Empowering Healthcare Providers, Educators, and Families through Multidisciplinary Innovations in Early Childhood Hearing Loss

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Presentation Overview

- Why childhood hearing loss matters
- Barriers to early detection
- Multidisciplinary approach
- Three strategies
- Integration & boarder impact
- Key takeaways

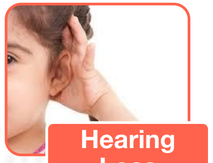
Why Childhood Hearing Loss Matters

34 million children have hearing loss (WHO, 2021)

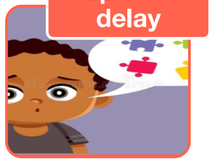
0.4%
(Abdullah et al., 2020)

6.6%
(Cheoh, 2014)

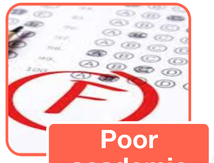
15%
(Daud, 2010



Hearing Loss



Speech delay



Poor academic

Social issue

Higher cost

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Barriers to Early Detection

- No nationwide hearing screening for babies (Ministry of Health, 2023)
- Lack of trained professionals in hearing health care (Ahmad et al., 2013)
- Lack of awareness of hearing among healthcare professionals and parents (Wong et al., 2019; Mazlan & Othman, 2023)
- A lack of culturally adapted materials for local use (Mohd Yusoff et al.,2019)

Multidisciplinary Approach

Strategies

Strategy 1: Adapt & evaluate a tool for teachers

Strategy 2: Create & assess an online training for healthcare practitioners

Strategy 3: Develop & evaluate an online hearing aid module for parents

Strategy 1: Empowering Teachers

Preschool S.I.F.T.E.R.
Screening Instrument For Targeting Educational Risk
In Preschool Children (age 3 through Kindergarten)

Child _____ Age _____ Teacher _____

Date Completed _____ School _____ District _____

The above child is suspect for hearing problems or has known permanent hearing loss which may affect his or her ability to listen, pay attention, develop language, follow teacher instruction and learn normally. This rating scale has been designed to sift out children who are at risk for educational delay and who may need further evaluation. Based on your knowledge of this child, circle the number that best represents his or her behavior. If the child is a member of a class that has students with special needs, comparisons need to be made to children learning or developing at a typical rate. Please share additional comments about the child on the reverse side of this form.

1. How well does the child understand basic concepts when compared to classmates (e.g., colors, shapes)?	ABOVE AVERAGE BELOW 5 4 3 2 1	ACADEMICS 0
2. How often is the child able to follow two-part directions?	ABOVE AVERAGE BELOW 5 4 3 2 1	
3. How well does the child participate in group activities when compared to classmates (e.g., calendar, sharing)?	ABOVE AVERAGE BELOW 5 4 3 2 1	
4. How distractible is the child in comparison to his or her classmates during large group activities?	SELDOM OCCASIONAL FREQUENT 5 4 3 2 1	ATTENTION 0
5. What is the child's attention span in comparison to classmates?	LONGER AVERAGE SHORTER 5 4 3 2 1	
6. How well does the child pay attention during a small group activity or story time?	ABOVE AVERAGE BELOW 5 4 3 2 1	
7. How does the child's vocabulary and word usage skills compare to classmates?	ABOVE AVERAGE BELOW 5 4 3 2 1	COMMUNICATION 0
8. How proficient is the child at relating an event when compared to classmates?	ABOVE AVERAGE BELOW 5 4 3 2 1	
9. How does the child's overall speech intelligibility compare to classmates (i.e., production of speech sounds)?	ABOVE AVERAGE BELOW 5 4 3 2 1	
10. How often does the child answer questions appropriately (verbal, cued or signed)?	ALMOST ALWAYS FREQUENTLY SELDOM 5 4 3 2 1	CLASS PARTICIPATION 0
11. How often does the child share information during group discussions?	ALMOST ALWAYS FREQUENTLY SELDOM 5 4 3 2 1	
12. How often does the child participate with classmates in group activities or group play?	ALMOST ALWAYS FREQUENTLY SELDOM 5 4 3 2 1	
13. Does the child play in socially acceptable ways (e.g., turn taking, sharing)?	ALMOST ALWAYS FREQUENTLY SELDOM 5 4 3 2 1	SOCIAL BEHAVIOR 0
14. How proficient is the child at using verbal language (or sign language) to communicate effectively with classmates (e.g., asking to play with another child's toy)?	ABOVE AVERAGE BELOW 5 4 3 2 1	
15. How often does the child become frustrated, sometimes to the point of losing emotional control?	NEVER SELDOM FREQUENTLY 5 4 3 2 1	

