Technologies for informal caregivers

A recent European Silver Paper stresses the importance of support of both professional and informal caregivers[1]. In 2002, Gerontechnology journal published the first systematic review of the caregiving technology related literature: 22 studies on technology-based interventions designed to improve physical or psychosocial health of the caregiver, promote independent functioning of the care recipient or older adult at risk, or methodological studies on technology-based approaches to the caregiving context[2]. The tested technologies appeared both acceptable and feasible although the assessments of their impact were mixed and numerous methodological limitations were noted, including outcomes not to be attributed directly to the technology intervention[2]. In six years, gerontechnologists have conducted rigorous studies that do disentangle the role of technology and its positive effects on informal caregiving.

The REACH project is relevant[3]: a US National Institute of Health, National Institute on Aging randomized multi-site study that determined the outcome effects of a variety of interventions designed to reduce stress among family caregivers of older adults with Alzheimer's disease (1995-2001). The target group was highly stressed family caregivers (n=1222) primarily responsible for relatives that exhibited dementia related behaviors that upset them. Investigators conducted an economic analysis of the actual participants' care giving costs and found these averaged annually $23,436 for informal care and $8,064 for formal paid services (2003 US$)[4]. In addition, the researchers developed a new measure of caregiving vigilance to capture the role of supervision and safety oversight that demands caregiver time and attention but was previously missing from standard caregiving measures. While caregivers on average spent six hours actually 'doing things' for their elder, 59 percent of caregivers reported feeling the need to be 'on-duty' 24 hours a day[5]. REACH compared 15 different interventions including control groups ranging from intensive personalized caregiver counseling by professionals to a ten minute technology-based fully automated telephone intervention. The latter was a caregiver-directed counseling call using interactive voice response (IVR) technology. All active interventions yielded statistically significant improvements when compared to control/placebo situations. There was no difference, however, in overall outcomes between the personalized and technology based interventions[6]. This lends support to the use of technology to increase access to services amid professional shortages and high labor expenses[7,8]. Moreover, only one intervention resulted in a significant reduction in depressive symptoms, and it was one of the two telephone interventions, providing family therapy in conjunction with specialized telephone enhanced communication and counseling offerings and the analyses teased apart the independent role of technology on the outcomes[9].

Recently the first workplace use of technology to support working family caregivers has been published and offers evidence of improved worker morale and reduced caregiving stress, as well as the workers' willingness to pay to sustain the Internet based wireless remote motion sensor home monitoring and online counseling system[10]. Notably, clients did not find the system intrusive or isolating and welcomed the ability to be linked via technology to their family member when left alone during work time. As technology moves into the informal caregiving space, the approaches and designs instituted should promote respect for the elders and their caregivers and avoid dominance by providers and technology developers. Amid the technical challenges ethical issues need to be addressed[11]. Recent efforts have resulted in the development of ethical guidelines that are relevant specifically to technologies designed for informal

caregivers and elders with Alzheimer's disease[12].

In conclusion, older adults can and do use well-designed technology that is user friendly and purposeful to them and they can benefit from innovative approaches using new technologies to effectively address geriatric related problems[13].

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