	98.1 (38.3)	16.2 (6.3)	1.9 (3.5)	79.7 (8.2)	6.1 (2.6)
Difference	**4**	**42.6**	**-4.6**	**-1.2**	**4.0**	**-1.7**

Table.1. A Flesch Reading Ease scale score of 100 is equivalent to a US fourth grade child ; UK aged 9-10yrs. A higher Flesch-Kincaid Reading grade requires a higher educational level.

Patient interview content

Table 2 highlights comments from each theme drawn from the semi structured post assessment patient interviews.

There was a higher demand for takeaway information in the standard group. (see table 3) We hypothesise, that patients wanted more time to digest the information they had been given.

When asked what they were told regarding their type and level of hearing loss incorrect recall was higher when the standard explanation was used.

Theme/Sub theme	Examples
Understanding/ Takeaway information wanted	"I understood more from my personal graph later on than what had been told in the consultation…it's only when you took the graph away that you really absorbed that information." (Standard) "Well, for me, it was over simplistic. I asked her for a graph." (MHE)
Understanding/ More information wanted	"…maybe like a really, really simple diagram maybe with a picture just to say what the average result would normally be for someone of a similar age…" (Standard) "Because you have no comparison to anyone else's hearing, those questions didn't make a lot of sense to me." (MHE)
Understanding/ Person centred information	"She gave me lots of good advice because I do suffer from tinnitus as well…She even directed me to some apps I can put on my phone." (Standard) "So, she suggested if my wife wants to contact me, until I get the aids, it might not be a bad idea to say, [name], can you come and do this, rather than, can you come and do this. Because I may not hear that bit, but with the, [name], I'm more likely to pick up on it apparently." (MHE)
Interpretation/ Explanation	"I'll show [my partner] the graphs and explain to her where the hearing is dropping off…" (Standard) "…with my partner, my fiancé, I've sort of explained to her. I said, look, that's my right ear, that's my left ear, so people can have an understanding of what I'm going through." (MHE)
Interpretation/ Difficulties in comprehension	"It's quite hard to digest…There's a lot of symbols, so you're kind of looking at something that you've never seen before, and all of a sudden, you're kind of then expected to remember that." (Standard)
Recall/Recall	"I don't exactly remember everything she told me." <Any specifics that you can remember from the results, the hearing test results?> "Oh no, not really." (MHE)
Emotional support/ Reassurance	"…I am confident that she was an expert, and she was happy." (Standard) "Because I went there full of doubts, I thought I was wasting everybody's time. So, to come away with that, that I did need them [hearing aids]." (MHE)
Emotional support/ Validation	"She validated my reasons for going because sometimes when someone says it's only mild, you feel like you've wasted the time, but I absolutely didn't…so I thought that was really important." (Standard)

Table 2. Example quotes from the post assessment patient interviews.

Content codes	Standard explanation n/%	MHE explanation n/%
Would like takeaway written info	7/54	2/22
Explanation made sense	8/62	7/78
Explanation helped explain to others	4/31	6/67
Difficult to digest/overwhelmed	3/23	0/0
Recall of hearing levels	9/69	6/67
Incorrect recall of hearing level	3/23	1/11
Reassurance	6/46	4/44
Trusting Audiologist's opinion	4/31	4/44

Table 3. A sample of frequency of content identified in the two patient groups.

Use of medical jargon

Jargon terms used by the audiologists were extracted from the transcripts. Authors identified a total of 55 terms. The frequency and Incidence of unclarified jargon terms were 10% lower With the MHE explanation.

Figure 3. The most frequently used jargon terms are in larger font.

Discussion

Audiologists used a different communication style depending on whether they used the MHE or standard explanation tool. Patients had differing preferences about the level of detail they wanted about their hearing, reflecting previous findings identified for experienced hearing aid users (Parmar 2022).

Some individuals found the standard explanation of the audiogram to be difficult to understand, recall and explain to others, whilst others found the MHE too simplistic in its approach.

The MHE explanation took longer overall than the standard explanation.

We conclude that the MHE could be a valuable tool for improving the accessibility and comprehensibility of hearing test result explanations.

We therefore suggest that hearing care professionals adapt their explanation of hearing loss and its consequences to the needs of each patient by simply asking each how much information they would like.

Data from larger samples of patients and audiologists are needed to test the significance of these observations.

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