

R. BEMELMENS, G.J. GELDERBLOM, P. JONKER, L.P. DE WITTE. *The potential of socially assistive robotics in care for elderly: A systematic literature review. Gerontechnology 2010;9(2):195; doi:10.4017/gt.2010.09.02.291.00*

Purpose The ongoing development of technology, specifically robotics and the foreseen relative growth in the number of elderly people suffering from dementia, against the background of a decreasing number of care personnel raises the question of what the potential contribution of robotics could be to maintaining or even improving the quality of care. The concept of robotics playing a role in healthcare was launched already some decades ago and has mainly been developed for physical training in rehabilitation and personal assistance for ADL tasks¹. Robotic applications supporting social behaviour are a much more recent development¹. So far, systems have been developed supporting child's play and care for elderly people with dementia. However, the uptake of these systems in care practice has been very limited. One of the reasons for this, is that there appears to be a mismatch between what has been developed technologically, and what is seen as needed within care environments¹. To reach a better matching between robot technology and the needs of elder care, a study was initiated to deepen the insight into the potential of socially assistive robotics in care for the elderly. This paper reports on the systematic review of published literature related to the effects of socially assistive robotics in elder care. **Method** A systematic review was conducted according to the Cochrane Handbook. We searched CINAHL, MEDLINE, The Cochrane Library, BIOMED, PUBMED, PsycINFO, EMBASE, and IEEE. In addition, articles were selected via free internet search. Three peer-reviewers separately selected articles to be read in full for the third iteration. **Results & Discussion** From the 2891 articles that matched the search terms, 123 articles were selected on the basis of the title. From these, 37 articles were selected after reviewing the abstracts. After reading the full articles, and 30 additional papers originating from the free internet search, 48 articles were included in the review. The reported studies found positive effects of companion type robots on both a psychosocial and physiological level. Although positive effects are reported, the scientific value of the evidence is limited due to the fact that most research has been conducted in Japan with a small set of robots not clearly embedded in a care need-driven intervention. In general, relations between the types of outcomes aimed for, either related to support of care or support of independence, and the application of the robot system in care, are not well established. Nonetheless, the potential of the robot systems seems generally accepted, based on the initial results and face value.

References

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Address: Zuyd University, Heerlen, Netherlands; E: g.j.gelderblom@hszuyd.nl