Preschool S.I.F.T.E.R.
Screening Instrument For Targeting Educational Risk
In Preschool Children (age 3 through Kindergarten)

TEACHER COMMENTS: (frequent absences, health problems, other learning issues in addition to hearing?)

THE PRESCHOOL S.I.F.T.E.R is a SCREENING TOOL ONLY.

The primary goal of the Preschool S.I.F.T.E.R. is to identify those children who are at-risk for developmental or educational challenges due to hearing problems and who merit further observation and investigation. Analysis has revealed that two factors, expressive communication and socially appropriate behavior, discriminate between children who are typically developing from those who are at-risk. The greater the degree of hearing loss, the greater its impact on these two factors and the higher the validity of this screening measure. If a child is found to be at-risk, then the examiner is encouraged to calculate the total score in each of the five content areas. Analysis of the content area score may assist in developing a profile of the child's strengths and special needs. The profile may prove beneficial in determining appropriate areas for evaluation and developing an individual program for the child.

SCORING

There are two steps to the scoring process. First, enter the scores for each of the indicated questions in the spaces provided. Next, sum the total of the 6 questions for the expressive communication factor and then sum the 4 questions for the socially appropriate behavior factor. Finally, sum up the 3 questions in each content area (e.g., attention) and enter the sums into the Skills Profile to highlight the child's strengths and potential areas of need as identified by this screening tool.

Enter circled response from reverse side for each indicated question.

	EXPRESSIVE COMMUNICATION	SOCIALLY APPROPRIATE COMMUNICATION
1		
2		
3		
4		0
5		0
6		0
7	0	
8	0	
9	0	
10	0	
11	0	
12		
13		0
14	0	
15		
Total Score	0	0
	6 questions	4 questions

EXPRESSIVE COMMUNICATION (check one)
PASS (14-30) score range
AT-RISK (6-13) score range

SOCIALLY APPROPRIATE COMMUNICATION (check one)
PASS (12-20) score range
AT-RISK (4-11) score range

SKILLS PROFILE

CONTENT AREA	TOTAL SCORE (enter)	PASS RANGE	AT-RISK RANGE	SCREENING RESULTS (circle)	
PREACADEMICS	0	7 - 15	3 - 6	Pass	At-Risk
ATTENTION	0	9 - 15	3 - 8	Pass	At-Risk
COMMUNICATION	0	9 - 15	3 - 8	Pass	At-Risk
CLASS PARTICIPATION	0	7 - 15	3 - 6	Pass	At-Risk
SOCIAL BEHAVIOR	0	9 - 15	3 - 8	Pass	At-Risk

Sum the responses to the 3 questions in each content area from the reverse side. Enter the total score for each content area in the Total Score column above.

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Refer to www.kandersonaudconsulting.com for Instruction Manual

