

# Advancing Auditory Processing Disorder Management in Adults: A Systematic Review and Meta-analysis of Intervention Efficacy



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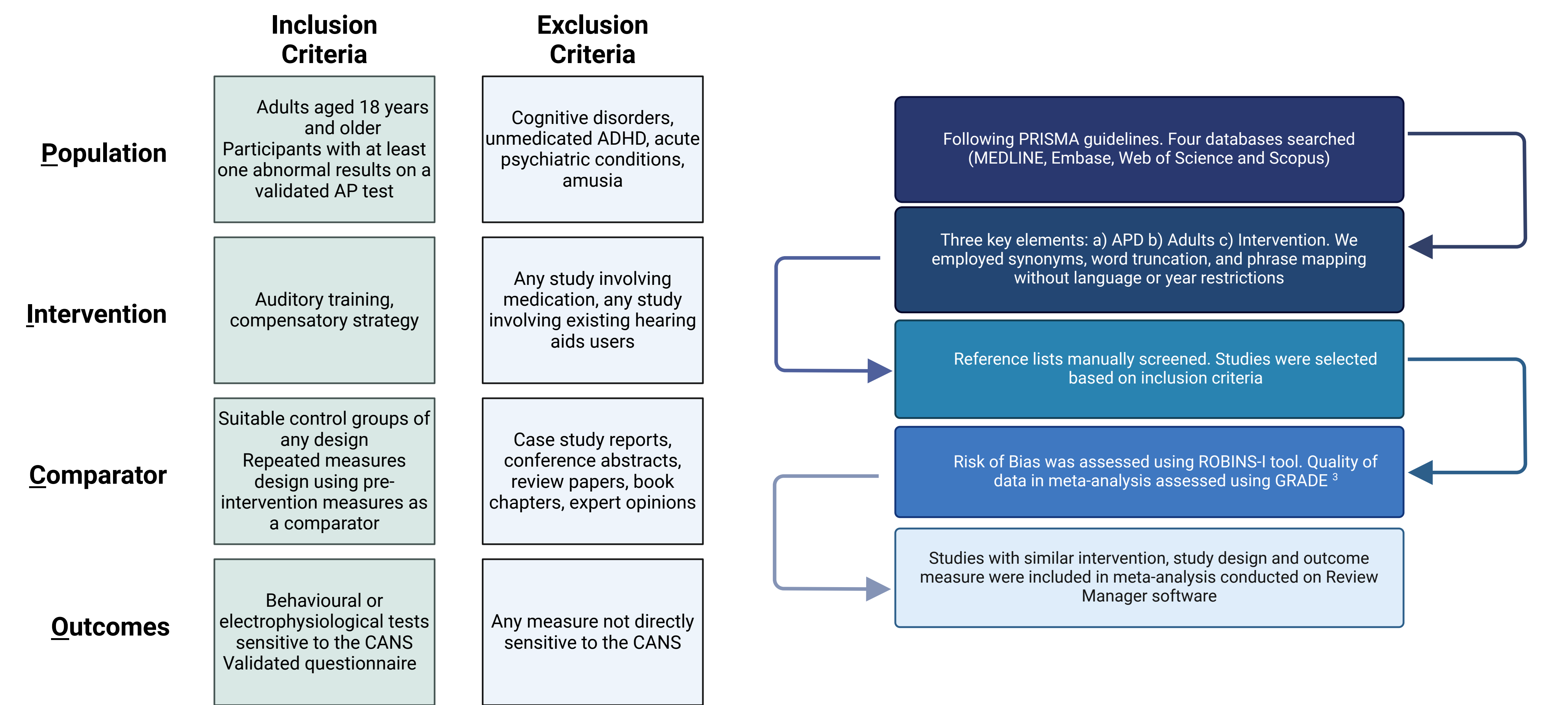
## BACKGROUND & AIM

Adults with APD can have difficulty processing speech and non-speech signals causing wide ranging communication difficulties<sup>1</sup>. Practice guidelines, whilst suggesting suitable treatments, acknowledge a need to establish efficacy in the target population<sup>2</sup>. With increased interest in this field and no systematic reviews written on the effectiveness of interventions in adults, there is now an urgent need to establish the current extent of knowledge.

**Aim**  
 To systematically identify and critically evaluate evidence of the effectiveness of treatments for adults with documented AP difficulties and to highlight issues that are hindering progress in this field.

