

## Children with auditory processing disorder may now have more treatment options, research shows

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(Medical Xpress)—Several Kansas State University faculty members are helping children with auditory processing disorder receive better treatment.

Debra Burnett, assistant professor of family studies and human services and a licensed speech-language pathologist, started the Enhancing Auditory Responses to Speech <u>Stimuli</u>, or EARSS, program. The Kansas State University Speech and Hearing Center offers the program, which uses evidence-based practices to treat <u>auditory processing</u> disorder.

Other Kansas State University faculty members involved in the program include Melanie Hilgers, clinic director and instructor in family studies and human services, and Robert Garcia, audiologist and program director for communication sciences and disorders. Several graduate students also are involved.

Auditory processing disorder affects how the <u>brain processes</u> language. Children and adults with auditory processing disorder have normal hearing sensitivity and will pass a hearing test, but their brains do not appropriately process what they hear.

"A lot of therapy targets these skills," Burnett said. "It's almost like relaying the road in the brain that deals with auditory information. For whatever reason, it didn't develop properly, so the therapy is about



reworking these skills."

Burnett and collaborators started the program after attending a conference for the Kansas State Speech-Language-Hearing Association. The conference included a workshop on ways to incorporate speechlanguage pathologists into therapy for auditory processing disorder.

"In the past, it has kind of been in the domain of the audiologist to do all of the testing and all of the therapy," Burnett said. "Speech-language pathologists have been involved in some augmentative therapy, but not in the core therapy. That is all starting to change."

Last summer Burnett and her colleagues decided to start a Kansas State University therapy program that involves speech-language pathologists. Seven children were involved in the program during the summer, two children were involved during the fall semester and one child has continued the program during the spring semester. The children all have been diagnosed with auditory processing disorder. They range in age from 8 to 14 years old and were from north-central Kansas.

Before children begin the program, Burnett performs a pretest to determine their needs and the best way to approach therapy with them. A graduate student clinician, supervised by a licensed speech-language pathologist, meets with the children one hour per week to participate in activities that improve their auditory processing skills. Some of the activities include:

- Phonemic training to address the brain's ability to process speech sounds.
- Words in Noise training to address the brain's ability to process speech with background noise.
- Phonemic synthesis training to address the brain's ability to



process speech sounds across words.

At the end of the program, Burnett performs a posttest to identify changes. The researchers have seen positive results so far: All of the children who participated in the posttest showed improvements in the treated areas. In the areas that the researchers did not treat, the children showed no change but also did not get worse.

"Based on these results, our program is showing early signs of being effective," Burnett said.

Because many of the children also get support at school, the researchers have been working with schools to help teachers and therapists improve treatment with students.

"Instead of giving general guidelines to schools, we are able to talk about the children's specific needs and strengths," Burnett said. "We are able to convey very specific strategies and ideas because we have gotten to know the children and have seen their progress."

As a result of the program, speech-language pathologists are able to take a more active role in therapy. Auditory processing disorder will still need to be diagnosed by an audiologist, Burnett said, but now speech therapists can be more actively involved in administering and interpreting interventions.

"There is a direct benefit to the children diagnosed because of the service," Burnett said. "I think it's a large role of a university to get the latest practices out to the community. It fills the need for the population itself, but also for our field to get more people involved."

Additionally, Kansas State University now is able to offer the therapy to residents and <u>children</u> of north-central Kansas. Previously, the closest



therapy option was located in Kansas City.

The researchers plan to continue offering and fine-tuning the <u>therapy</u>. They currently are preparing the program results for a research publication.

Provided by Kansas State University

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