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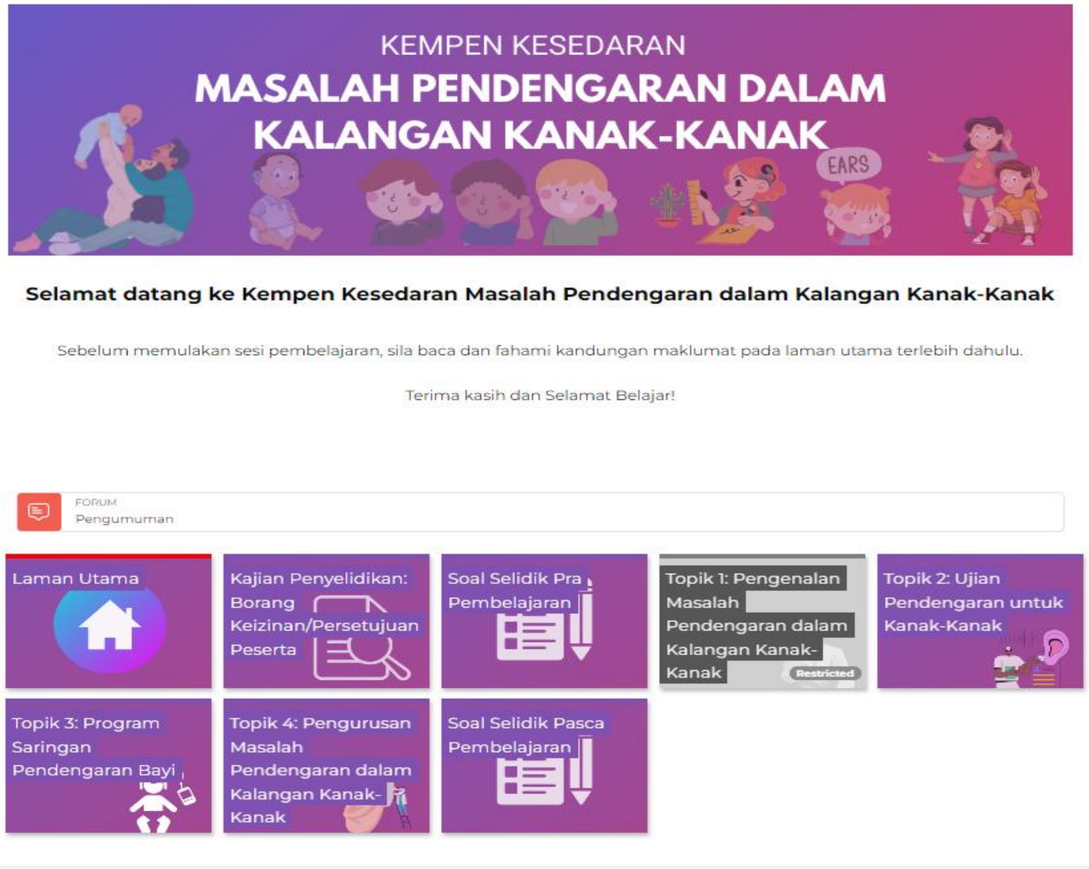
Strategy 1: Teachers

Domain	DPOAE Screening Results		Total
	Pass	Refer	
Communication			
Pass	56	14	70
At-risk	1	7	8
Total	57	21	7855
Social Behaviour			
Pass	55	14	71
At-risk	1	7	7
Total	56	21	78

Domain	Test Performance	
	Sensitivity	Specificity
Communication	87.5	80
Social Behaviour		

Strategy 2: Healthcare Practitioners



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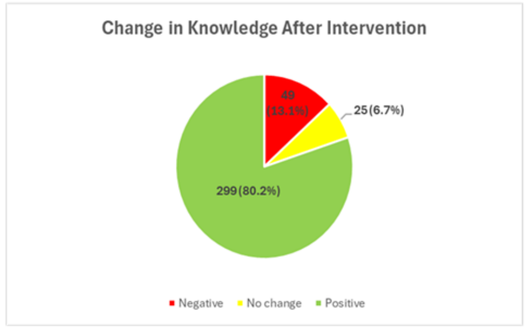
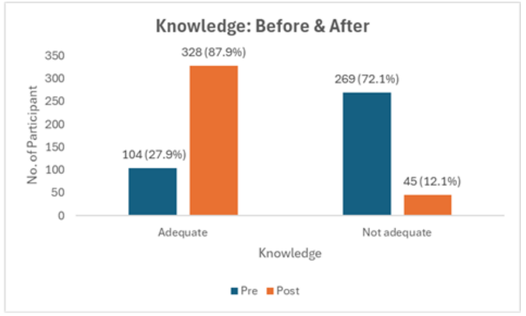
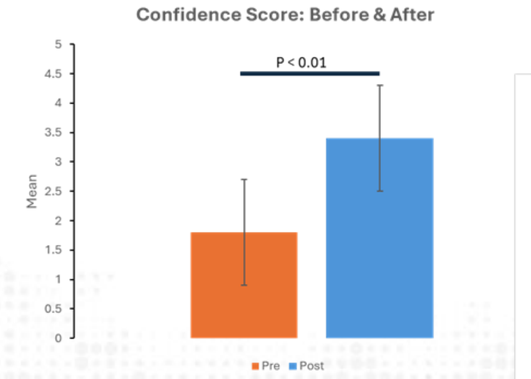
Strategy 2: Healthcare Practitioners

