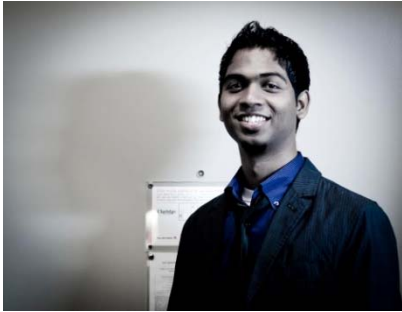


Audiological Practice In India: An Internet-based Survey Of Audiologists

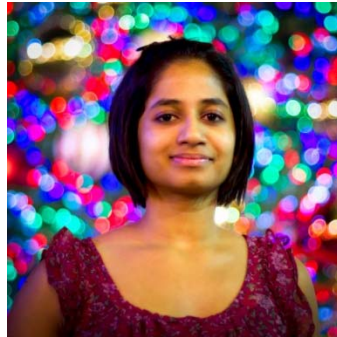
ISHACON 2013



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Introduction

- Audiology in India has grown exponentially and has made significant progress in manpower development, service delivery and public awareness.
- The prevalence of hearing impairment in India was estimated at 5.9-16.56% during 1999-2003^{1,2}
- In order to effectively cater to growing demands while maintaining high standards of audiological practice it is necessary to evaluate current trends in practice periodically.

Motivation & Aims

- Surveys have been an integral part in understanding both professional development and consumer satisfaction in the western literature
 - MarkeTrak and EuroTrak are some examples^{3,4,5}
- Our motivation for the current study stemmed from the fact that no such surveys have been conducted in the Indian subcontinent

Our aim was to understand current trends in audiology practice in India

Method

- A custom internet based survey was conducted.
- This covered three main domains
 - Demography
 - Audiological assessment
 - Hearing aid fitting

