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# Outcome Of Outdoor Activities as Part of Person-Centered Care in The Dementia Ward of An Acute Hospital

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## Abstracts

Person centered care (PCC) is a care model commonly practised in the long-term care setting for the persons living with dementia. In the acute hospital setting, task focused care is the routine where the patient turnover is high, and the healthcare team have tight schedules to fulfil. The dementia ward housed the older patients with cognitive issues and behavioral symptoms adopted PCC as their model of care. The practice of PCC in this special ward included provision of a home like environment, regular training for the staff with emphasis on positive social environment and engaging the patients in therapies which provided social and cognitive stimulations. The outcome was encouraging with improvement in behavioral symptoms, mood, appetite, sleep and reduction in agitation and sundown symptoms.

**Keywords:** Person centered care; Dementia; Elderly in-patient; Acute hospital

## Introduction

There are around 50 million people worldwide living with dementia and every year, nearly 10 million new cases are diagnosed.1 Dementia is one of the major causes of disability and dependency among older people worldwide and can be overwhelming not only to the person, but also for their caregivers and their families [1].

Persons with dementia (PWD) have complex medical, social and psychological needs which change as the disease progress. The care needs increase exponentially during periods of physical illnesses due to risks of delirium, fall, incontinence, cognitive and functional decline. Older PWDs are more frail and vulnerable to iatrogenesis, compared to their peers without dementia [2].

Currently, the older adults aged >65 are the heaviest healthcare utilizer due to their complex medical comorbidities. The demand on healthcare resources will likely increase as life expectancy increases [3,4]. Whilst the older adults are more likely to require admissions to the hospital, the older PWDs are even more likely to be admitted compared to their peers without dementia. Once the PWDs are admitted, the length of stay are longer and discharge planning also more challenging as they require a complex network to support their medical and psychosocial needs [5]. Caring for the older PWDs in hospitals is challenging to the care team, and a significant number of older PWDs are nursed on restraints while in the hospital. Professor June Andrews described the acute hospital

akin to a meat grinder for the PWDs where the PWDs are chewed and spat out [6]. Getting admitted may leave the older PWDs with permanent functional and cognitive decline and this will further increase caregiver burden.

It is increasingly recognized that person centered care (PCC) is a better model of care for the PWDs in the hospital [7]. However, PCC is challenging to implement in the hospital setting. In the dementia ward of a teaching hospital in Singapore, PCC is the preferred model of care for the older patients >80 living with dementia.

## Method

This is a descriptive study conducted in the dementia ward of a teaching hospital in Singapore. The dementia ward in the authors' hospital adopted PCC as their model of care in order to improve behavioral symptoms and indirectly, reduce need for restraints and antipsychotic usage. The aim of the study was to evaluate effectiveness of therapies as part of PCC in the dementia ward, examining patients' level of engagement, appetite, sleep patterns, mood and behavioral symptoms while evaluating caregivers' / staff's satisfaction. Creating fun and meaningful therapies for the patients is one of the most important components of PCC. The patients were all aged >80. A total of 49 patients were enrolled during the two month's study period. Data collected include patients' behavioral symptoms, mood, portion of their meals consumed and duration of sleep.

The patients had their activities in small groups outdoors in the ward's balcony either in the mornings or early evenings. The activities included light seated exercises, music therapy, reminiscence therapy, art and craft, robotic pets, doll therapy, cross word puzzles etc. The therapies were individualized according to patients' preference. The morning sessions coincided with breakfast time or afternoon tea for the evening therapy sessions. There was a facilitator who oversaw, supervised and collected data during and after the sessions. Since the patients were heterogenous in their interests and cognitive impairment, the facilitator had the autonomy to prepare a combination of therapies for each session, while letting the patients made the final decisions. The duration of therapy varied between 30-60 minutes, depending on the patients' tolerance, engagement and interests. The patients' family members or caregivers who happened to be at bedsides during the therapy sessions, were encouraged to participate and learn so the patients may continue to be engaged in their own homes after discharge.

Data collected for the each of the session included duration of therapy, type of therapies, patients' mood, agitation score, emergence of sundown symptoms, portions of meals consumed and level of engagement pre- and post- therapy. The patients' sleep duration was also included in the data collection, especially for the evening sessions. The facilitators also obtained scores for caregiver stress pre- and post- therapy. Meal consumption was reviewed from the intake-output charting in the electronic records. Comparisons of meal consumption during therapy sessions were made with the meals consumed not on therapy days.

## Results

Most of the patients, 37 (76%) were able to engage actively with the therapy. The therapy sessions varied between 15-120 minutes. The optimal duration of therapy was between 30-90 minutes where 34 (92%) patients were seen to engage actively. The patients enjoyed listening to music (92.2%) and doing exercises (96.7%) the most. Active engagement with light exercises, art and craft was observed during therapy sessions while they consumed their meals ($p<0.05$).

