When Good Research Does Not Support Hypothesis, Too Bad for Hypothesis!

Robert Kantner et al. (AJOT 36 (1): 36-41, 1982) have hypothesized that specific vestibular stimulation in combination with specific speech therapy would significantly improve language ability in mentally retarded children. They completed a study involving 30 mentally retarded children: one treatment group and two control groups—one receiving only specific, and the other, only general speech stimulation (listening to reading and records). The research results came out negative.

"Results of ANCOVA when age, IQ, and pre-test scores were controlled revealed no significant difference in post-test scores between groups." (emphasis added)

In other words, this specific vestibular stimulation treatment makes no significant difference, or has no positive effect, as demonstrated by good, statistically valid research, right? Wrong, according to the authors of this above-average research paper:

"The results of this study fail to confirm or deny a definite vestibular stimulation-language acquisition link." (emphasis added)

In view of the fact that a negative cannot be proved directly, this study (as any other study) was designed to support ("confirm," in layman's terms) or fail to support (usually understood to mean "deny," though not meaning that in a precise philosophical sense) the hypothesized significant improvement of language ability in mentally retarded children. The hypothesis was not supported—ergo, the hypothesis was rejected—ergo, vestibular stimulation treatment for language improvement is an as-yet UNPROVEN REMEDY, though it is doubtful whether one can call it a "remedy" after Kantner et al.'s findings, if these are accepted, as they deserve to be.

The researchers (very good ones) have spoken. Enter the clinicians, who can now use their clinical judgment on whether they want to go ahead with such an "unproved remedial treatment," or that they better not, since some clinicians might regard it as "disproved" (philosophically speaking, it isn't). This conclusion is of practical importance for the clinician because Kantner et al.'s research is of the desirable "critical research" type (please see R.L. Neeman, "Research, education and the future of AOTF," AJOT, 34: 539-540, August 1980), indispensable for establishing a research base for occupational therapy's treatments. Having said that, we must accept a negative outcome—when research says NAY, that's it! In case of vestibular stimulation of mentally retarded for language ability, the NAYS have it.

If we don't wish to accept a NEGATIVE answer to sound research on a TESTABLE HYPOTHESIS of the efficacy of a treatment for a defect, why ask the question, or do research at all? We must learn to take NO FOR AN ANSWER, or never be a sound, scientifically based profession, which we strive to become. This does not mean that we shouldn't conduct "further studies." Of course, we should, but not ad infinitum. Be a good loser, even in research—especially in clinically related "critical" research.

R.L. Neeman, Ph.D., OTR/L, FRSH
M. Neeman, Ph.D., FAIC, FRSH
Williamsville, NY

Career Mobility

Having read Mae Hightower-Vandamm's speech in the December 1981 issue of AJOT, I would like to have information concerning reimbursement by Medicare for services provided by a Career Mobility OTR.

My question relates to the qualifications of the registered occupational therapist required by Medicare. According to Mae's article, Medicare "requires as a minimum graduation from an accredited program." Since neither I nor the State hospital consultant for occupational therapy have been able to locate this requirement in the Medicare regulations, would you please send me a copy of the regulations where this is stated?

If such is the case, there may be a problem in hiring an occupational therapist who has completed the career mobility program. This question is now posed by two private hospitals.

Virginia Tully, OTR
Honolulu, Hawaii