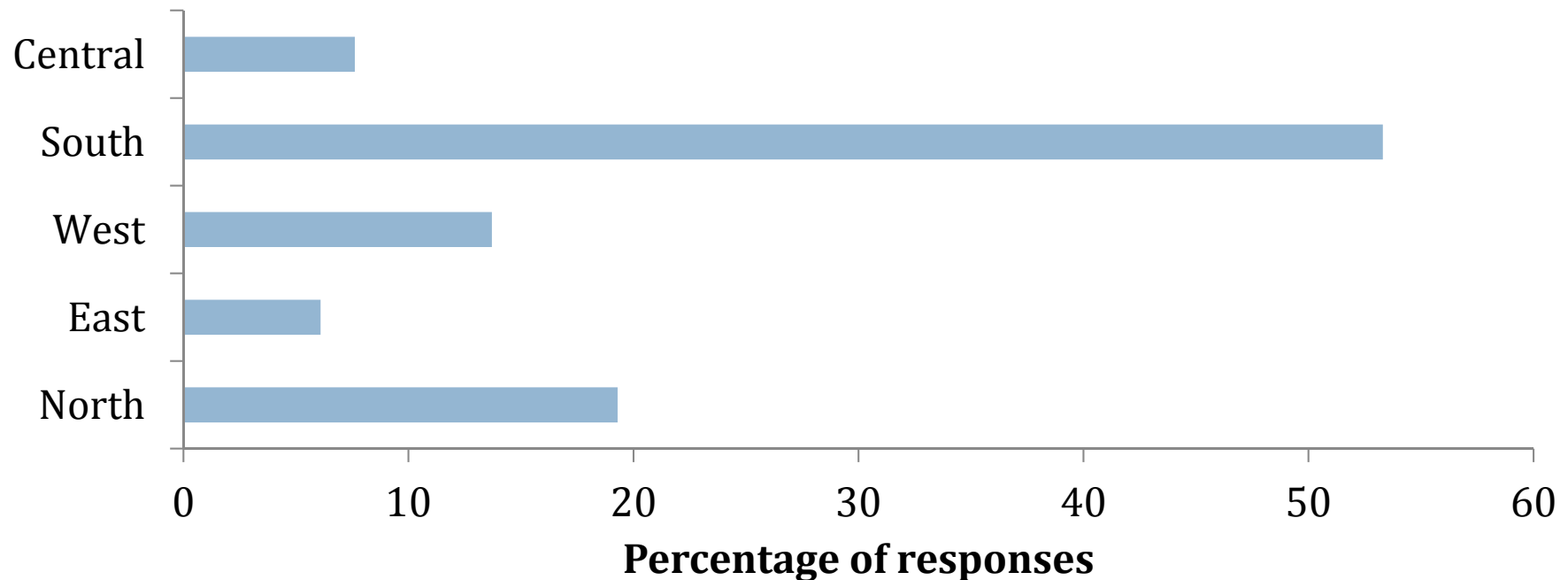


Results & Discussion

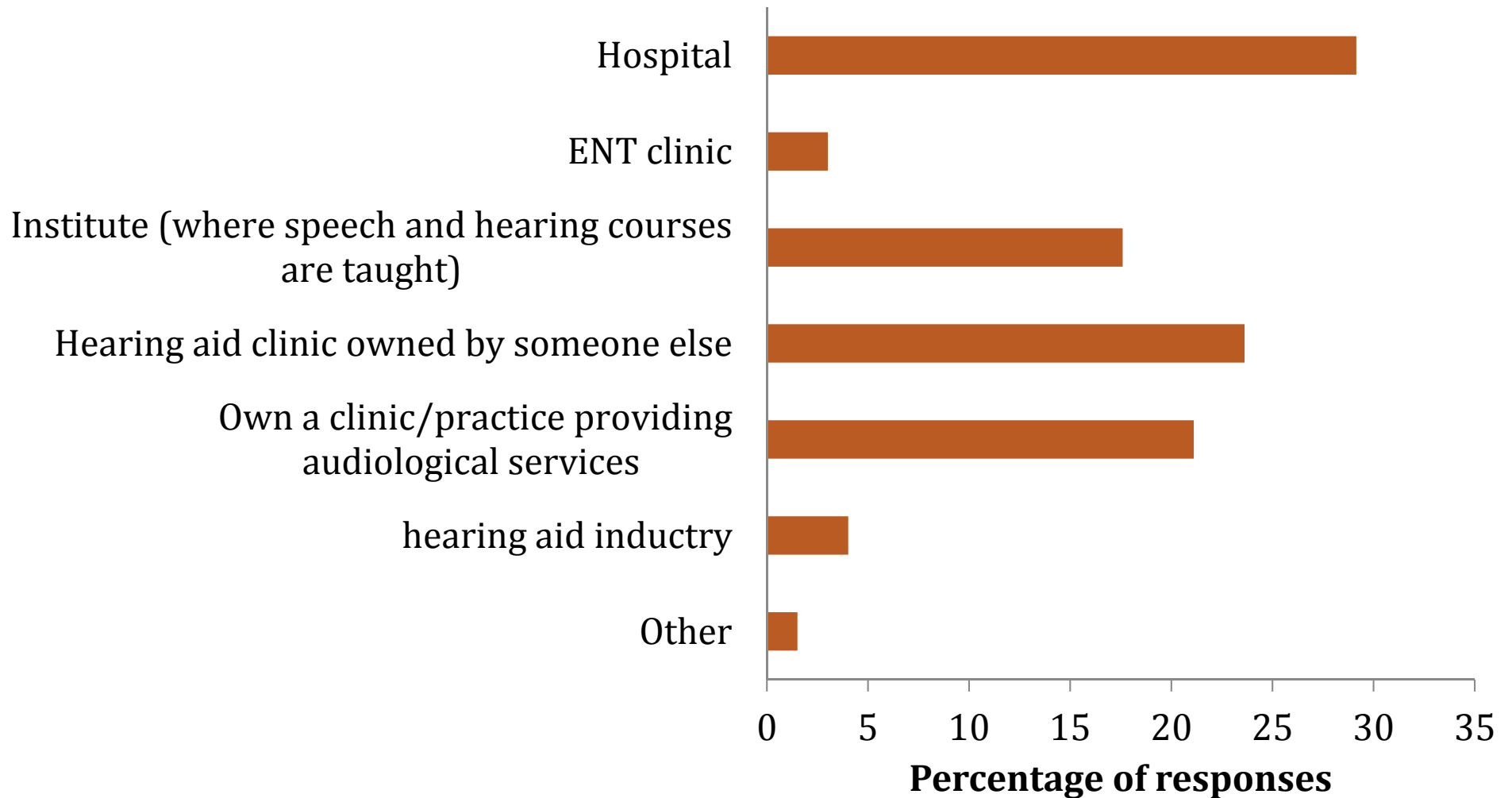
1. Demography

A total of 199 audiologists