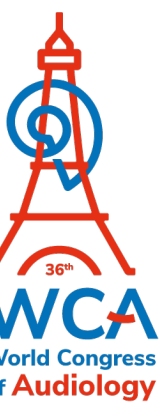


# Effectiveness of Group Speech Therapy: Beyond Hearing Compensation Toward a Comprehensive Strategy of Prevention of Age-Related Hearing Loss

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## Abstract

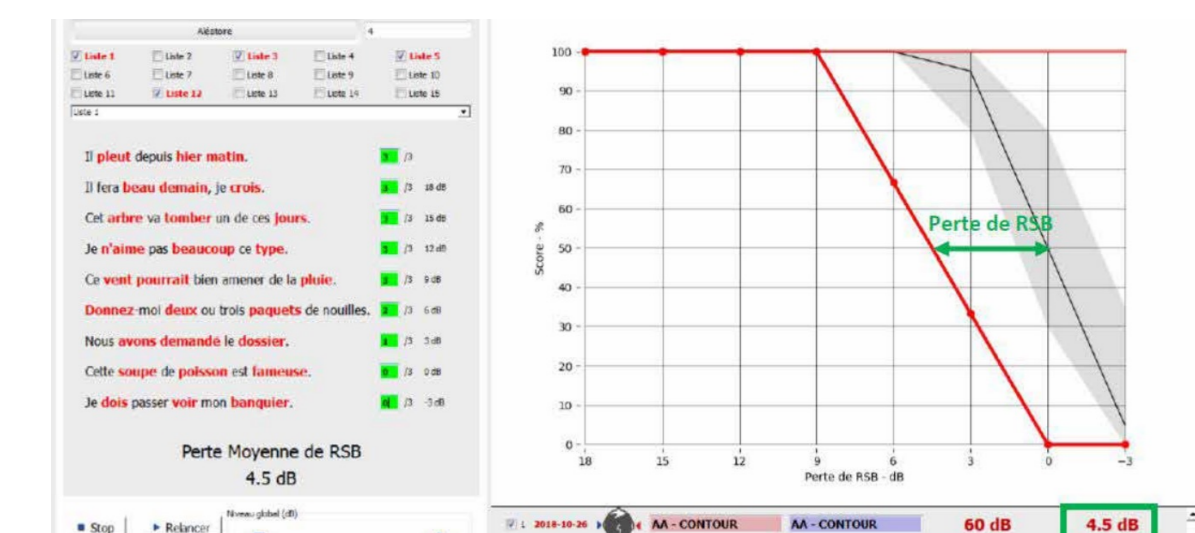
**Theory :** Presbycusis impairs both auditory and social functions, significantly increasing the risk of cognitive decline. Research highlights that, without timely and appropriate interventions, even the most advanced hearing aid technologies are insufficient to fully restore the level of communication crucial to maintaining the quality of life in older adults (1)

**Reality :** With global life expectancy rising—by 2030, one in six people will be aged 60 or older (2)—and the growing prevalence of hearing loss, there is an urgent need for innovative approaches to managing presbycusis.

## Objectives

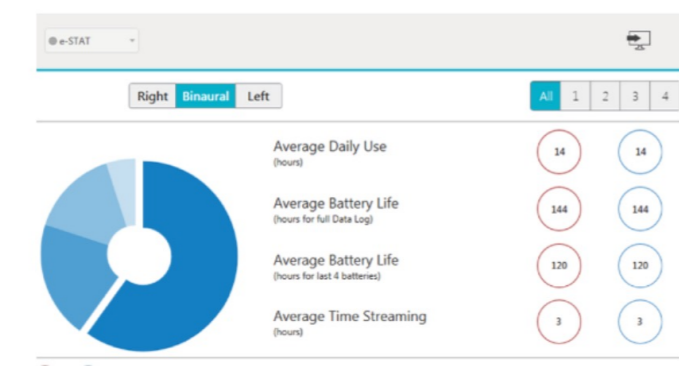
This study aims to evaluate the impact of group speech therapy on the listening abilities of older adult patients who use hearing aids. The key question is: How can the effectiveness of this intervention be accurately measured?

