

Applicability and effects of social robot Tessa in patients with Huntington's Disease; two case studies

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Tessa functions as a spoken diary, giving pre-set reminders



Gender	Age	Reminders	Quotes	Compliance
♀	42	Coffee, tea and meals in the living room	"Tessa helps me to remember"	83%
♂	23	Chores like setting the table and unpacking the dishwasher	"Without Tessa I forget a lot"	53%

Background

- Loss of initiative, memory deficits and concentration difficulties are common in almost all patients with HD
 - Healthcare technology is increasingly being used to support the self-reliance and well-being of patients in long term care facilities
 - Tessa is a small social robot that looks like a flowerpot. Giving pre-set reminders, Tessa functions as a spoken diary
- The applicability and effects of Tessa in patients with HD in order to stimulate them in their activities and chores is unknown

Case History

- Two HD patients living in a skilled nursing facility tried Tessa for 12 weeks
- Patients' behavior was monitored by counting frequency of the specific behavior (e.g. unpacking the dishwasher) during one week at baseline, after 6 weeks and after 12 weeks, and patients, family caregivers and nursing staff were interviewed
- Tessa invited the female patient (42 years old) for coffee, tea and meals in the living room and reminded the male patient (23 years old) of chores like setting the table and unpacking the dishwasher
- Both patients followed up on spoken instructions of Tessa. After 12 weeks compliance was 83% (female) and 53% (male). The difference between them was probably caused by difference in motivation for carrying out the instructions in relation to the associated task (getting coffee versus doing laundry)
- Both patients indicated that they liked Tessa and wanted to keep Tessa
- Caregivers and nursing staff members also noticed patients responded on spoken instructions of Tessa, but only if they wanted to
- Tessa's neutral tone was considered great value, Tessa not being portable was considered a disadvantage

"Now the interaction is more spontaneous, you don't need anything from him anymore..."
(nursing staff member)

"I think Tessa is meaningful to him"
(family caregiver)

Preliminary conclusions

In both patients social robot Tessa was applicable and appreciated and Tessa reminded them to initiate activities. Instructions were partly carried out because both patients only responded when they wanted to and Tessa was not always around. It might be worthwhile to further explore the possibilities of social robots in patients with HD.

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