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Neural network helps physicians understand how children manage asthma



October 18, 2001

WESTPORT, CT (Reuters Health) - Artificial neural networks (ANN) can be used to analyze how children manage their asthma. These computer-based tools can recognize and classify behavior patterns that would otherwise be overlooked.

Dr. Adrian M. Casillas, from the University of California at Los Angeles, and colleagues questioned 42 inner-city asthmatic children and teenagers about their management of 10 asthma-based problems. The responses were entered into a database and this database was then used to train an ANN. A total of 305 sets of responses were analyzed through the ANN.

The ANN generated five major clusters that represented different treatment approaches to asthma, the investigators report in the September issue of the Annals of Allergy, Asthma, and Immunology. The management approaches ranged from very poor to appropriate.

ANNs have the potential to provide clinicians with rapid feedback regarding a patient's ability to manage asthma, the researchers note. In addition, it can help physicians determine what aspects of asthma education are needed.

"There is no replacement for human interaction in the educational process, but there is a great need to enhance our ability to assess disease treatment based on realistic models of patient comprehension," the authors emphasize.

Ann Allergy Asthma Immunol 2001;87:230-237.

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