### Quick Speech in Noise test (QSIN) « Vocale Rapide dans le Bruit » (VRB) (3)



**Criterion #1**  
Improvement in Signal-to-Noise Ratio for 50% intelligibility (SNR50)

### Data Logging Objective monitoring of usage patterns

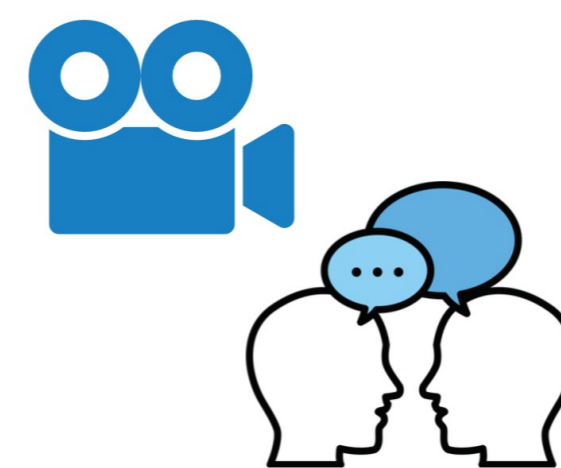


**Criterion #2**  
Improvement in hearing aid wearing time

### ERSA (4) Questionnaire to assess the impact of deafness on daily life

**Criterion #3**  
Enhanced quality of life

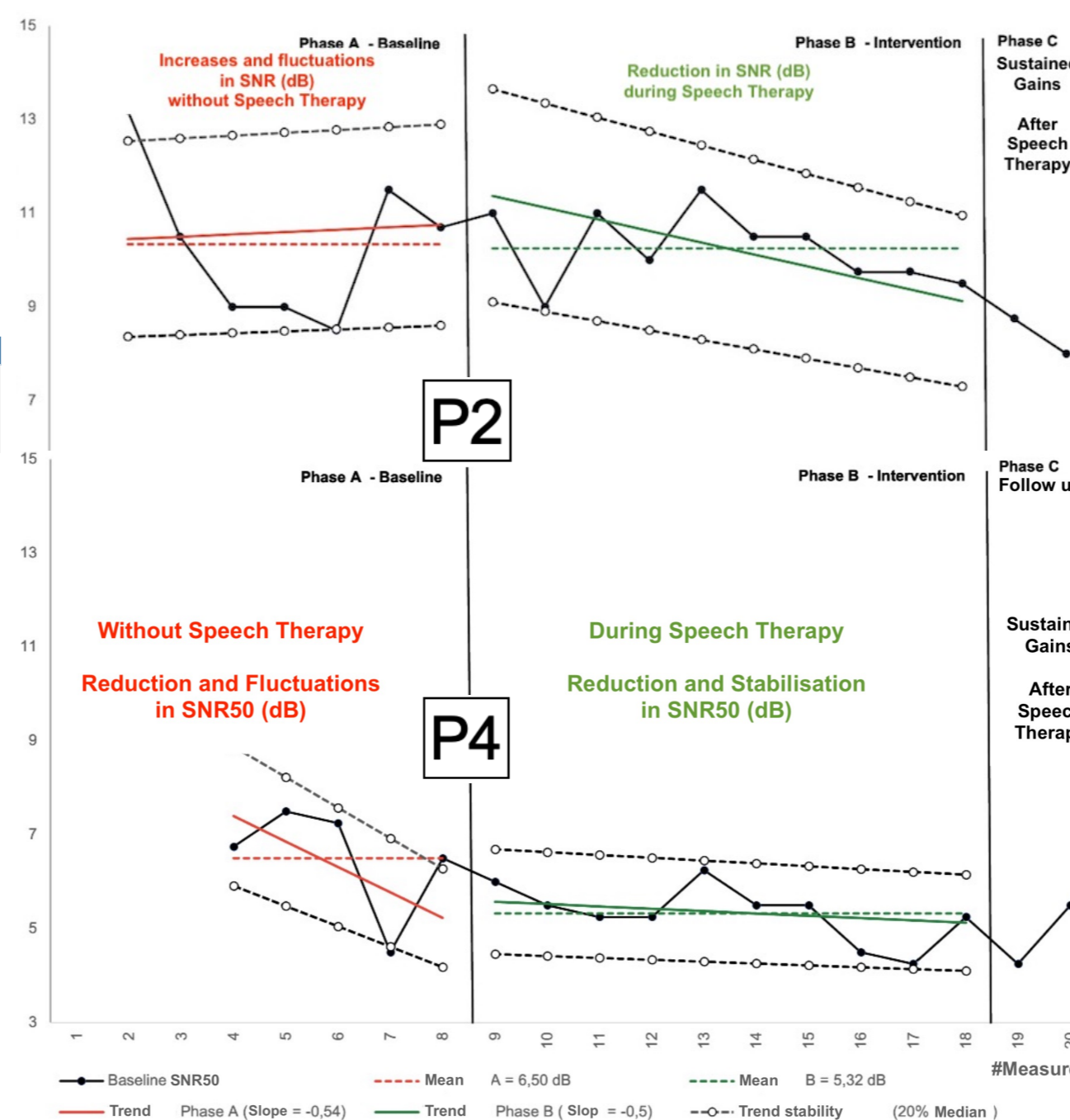
### Conversational analysis protocol applied to filmed interviews (5)



