

**Psycho-educational horseback riding to facilitate communication ability of children with pervasive developmental disorders.** Keino, Hiromi; Funahashi, Atsushi; Keino, Hiroomi; Miwa, Chihiro; Hosokawa, Masanori; Hayashi, Yoshihiro; Kawakita, Kenji. *Journal of Equine Science*. 2009 Dec; 20(4): 79-88.

Abstract: In this study, we applied a novel psycho-educational horseback riding (PEHR) program to the treatment of four Japanese children with pervasive developmental disorders (PDD) in order to facilitate the acquisition of verbal and nonverbal communication skills. The behavioral changes in each child were evaluated using a psychological and behavioral scale. The scale for evaluating the effect of Human-Equips-Interaction on Mental activity (HEIM scale) was designed to assess the behavioral improvement of children based on the following 10 items: Human relationships, Imitation, Emotional expression, Sudden physical movement, Fixative behavior, Adaptation to change, Visual response, Fear or nervousness, and Verbal and nonverbal communication. After taking part in the PEHR program for several months, all subjects showed remarkably improved HEIM scores and marked improvements were observed in eye contact with others (instructors, side walkers, and leaders) in the riding area. A statistical difference was found in items 1, 2, 3, 6, 7, 8, and 9. However, no statistical difference was found in items 4, 5, and 10. As the program progressed, the children showed enhanced verbal and nonverbal communication skills, and became more expressive in their emotional and empathetic interaction with their parents. These observations suggest that the normal functioning of pleasurable emotions and empathy may facilitate further improvements in joint attention, imitation and empathy, and may result in successful verbal expression by PDD children. Therefore, horseback riding can play a very important role in the psycho-educational support required for the communication ability of PDD children.

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