



**Service Priorities and Programmes
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Clinical trials of robot-assisted therapy using therapeutic robot Paro in demented patients with mood disturbance or behavioral and psychological symptoms (BPSD):the experience 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 BPSD, improve moods, and encourage social interaction and communication in patients (Bemelmans R. et al, 2012). The therapeutic robot, Paro, has been used in various countries in the past decade with positive effect demonstrated. However, there is currently little information about its feasibility and therapeutic effects in Hong Kong Chinese.

Objectives

To review the potential benefit of robot-assisted therapy using Paro on BPSD, moods, and social interaction and communication in patients with dementia.

Methodology

Paro is a therapeutic pet type robot with a baby harp seal appearance. It is equipped with different kinds of sensors including tactile, light, audition, temperature and posture, thus it can respond to different stimulation given by the users. Patients with dementia and demonstrated mood disturbances and BPSD were selected from the attendants of Geriatric Day Hospital in Shatin Hospital by purposive sampling to interact with Paro. Paro were presented to them only when they manifest any of these symptoms during training session.

Result

From October 2012 to March 2013, four patients (1 male and 3 females) aged 76 – 88 were selected and evaluated. Their average score in MMSE were 13 out of 30. They demonstrated features of dementia with at least 2 episodes of mood disturbance and/or BPSD observed in the day hospital. Their symptoms include low

mood, emotional incontinence, agitation and apathy, leading to (1) poor attention and motivation in participation (2) reduced engagement in therapeutic activities (3) limited interaction and communication with others. Number of Paro interaction sessions given to the selected patients ranged from 2 to 4 with duration of interaction from 20 minutes to 40 minutes. Patients were encouraged to touch, stroke, hold and talk to Paro during the sessions. Encouraging findings were seen after their interaction with Paro. They showed relatively calmer mood with better responsiveness to staff and increased motivation to participate with longer attention span in the activity. Spontaneous speech and smile were seen in them during interaction with Paro. They commented Paro as "cute" and were "joyful" when interacting with Paro. All of them "like" Paro and hoped to interact with Paro again. The therapeutic pet robot Paro was observed to have positive effect on (1) mood soothing (2) increase purposeful engagement (3) stimulation of communication.