from all over India completed the online survey questionnaire.

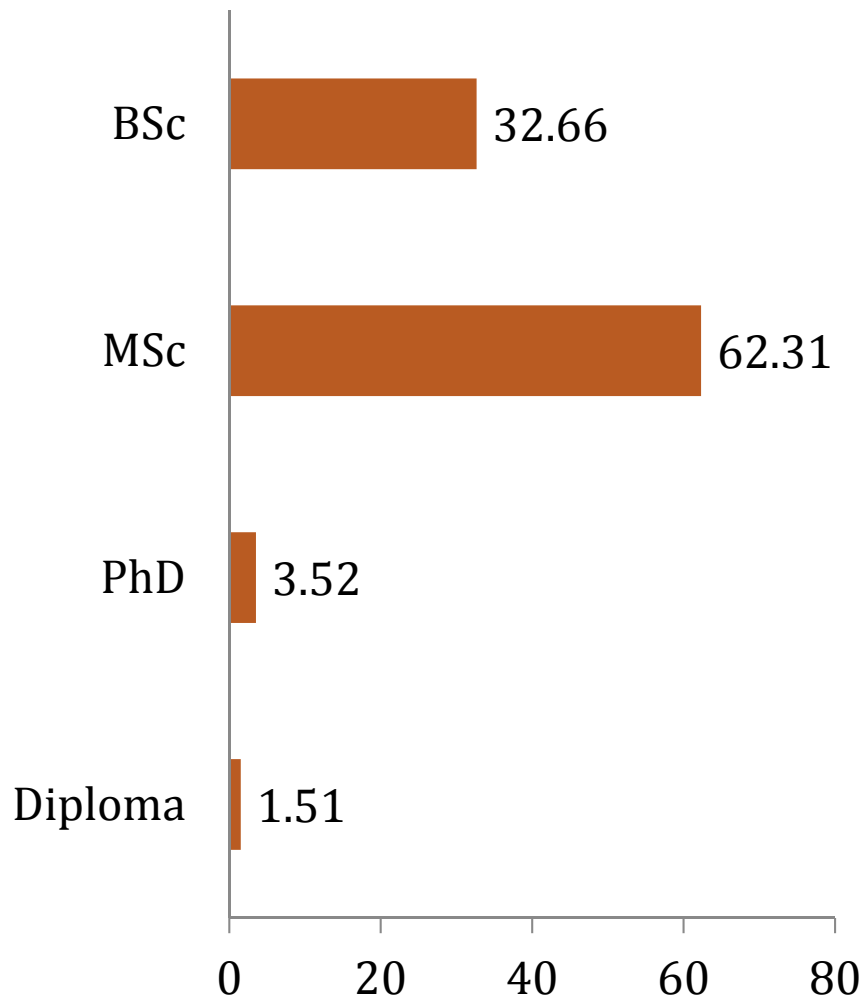
Geographical distribution of respondents



