FORT HAYS STATE UNIVERSITY

Incidence of Repeated Referrals from Elementary School Hearing Screenings

Hilary Bartlett, B.S. and C. Frederick Britten, Ph.D.

Introduction

According to the American Speech-Language-Hearing Association (ASHA, 1997; 2002), early detection and intervention of hearing loss in children can prevent negative impacts on their overall development, communication abilities, and academic performance. At any given time, up to 10% of the children in schools could experience an educationally significant hearing loss.

In an effort to facilitate the educational and developmental needs of all children in schools, ASHA (2002) states that hearing screenings should be given to all children initially entering school and annually from kindergarten through third grade and again in seventh and eleventh grades.

A hearing screening is a pass/refer procedure used to identify individuals with a possible hearing loss. It is not a complete assessment of a student's hearing sensitivity, but is used to identify those in need of further testing. Kansas law requires that every child should be screened upon first admission to school, and every three years after that (i.e., third, sixth, ninth, and twelfth grades).

Purpose: The purpose of this study was to determine the incidence of repeated referral rates among children from hearing screenings in elementary school.

Methodology

Participants: The population of the study consisted of hearing screening data from the same cohort of students as they progressed from kindergarten through grade six.

Procedure: Reviewed 44 files, consisting of 25 males and 19 females.

Screening Protocol: Kansas Hearing Screening Guidelines (KSDE, 2004)

-**Otoscopic Inspection:** To visually inspect the outer ear.

-**Tympanometry:** To assess middle ear function.

-**Sweep-Frequency:** A student passed the sweep-frequency screening if a response was given to all test frequencies at 20 dB HL.

-**Threshold Screening:** A referral was made if the results were greater than 25 dB HL in the lower frequencies and 35 dB HL in the higher frequencies.

Results

Table 1. Annual Hearing Screening Results from Kindergarten to Grade Six.

Procedure	K	1	2	3	4	5	6
Initial Screen							
Pass	37	39	38	40	38	36	43
Recheck	7	5	6	4	6	8	1
Rescreen							
Pass	3	5	4	2	5	7	0
Recheck	4	0	2	2	1	1	1
Threshold							
Pass	3	2	0	1	1	0	1
Refer	1	1	2	1	0	1	0
Tympanogram							
Pass	41	41	38	43	5	8	1
Refer	2	3	6	1	1	0	0
Referral Status							
Pass	41	42	42	43	44	43	44
Refer	3	2	2	1	0	1	0

Table 1 shows the results of the sweep-frequency screenings (i.e., initial, rescreen), threshold screenings, tympanometry screenings, and the overall referral status for each student (N=44) during the 7-year period.

In kindergarten, for example, 37 (84.10%) students passed the initial screening, while seven students needed to be rescreened in order to determine if further testing was needed (15.91%).

Following the column, there was a total of three students (6.81%) who were referred. By third grade, the referral rate dropped to 2.27% and by the sixth grade, it was 0%.

Discussion and Conclusion

Overall, the results of the study indicate that 47.7% (N=21) of the students passed every screening each year, while 4.5% (N= 2) of the students were referred repeatedly throughout the 7-year period.

On average, 38.7 (88%) of the students passed the initial sweep-frequency screenings each year, while 5.3 (12%) did not.

During the 7-year period, the average passing rate was 42.7 (97%) as opposed to 1.3 (3%) that did not pass.

The decrease found in the tympanometry referral rate and overall referral rate could be due to otitis media affecting the younger children, which would lead to a possible referral. In kindergarten, the tympanometry referral rate was 48.7%, later decreasing to a 0% referral rate by grade six.

The protocol for administering the hearing screenings remained constant throughout the 7-year period. This consistency further supports the reliability of the referral statuses each child received annually.

In conclusion, well administered hearing screenings can considerably reduce the number of children that experience an educationally significant hearing loss. These children can have a better educational outcome with early detection and intervention.

Selected References

American Speech-Language-Hearing Association. (1997). Guidelines for audiologic screening [Guidelines]. Retrieved from http:www.asha.org/policy

American Speech-Language-Hearing Association. (2002). Guidelines for audiology service provision in and for schools [Guidelines]. Retrieved from http:www.asha.org/policy

Kansas Department of Health and Environment & Kansas State Department of Education. (2004). *Hearing screening guidelines and resource manual.* Topeka, KS: Author.