Decreased sound tolerance in autism spectrum disorder: a scoping review

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1. Introduction

- Decreased sound tolerance (DST) is a common yet poorly understood feature of autism spectrum disorder (ASD)
- Currently there are no clinical guidelines recommending appropriate assessment and management options for DST
- Numerous terms are used in clinical and research contexts to describe DST, creating challenges in accessing the current evidence and identifying where further research is required

2. Methods

- A scoping review – JBI methodology
- Patient and public involvement sessions
- Aimed to identify (within an ASD context):
  1. Terminologies used to describe DST
  2. Definitions of each DST-term
  3. DST assessment and management options

3. Results

- 2369 studies identified
- 1006 screened by abstract
- 104 screened by full-text
- 65 studies included
- 1363 duplicates removed
- 902 irrelevant
- 39 excluded

3.1 Terminology

- 26 terms were identified...
- ... with varied use across disciplines

3.2 Definitions

- Distinct themes for inputs (i.e. features of sound), outputs (i.e. resultant behaviours) and linking mechanisms were identified:

3.3 Assessment and management

- Assessment: questionnaires, clinical interviews, observation, objective testing (e.g. loudness discomfort levels)
- Management: desensitisation (e.g. auditory integration therapy, behavioural reinforcement, ‘Serious Games’) or avoidance (e.g. noise-cancelling headphones, acoustic modification)

4. Conclusions

Scoping review findings:
- Widespread lack of consistency in terms and definitions used for DST in ASD, both within and across disciplines
- Varied assessment and management options with contrasting underlying principles – strongly influenced by the chosen DST definitions

Future research:
- Stakeholder and cross-disciplinary involvement to reach a consensus on a ‘common language’
- Multi-disciplinary research to develop validated, clinically meaningful assessment and management tools, allowing for the creation of evidence based clinical practice guidelines

References