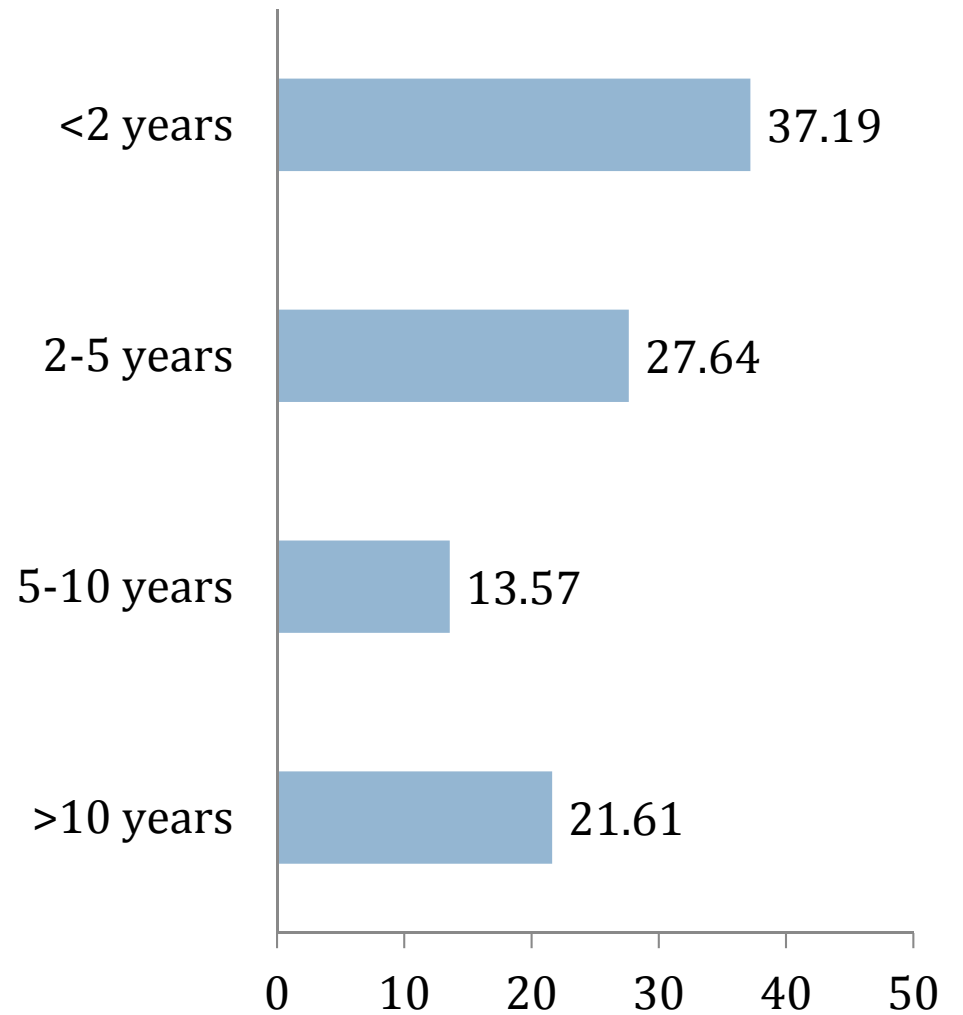
Place of work of Audiologists



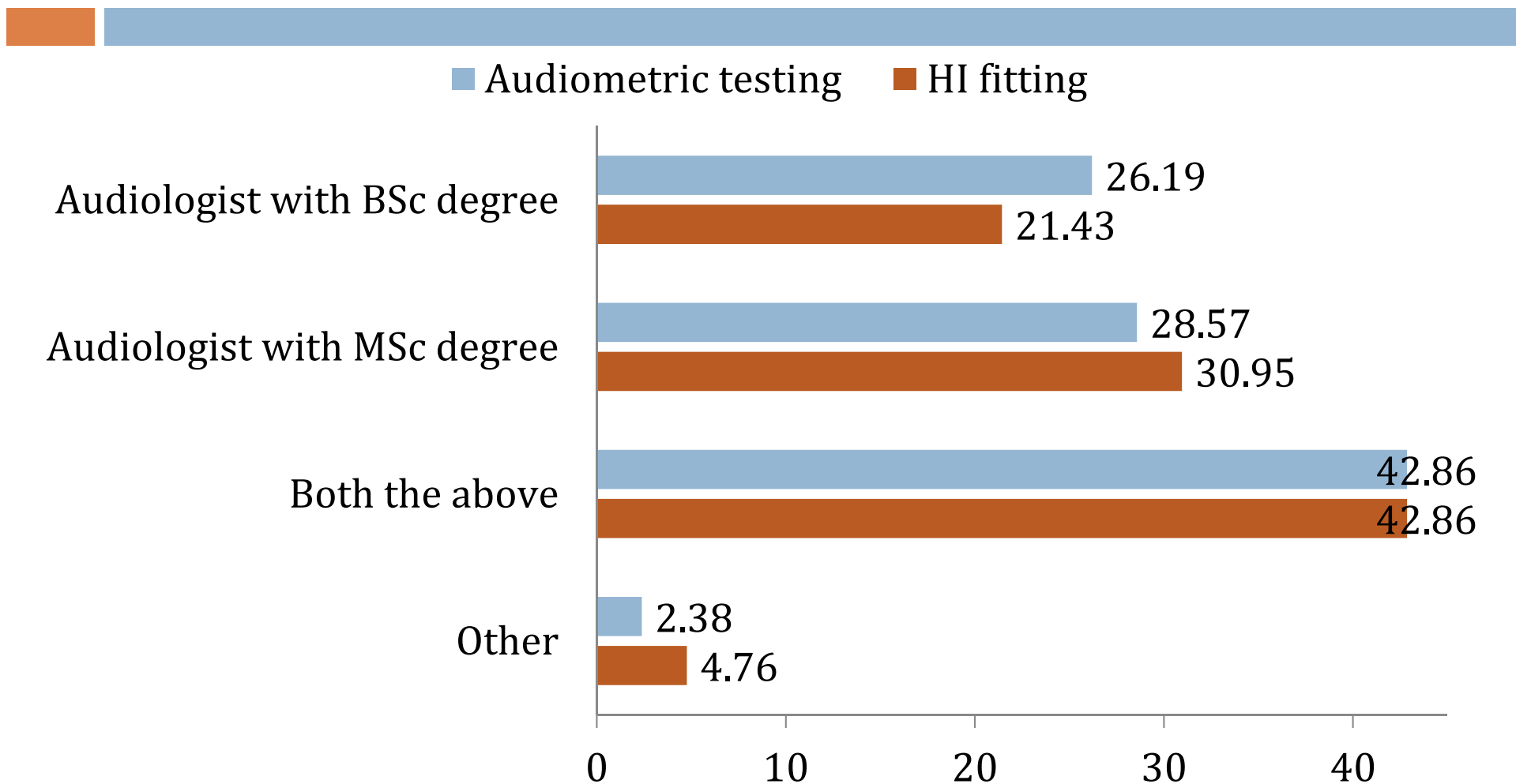
Qualification of respondents (n=199)



Experience in years (n=199)



Qualification of Audiologists performing hearing tests and HI fitting in a clinic set up (n=42)



Discussion: Demography

- Majority of the qualified audiologists work in private clinical set-ups (45%). Audiologists working in hospitals, ENT clinics and Audiology institutes account for almost 50%
 - This indirectly reflects the number of employment positions in private hearing care clinics.
- The data also suggests that the majority of the audiologists provide audiological services also dispense hearing aids
- 3/4th of the clinics also provide speech-language services within their practice.

Discussion: Demography

- Majority of workplaces employ audiologists with either a BSc or MSc degree in Audiology indicating the preference of qualified audiologists for employment.
- Although hearing aid services are offered extensively, there is a dearth in vestibular services.
 - This reflects lack of awareness of audiologists role in vestibular services and indicates that more resources need to be directed towards training audiologists in performing vestibular assessment and treatment.

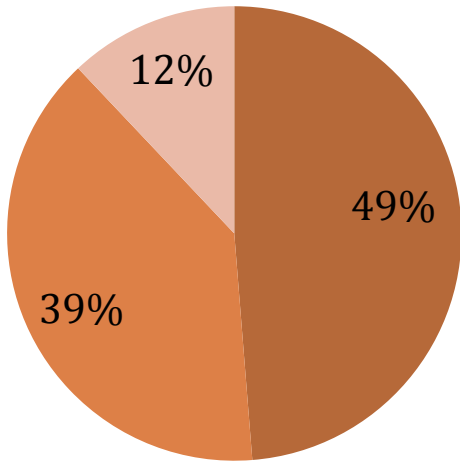
2. Audiological assessment

Procedures/tests for infants and children (n=193)

Testing children < 2Yrs	Testing children > 2Yrs
Behavioral tests (CPA, BOA, VRA) alone – 20.73%	Behavioral tests (PA, BOA, VRA) alone – 29.53%
Objective tests alone – 15.56%	Objective tests alone – 6.74%
Combination of behavioral and objective tests – 63.71%	Combination of behavioral and objective tests – 63.73%