**Criterion #4**  
Greater communication skills

## Results

Progress is assessed by comparing score improvements between baseline and intervention, and by calculating the Tau-U, which demonstrates the effect size (6). Gains ranged from 0.9% to 18.08% in avg. SNR50 drop:

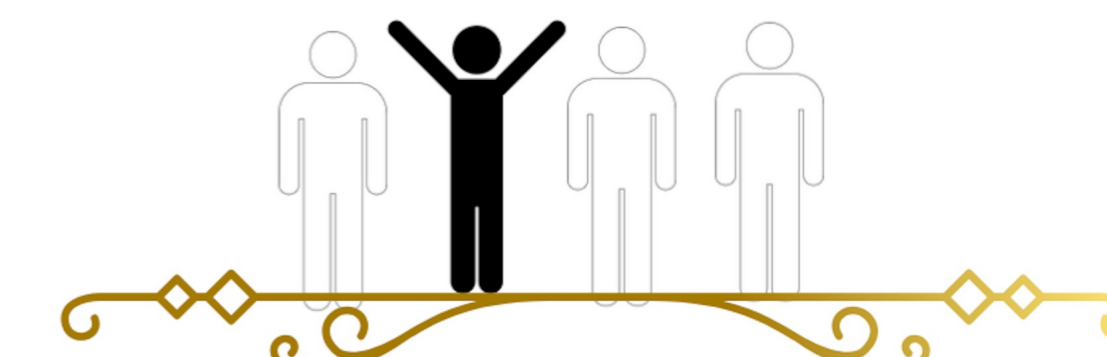


### Statistical analyses of SNR loss – Trends and effect size

P	Slope	% of values within envelope	p-value	Slope	% of values within envelope	p-value	Tau-U	p-value
P1	0.09	100	0.7	-0.08	70	0.41	-0.489	0.02*
P2	0.05	71	0.649	-0.25	90	0.1745	0.032	0.922
P3	-0.25	100	0.06	0.05	90	1	-0.467	0.039*
P4	-0.54	100	0.462	-0.05	100	0.0970	-0.471	0.048*

Note: Negative slope value = trend towards improvement in SNR50

**Improvement in understanding speech in noise +1,18 dB**



and in all other tested criteria  
**over a three-month therapy with persistent results**

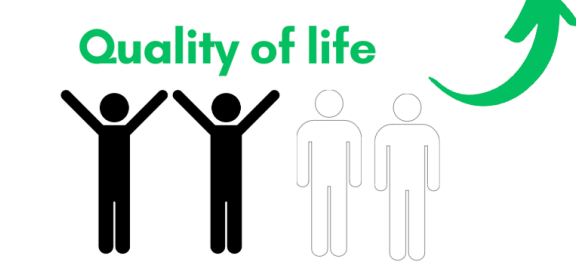
**Criterion 1**  
Significant improvements in SRN50



**Criterion 2**  
Data Logging



+2h +4h  
**Criterion 3**  
Quality of life



+9,45% +26,26%  
**Criterion 4**  
Communication skills



## Conclusion

The findings underscore the value of enhanced interventions in managing presbycusis. By targeting communication, language, and cognition, these interventions play a key role in helping seniors maintain their independence. Additionally, they can prevent the underutilization of hearing aids that are purchased but not worn. Collaborative efforts among ENT specialists, hearing aid fitters, and speech therapists are vital for success.

### Contributions of the study to presbycusis care

For the individual: **Empowerment**  
Profession: **Evidence-based data**  
Society: **Cost savings**



## Single Case Experimental Design (SCED) – an evidence-based practice approach - Level of Evidence 1 (OCEBM)

Four patients were recruited during routine fitting sessions, with an average age of 62.25 months (SD = 45.68 months) at the time of fitting. Each patient was treated as a distinct case, following a three-phase protocol, ensuring strong validity of the results:



Additional measures: Criteria #2 #3 #4

#2 #3

#2 #3 #4

### Group speech therapy

- Therapeutic Patient Education (TPE)
- Language and Auditory-Cognitive Training
- Personalised, fun approach, without overloading executive functions

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\*Oxford Centre for Evidence-Based Medicine