Application Fields and Innovative Technologies

A Pulse of Comfort: Exploration of a Cuddle Doll with Heartbeat for People with Dementia S. Ipakchian Askari, M.L. Post, T.R.C. van Hoesel, J. Fennell, H.H. Nap. *Gerontechnology* 25(s)

Purpose People with dementia (PwD) often experience behavioral and psychological symptoms such as insomnia, anxiety, depression, and agitation [1,2]. A possible intervention can be the use of technology to provide affective touch, similar to the physical touch of a human being. Although several different solutions have been developed to facilitate in this [3,4], there is still a need for a broader understanding to what extent these devices could improve sleep quality and reducing disruptive behavior, thereby complementing the effects of sedative medication. This might result in a reduction of sedative medication usage. **Method** This study evaluated a cuddle doll equipped with a pulsing heartbeat and weighted limbs, mimicking a human embrace [5]. A field study was conducted to explore the influence of the cuddle doll on sleep quality, disruptive behavior, and sedative medication use of PwD. The cuddle doll was evaluated with a total of six PwD. Data was collected through two focus groups, each consisting out of five caregivers, observations, and questionnaires. **Results and Discussion** The field study suggests that cuddle dolls can positively impact the well-being of people with dementia, especially when used alongside sedative medication to improve sleep and reduce agitation. The heartbeat sensation and feeling of social closeness contributed to these improvements. However, attention must be paid to personalized implementation; how and at what moment the cuddle doll is introduced and whether it is an appropriate solution for each individual resident. Moreover, we share three design recommendations for cuddle dolls: 1. Usage of a cuddle doll should be personalized to individual needs. 2. The design of a cuddle doll should ensure an accessible appearance, and 3. foster social rather than purely functional interactions.

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Conflicts of Interest Jac Fennell is Research Director of HUG by LAUGH ltd (UK), which is a Cardiff Metropolitan University spin-out company that was established as a result of the LAUGH design research project. Jac Fennell is currently employed by University of the West of England, Bristol, alongside her Directors role at HUG by LAUGH.