Quality and readability of English-language internet information for adults with hearing impairment and their significant others

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Information

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Are people informed or misinformed by the hearing information they find on the internet?

Background

Searching for health information is, after email and search engine use, the third most **common internet activity** (Pew Internet, 2011). For people facing a health decision, Internet is the second most **influential source of information** after clinician advice (Couper et al, 2010). Searching the internet for a **significant other**'s health condition is also common (Pew Internet, 2011).

Clients do not methodically **assess the quality** of health information they find on the internet (Eysenbach et al, 2002).

Aims

This study evaluated the **internet hearing information** available to people with hearing impairment and their significant others. More specifically, it assessed the origin, date of last update, quality and readability of Englishlanguage websites.

Methods: Measures

1. Origin: Government, commercial or non-profit

- **2. Date of last update:** As displayed on each website
- **3. Quality DISCERN scale (Charnock et al, 1999):** Sixteen items assessing how well health information helps treatment choices, e.g. *Is it balanced and* unbiased? Scores can range from 1 (low quality) to 5 (high quality). Two raters were involved to determine inter-rater agreement.
- 4.Readability Flesch-Kincaid Grade Level Formula (Flesch, 1948): Measures word and sentence length. The lower the score, the better the readability. Estimates school grade required to understand text.







Methods: Internet search

Parameter for consideration	Outcome	Rationale
Search engine	Google	Used for > 80% of internet searches (Net Marketshare, 2011)
Potential search words	Hearing, hearing aids, hearing loss, hard of hearing, deafness, etc.	Generated by a panel of 12 hearing experts
Search words with operators or phrases e.g. hearing AND loss	Not used	> 90% of clients do not use operators or phrases (Eysenbach & Köhler, 2002)
Search words	Hearing loss Hearing aids	Most popular according to Google Trends
Search engine versions	Australia, Canada, India, UK and USA	Most popular for selected search words according to Google Trends
Number of websites to include	First 10 websites for each search	> 95% of websites that clients access feature on the first 10 search results (Eysenbach & Köhler, 2002)



Results: Analysis of 66 websites







2. Date of last update





Results: Analysis of 66 websites (continued)

3. Quality - DISCERN scale

mean (SD) range: 2.1 (0.6) 1.1-3.9

The inter-rater agreement was good (interclass correlation coefficient of .88).

Non-profit websites had significantly higher DISCERN scores (p < .01) than those from government or commercial origin.



4.Readability - Flesch-Kincaid Grade Level Formula mean (SD) range: 11.1 (2.2) 7.3-17.2

There was no significant relationship between readability and other measures. For example, there was no association between readability and quality.

Discussion



- Overall, websites are **updated frequently**. However, in many instances only some sections of a website are updated.
- **Quality varies greatly** (DISCERN scores ranging from 1.1 to 3.9 out of 5). Websites from **non-profit organisations** provide information of significantly better quality.
- Only people with **at least 11-12 years of education** can read and understand the average hearing internet information. **Two of the 66 websites** (3%) meet the **recommended** US Department of Health and Human Services **readability** level (below grade 7) (Walsh & Volsko, 2008). On average, hearing websites have lower readability than other health websites (Walsh & Volsko, 2008) and than **hearing aid instruction guides** (Nair & Cienkowski, 2010). **Good** readability can be achieved without compromising quality.
- The related article **lists** the nine **websites** which **scored highest** on both quality and readability.