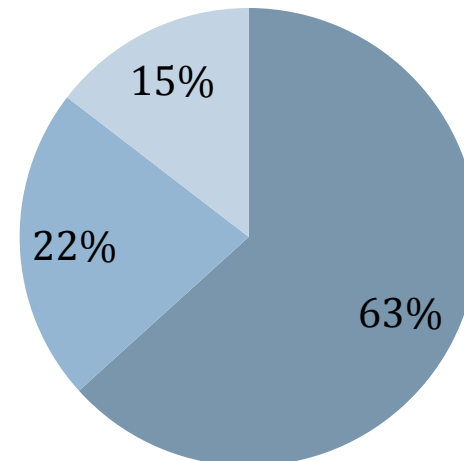
Equipment check

■ 1-2 years ■ <1 year ■ >2 years



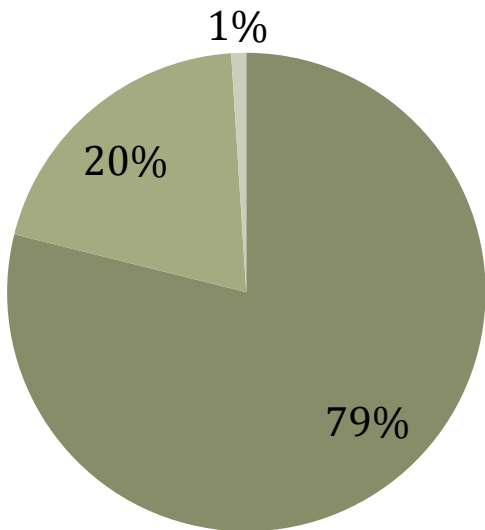
Otoscopy

■ Routinely on all patients
■ Most of the time
■ Do not perform



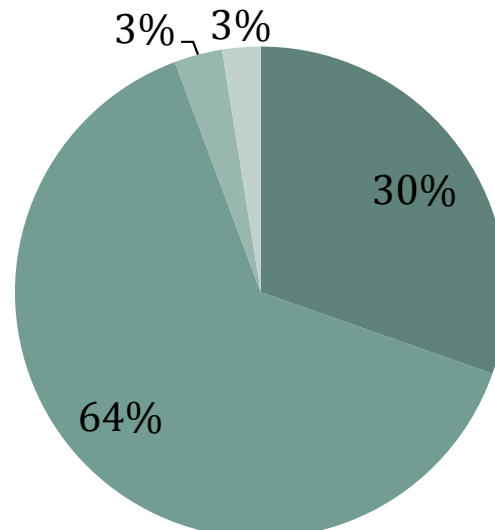
Pure Tone Audiometry

■ Headphones
■ HP+Inserts
■ Inserts

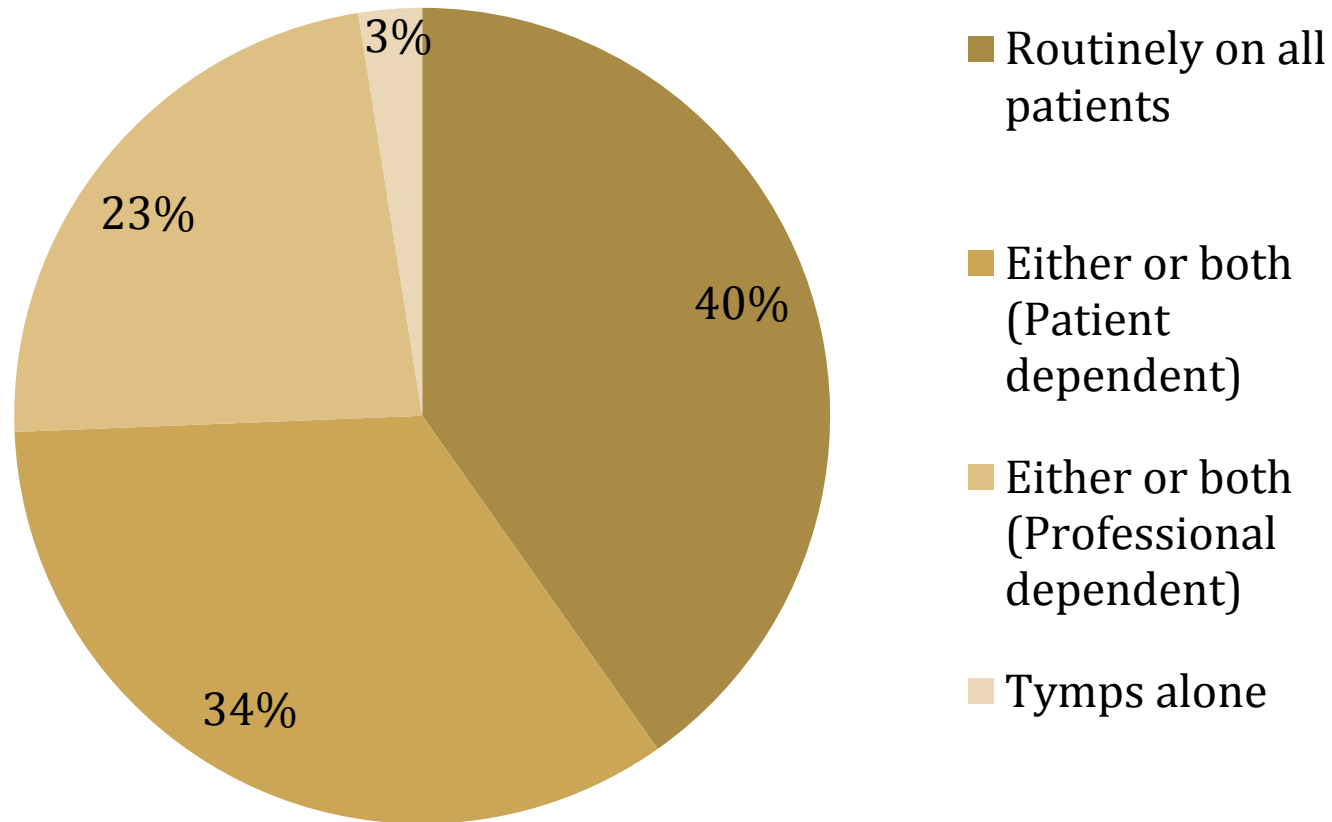


Speech Audiometry

■ Only SRT
■ SRT+SIS
■ SRT+SPIN
■ SIS alone



Tympanometry and Reflexes



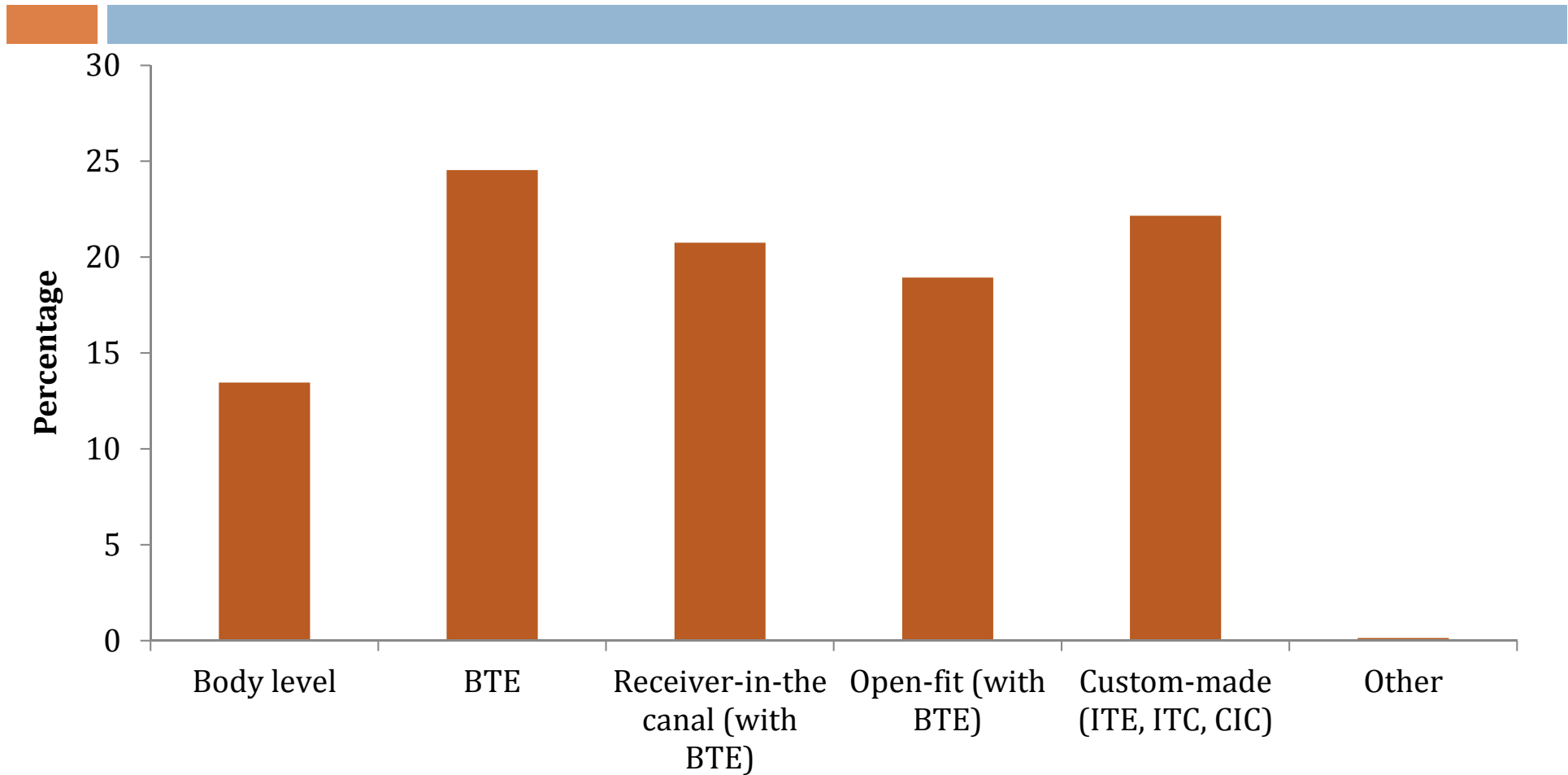
Discussion: Audiological assessment

- Over 97% of the audiologists have their audiometers calibrated at least every two and over 50% perform listening checks on a daily basis
 - This assures the quality of hearing testing in almost all audiology practices
- Inconsistencies were observed in essential procedures such as otoscopy. Over 3/4th of the audiologists perform middle ear assessment on all patients, the remaining 1/4th perform such tests based on other professional's request
 - Guidelines on assessment may unify such practices. As well, assessment battery at the audiologist's discretion may lead to better clinical practice