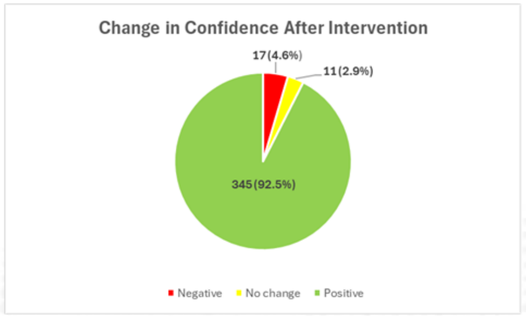
- **Knowledge**

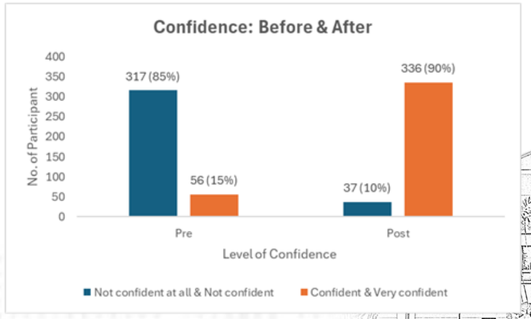




- **Confidence**







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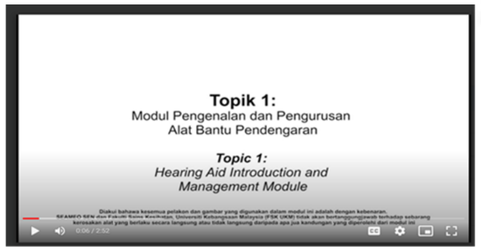
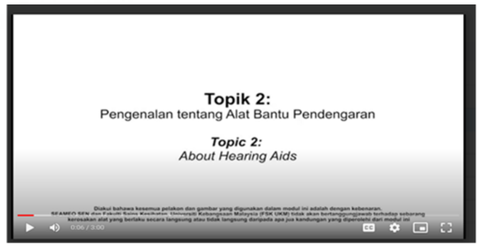
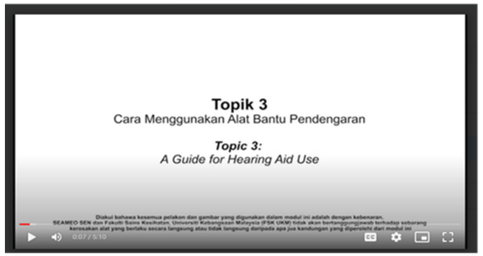
Strategy 3: Parents

- Limited understanding & confidence
- Busy schedules
- Emotional barriers
- Information overload
- Travelling can be difficult

Strategy 3: Parents







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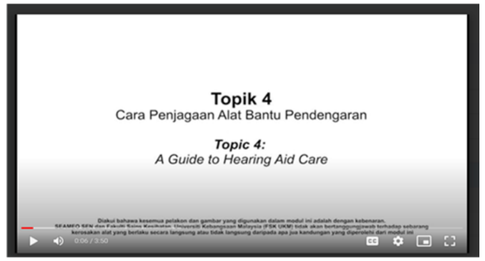

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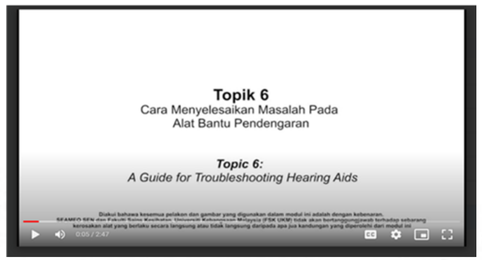

