

Screening for Vision and Hearing Loss in Patients with Dementia:

Recommendations from Interviews with Sensory Experts



Jonathan Jarry¹, MSc Fiona Höbler^{2,3}, MSc Walter Wittich^{1,4,5}, PhD FAO CLVT Katherine McGilton^{2,6}, RN PhD FAAN

¹ School of Optometry, Université de Montréal, Montréal, Canada ² Toronto Rehabilitation Institute, University Health Network, Toronto, Canada
³ Department of Speech-Language Pathology, Rehabilitation Sciences Institute, University of Toronto ⁴ CRIR/Centre de réadaptation MAB-Mackay du CIUSSS du Centre-Ouest-de-l'Île-de-Montréal, Canada
⁵ CRIR/Institut Nazareth et Louis-Braille du CISSS de la Montérégie-Centre, Longueuil, Canada ⁶ Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Canada

Introduction

- With aging, visual and hearing impairments increase in prevalence.
- A cross-sectional study of 27,536 older Europeans from 11 countries revealed the following prevalences in self-reported sensory difficulties: 10.2% for vision difficulties, 13.5% for hearing difficulties, and 5.9% for both (Viljanen *et al.*, 2014). This means that nearly 1/3 of Europeans have at least one sensory loss.
- Screening for these comorbidities is particularly important in an aging population as these impairments have a negative impact on quality of life (Dalton, 2003; Kempen, 2012).
- A complicating factor for these screenings is the presence of dementia. Its prevalence in European countries increases with age, from 0.6% for the 60-64 age group to 46.3% for the 95+ age group (Alzheimer Europe, 2013).

- Problem:** visual and hearing screening tools have neither been designed nor validated in a population with dementia, and thus may not be administrable in these cases.
- Aim of this study:** to identify effective vision and hearing screening tools suitable for older adults with dementia (adapting their administration if necessary) using an environmental scan amongst experts in sensory screening.

Findings

TOPIC 1: BARRIERS

- Impaired communication
- Hearing loss denial
- Lack of cooperation by the client's family
- Discomfort vis-à-vis the physical closeness often required for sensory screening
- Environmental noises during hearing screening
- The presence of combined hearing and vision loss
- Limitations of portable equipment
- Lack of staff cooperation

"We did find that the nurses, number one, only bothered to do [...] their screening on 50% of the intake of the people that were admitted. And furthermore, failed to identify 40% of the people that the student identified with the more extensive screening."

TOPIC 2: FACILITATORS

- Clients
- Family members
- Activation workers
- Long-term-care facility staff
- Intervenor
- Nurses

"The nurse manager on that unit was very receptive to having some audiological intervention on her unit, and so we actually designed a simple screening program there, because she wanted the nurses to be able to do the screening [...]. And she felt that it was important to get the nurses on her unit involved in that screening."

TOPIC 3: RECOMMENDED TOOLS AND STRATEGIES

	HEARING SCREENING	VISION SCREENING
TOOLS	<ul style="list-style-type: none"> "Hear Mans" (manikin head with headphones on used for a quick hearing test) Asking simple questions (does the patient wear hearing aids? does the patient have them?) Chart review Five-minute hearing test Hearing Dependent Daily Activities questionnaire Otoacoustic emissions Picture board Pocket Talker (how the person responds to using it) Pure-tone audiology Questionnaire devised by a former student of the interviewee's Repeating numbers Speech testing Whisper test and finger rub 	<ul style="list-style-type: none"> Auto-refractor Case history Finger counting Health questionnaire Matching game Objective measures (prescription assessment, eye exam) Sentences on a board in different sized font Vision questionnaire Visual charts (letters, numbers, sentences, single words, pictures, tumbling Es)
STRATEGIES	<ul style="list-style-type: none"> Alternating between testing the left and right ear until you get an answer if no initial response to pitch testing Applying techniques developed for screening in children Asking basic questions as a form of hearing screening Bowing out of the screening gracefully if it could not be finished Choosing more meaningful stimuli than pure tones Choosing "pulsing beeps" instead of "single beeps" on the audiometer Choosing a quiet room Educating nurses and doctors on the importance of hearing and screening Frequently encouraging the client Gradually reducing the level of stimulus presentation to find their threshold Repeating measurements to ensure reliability of client self-report Rephrasing screening questions to avoid denial of the problem Starting with speech testing Taking breaks as needed Using a headset instead of ear buds Using ear buds instead of a headset Using sound amplification (e.g. Pocket Talker) to facilitate communication 	<ul style="list-style-type: none"> Bringing the eye chart closer than normal Distributing a vision form for caregiver to request exam or to help staff look at changes that would warrant a screening Emphasizing that the purpose of the screening is to monitor the health of the individual Respecting their autonomy during the screening Staying away from the patient and moving around them with portable instruments

Methodology

Interviews were conducted with 10 specialists (director of operations of a tech company, audiology advisor, optometrists, hearing care counselor, audiologist, deafblind service facilitator and client service coordinator, and speech language pathologist).

Verbatim transcripts of these interviews were coded by two evaluators (WW, JJ) using verbal agreement and consensus building. A table containing summaries of every coded phrase was assembled by JJ and sorted by code, so that themes could be identified.

Discussion

Sensory screening experts identified a number of barriers and facilitators to screening in an older population with dementia, as well as likely tools and strategies that could be used.

These findings are part of a larger study, including a scoping review of the literature on sensory screening in people with dementia, as well as a Delphi panel, resulting in recommendations that will then be tested in a clinical setting.

