Using smartphone technology to support the adult audiologic rehabilitation journey

Objective

Determine whether smartphone apps designed to help those with hearing loss are beneficial for an older population.

Methodology

1. Assessment of individual barriers to app use via standardized measures:
   - Measure of Audioligic Rehabilitation Self-Efficacy for Hearing Aids (MARS-HA)
   - Grooved Pegboard Test
   - Montreal Cognitive Assessment Test (MoCA)

2. Task skill competency test – modified Practical Hearing Aid Skills Test (PHAST):
   - 6 tasks utilizing app as guide:
     - battery change
     - turning hearing aid on / off
     - inserting hearing aid in the ear on dominant side
     - turning up the volume on both hearing aids
     - removing the hearing aids and turning them off
     - cleaning the dome
   - No prompt: 2 pts | 1 prompt: 1 pt | 2+ prompts: 0 pts

Results

Patients aged 60+ were able to successfully use the app, demonstrate skill attainment, and rated it as a positive experience.

1. MARS-HA: 87% median score on self-efficacy for hearing aids
2. Grooved Pegboard Test: 86.7 s mean score on finger dexterity
3. MoCA: 20% abnormal findings indicating cognitive impairment

• 22 participants scored 10 or more points.
• Insertion of hearing aids appeared to be the hardest task.
• Poorer cognition was associated with greater difficulty completing the tasks.

Considerations for practice

- Remote hearing rehabilitative care supported by smartphone apps appears to provide patient benefit and may be used to augment patient care beyond face-to-face audiological visits.
- Patients with poorer cognition may need more support.

Considerations

- Majority would choose an app over printed materials although providing both was viewed favorably.