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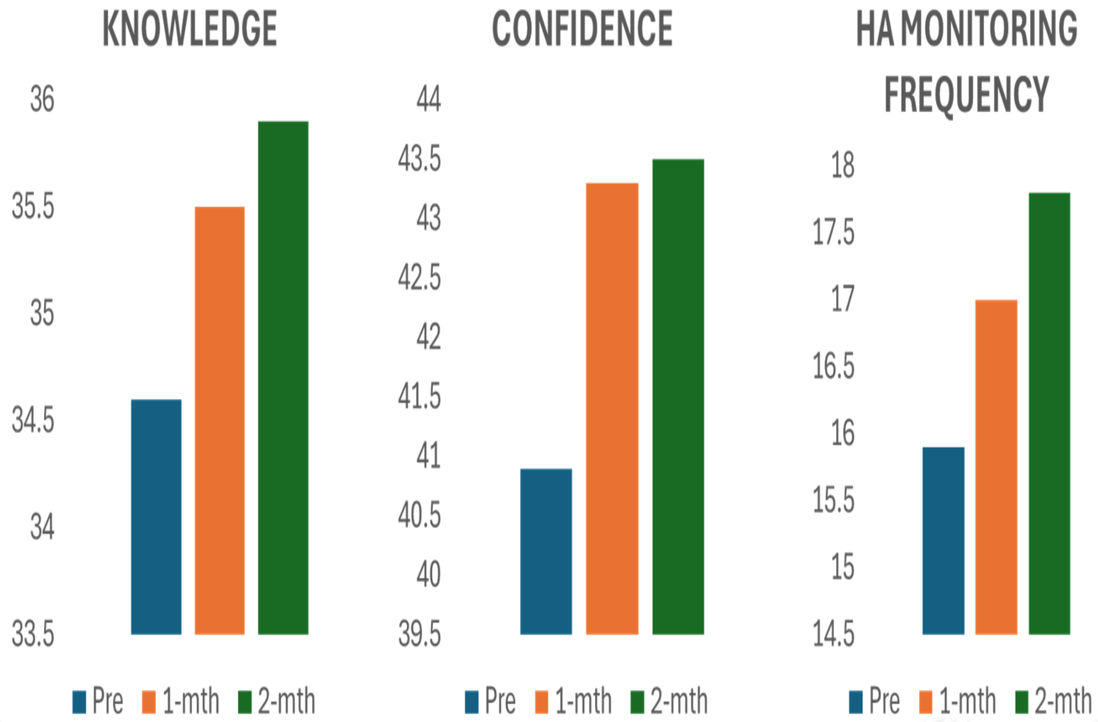
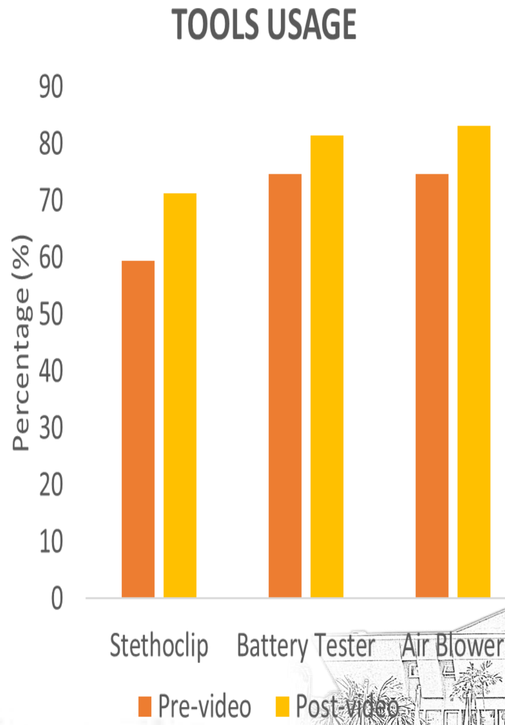
Strategy 3: Parents





Bringing It Together

- Bridges gaps between home, school, and clinic
- Strengthen referral pathways and continuity of care
- Creates shared responsibility across disciplines
- Improves equity in access to early hearing care

Broader Impact

- Children: earlier intervention, better language, learning, and social outcomes
- Families: quicker action, greater confidence, less stress
- Schools: better classroom participation, reduced academic delays
- Healthcare system: fewer late referrals, more efficient use of limited resources
- Society: educated, independent, and contributing

Key Takeaways

- Empower teachers, parents, and healthcare providers
- Practical tools can make a real difference
- Multidisciplinary collaboration = better futures for children

Acknowledgement

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Thank You!

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