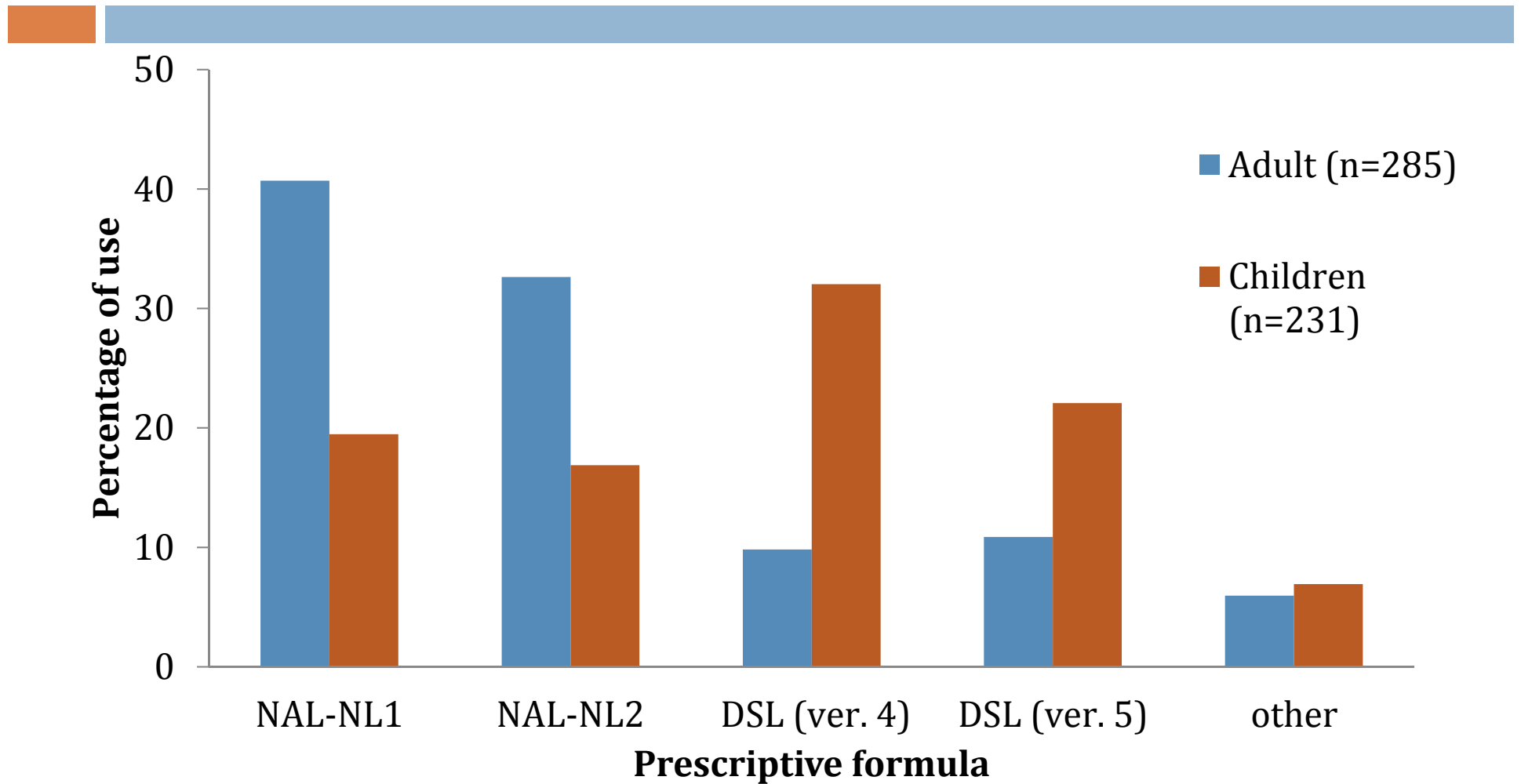
Discussion: Audiological assessment

- About 20% of the audiologists reported that they do not perform any speech tests routinely.
 - This may lead to a higher risk of missing disorders like auditory dys-synchrony, auditory processing disorders and hence may have an impact on the nature of intervention.
- It is encouraging to note that majority of audiologists assess hearing in children using combination of objective and behavioural tests.

