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Project title
A preliminary evaluation: Robot-assisted therapy using PARO for elderly with cognitive decline or dementia with BPSD in Shatin Hospital.

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Introduction
Robot-assisted therapy is a potentially cost-effective treatment for dementia as it has the potential to reduce behavioral and psychological symptoms (BPSD), improve moods, and encourage social interaction and communication in patients with dementia (Bemelmans R. et al, 2012). There is currently little information about its feasibility and therapeutic effects in Hong Kong Chinese. Thus the Geriatric Day Hospital of Shatin Hospital has initiated a pilot project exploring to which extent the robotic pet PARO functions as a therapeutic tool in elderly with cognitive decline or dementia with BPSD.

Objectives
To review the potential benefit PARO therapy on BPSD, moods, and social interaction and communication in patients with dementia.

Methodology
The PARO Project is divided into three phases. Phase I is the development phase in which standardized procedures and structured session outlines for PARO intervention are developed. Phase II – the implementation phase – a sample size of 40 subjects with dementia and demonstrated mood disturbances / BPSD are to be selected from the attendants of Geriatric Day Hospital in Shatin Hospital to interact with PARO in individual or group context. Phase III is the evaluation phase and effect of PARO in various aspects is reviewed with standardized outcome measures as follow: (1) BPSD – Chinese Neuropsychiatric Inventory (CNPI) and Cohen-Mansfield Agitation Inventory (CMAI); (2) Mood change: Cornell Scale for Depression in Dementia (CSDD) and subjective rating by subjects on Face Scale; (3) Cognitive function – Mini-Mental State Examination (MMSE); and (4) Carer's stress – Zarit Burden Interview (ZBI).

Result
As a preliminary evaluation 9 subjects (4 females, MMSE ranged from 11-22, mean age 82.6 years old) have been recruited for intervention. 7 received group-based whereas 2 received individual intervention for 6 – 8 sessions. Results showed a decrease in CNPI mean scores (from 35.5 to 26.0) and CMAI mean scores (from 37.0 to 36.5) in subjects receiving individual intervention. Decrease in mean scores of CSDD (from 6.0 to 2.7), ZBI (from 36.0 to 29.1) and face scale (from 2.8 to 1.9) were also noted in all subjects. Though the results did not reach statistical significance, they still implied that PARO has potential effect in decreasing BPSD, improving mood in subjects and reducing carer's stress. Caregivers also commented that subjects were less apathetic and more participating in daily activites at home after intervention. PARO therapy provides us an alternative in treatment modality for patients with dementia. Subjects are continually recruited for larger scale review.