**Research question**  
 How effective are the various interventions in treating APD in adults?

## METHOD

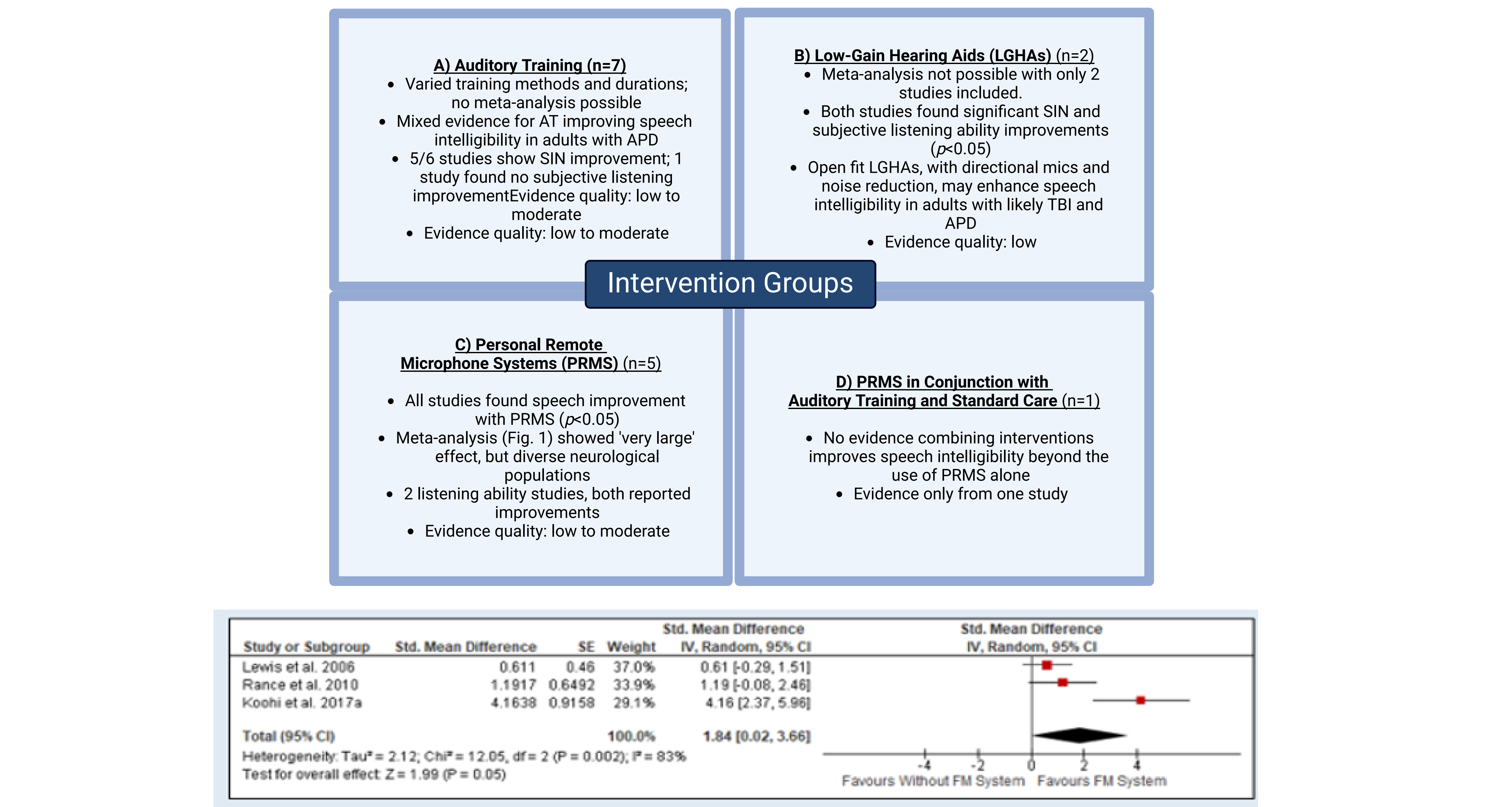


## REFERENCES

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<sup>2</sup>BSA 2018. BSA Position Statement and Practice Guidance Auditory Processing Disorder (APD).  
<sup>3</sup>SCHÜNEMANN H.J., HIGGINS J.P.T., VIST G.E., GLASZIOU P.A.K.L.E.A., SKOETZ N. & GH, G. 2021. Chapter 14: Completing 'Summary of findings' tables and grading the certainty of the evidence.  
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<sup>5</sup>RANCE, G., CORBEN, L. A., DU BOURG, E., KING, A. & DELATYCKI, M. B. 2010. Successful treatment of auditory perceptual disorder in individuals with Friedreich ataxia. *Neuroscience*, 171, 552-5.  
<sup>6</sup>KOOHI, N., VICKERS, D., CHANDRASHEKAR, H., TSANG, B., WERRING, D. & BAMIOU, D.-E. 2017. Auditory rehabilitation after stroke: treatment of auditory processing disorders in stroke patients with personal frequency-modulated (FM) systems. *Disability and Rehabilitation*, 39, 586-593.  
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## RESULTS

- Thirteen studies met inclusion criteria
- Studies were grouped into four intervention categories (A,B,C,D)
- Two types of 'real world' outcome measures were analysed:
  - Monaural low redundancy speech testing*
  - Subjective listening ability*



**Figure 1** Meta-analysis of monaural low redundancy speech testing results, with PRMS vs. unaided, SMD plotted with 95% CI

## CONCLUSION

While acknowledging limitations such as reliance on data from small-scale studies and the use of Standardised Mean Difference (SMD) data, which can result in exaggerated and imprecise effect sizes, this analysis still provides some evidence supporting the efficacy of PRMS and suggests potential benefits of LGHAs, albeit with low-quality evidence. However, it is important to note that there is insufficient evidence to definitively establish the effectiveness of the interventions discussed in this review. The presence of high heterogeneity among the studies and suboptimal study design have hindered progress in this field.