3. Hearing instrument fitting



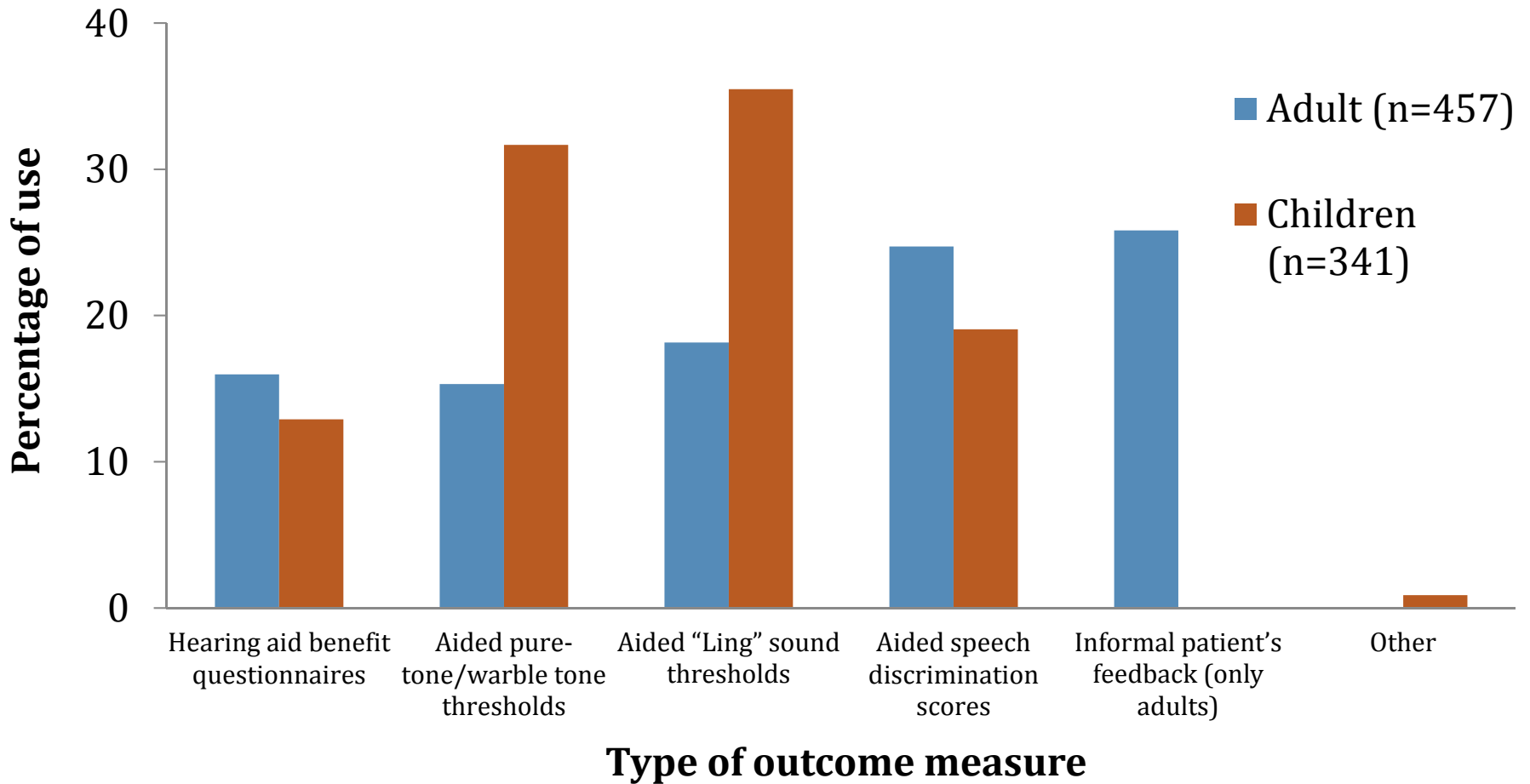
Prescriptive formulae used for HI fitting



Verification measures

	Adults	Children
Real ear measures	8.37%	8.37%
First-fit option in the HI manufacturer`s software	6.7%	10.61%
Functional measures (sound field aided thresholds)	3.35%	12.29%
Based on patient`s feedback/parents feedback	7.82%	6.7%
Patient`s feedback with either real-ear or simulated real-ear	26.25%	

Type of Outcome measures used for adults vs. children



Discussion: Hearing instrument fitting

- Combination of custom and traditional hearing instrument styles are being prescribed.
 - ▣ Considering affordability, it is not surprising and yet discouraging to note that about 13% of prescriptions still are body level hearing aids.
- DSL is largely used for children whereas NAL prescriptive rules are commonly used for adults.
 - ▣ This is consistent with literature
- Only 25% of audiologists use some form of real-ear or simulated real-ear verification measure, however not consistently.
 - ▣ *This shows subpar quality in HI fitting, since verification is an **integral** part of the fitting process. Educational and professional institutions may need to emphasize the importance of verification measures to both students and professionals alike.*

Implications

- The study, in a first of a kind survey in India, provides some understanding about the current status of audiological practice.
- Though most of the practices reported to have their own protocols, ***there is a unanimous opinion about the need for a national clinical protocol and guidelines.***
- Gaps identified in clinical practice should be addressed by educational institutions focusing their training with targeted learning outcomes.
- Professional and regulatory bodies such ISHA and RCI should take necessary steps to improve audiological practice in India.

Limitations



- We acknowledge that a self reported survey may produce biased results, however, the results of the survey do indicate several areas that warrants attention
- A mixture of online and postal survey methods would have been ideal for those audiologists who are less tech-savvy.
- Most respondents in the survey are from southern India
 - Care must be taken while generalising these findings.

Future surveys may aim at providing more focussed information in the areas of concerns identified

Conclusion

- The study identifies diversity and areas of concern in audiological practice in India
- We suggest collaborative efforts between educational institutes, professional and regulatory bodies, non-government organisation and the government to develop clinical guidelines
 - Adhering to such guidelines will not only improve audiological practice but also patient outcomes

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- Hearing aid distribution camp at Chmarajanagara 09/12/2011

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Thank you



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