The patients' mood assessed by the facilitator showed improvement among 47 (96%) of the patients at the end of the therapy sessions ($p<0.012$). The patients were observed to be happier, smiling and some were still humming to the music at the end of the sessions. Assessment of agitation scores showed improvement among 47 (96%) of the patients, and the patients remained calmer for up to a couple of hours after the therapy sessions ($p<0.047$).

During the therapy sessions, the patients' meal consumption was also observed. The authors' hypothesis was patients should eat better when they had company. The morning therapy sessions coincided with breakfast time. The meals were individually ordered and seasoned to the patients' liking. There were 20 patients who were invited to have their breakfast while they had their morning therapies. Sixteen (80%) of the patients ate better during their therapy sessions, where they consumed half to full share, compared to their usual charted meal consumption of less than half share.

The authors thought late afternoon therapy sessions with exposure to sunlight would benefit the patients with sundown syndrome and insomnia. The 28 patients selected for afternoon therapy sessions had significant sundown symptoms and poor sleep of <4 hours' duration. The patients did not receive sedatives for their sleep disorders pre and post- therapy. The sleep data was collected by different set of staff on night shifts. Among the 28 patients who participated in afternoon therapy, 18 (64.3%) showed improvement in the duration of their sleep, where the patients were able to sleep for 6-7hours. This improvement in sleep duration, however, did not reach statistical significance. Among the 28 patients, 13 (46.4%) showed improvement in sundown syndrome, the improvement did not reach statistical significance.

All the caregivers, nurses as well as the patients' family reported they enjoyed the activities with their patients/ loved ones. They reported feeling happy and relaxed seeing their patients/loved ones enjoying and engaging in the activities (96.7%) and that the PWDs' response made the carers/families happy (93%).

## Discussion

Use of non-pharmacological measures have been shown to be beneficial in the management of BPSD and are the preferred management strategies over pharmacological therapy because of the adverse effects associated with pharmacotherapy in the management of BPSD [8]. Among the non-pharmacological interventions for BPSD, there is evidence to show benefits

for reminiscence therapy, aromatherapy, physical exercise, multisensory therapy, music, pet and doll therapy, etc. [9-14].

The admission criteria for the Dementia ward include elderly >80 with cognitive issues exhibiting difficult to manage behavioral symptoms. Cognitive issues are loosely defined as either delirium or dementia. The layout in the Dementia ward is home like, with warm lighting, furniture, gardens and pictures placed to reduce disorientation, facilitate mobility and promote independence. Management goals for these patients focus on creating a positive social environment, bestow dignity and avoidance of restraint use. The staff were taught on the principles of PCC, especially understanding that behavioral symptoms arise due to underlying unmet needs [15]. While it is time consuming for the staff to innovate and find the suitable activities to engage their patients, the nurses and family members expressed satisfaction and joy watching the patients actively engaging in therapy sessions. In the busy acute hospital setting, it is easier to restrain patients with behavioral symptoms to reduce fall or injury risks. While it was initially a daunting thought to have a ward for the elderly with cognitive impairment in an acute hospital, managed with a new model of care without chemical/physical restraints, it proved to success a couple of years after opening our doors.

Physical restraint usage was kept to the very last resort when the patients are at risk of injuring themselves, others in the near vicinity. Person Centered Care (PCC) is classically the model of care in the institution care setting, while challenging to practice in an acute hospital setting. PCC has been shown to improve behavioral symptoms, reduced prescription of antipsychotics among the PWDs [16-18]. In the acute hospitals where the elderly patients with cognitive issues are more susceptible to fall, prescribing sedatives or antipsychotics for behavioral management may further increase fall risk. The authors' dementia ward showed that PCC improved caregiver satisfaction, improved behavioral symptoms, reduced prescription of antipsychotic and improved nurses' job satisfaction. The nursing staff had to spend more time creating therapies to keep the patients engaged socially and cognitively but they felt it was time worth spending because the outcomes measurable benefit [19, 20].

Physical exercise appears to be beneficial in management of BPSD by improving mood, agitation, and nighttime sleep although it is still unclear which exercise, duration or frequency of exercise prescription is optimal for positive response [21]. In this study, physical exercises were the most frequently prescribed therapy for the inpatients and were well received. The physical exercises were seated upper and lower limb exercises, with background music to motivate the patients. For the fitter patients, they may be stood up for exercises. The daytime physical activity was associated with improved mood, improvement in sleep duration and decrease in agitation [22].

This study was conducted in an outdoor area with a sensory garden, which was more conducive with fresh air and sunshine, adding physical exercise to cognitive stimulation. In a meta-analysis done by Whear et al., gardens and outdoor spaces have shown reduction in agitation and physical/ non-physical aggression [23]. In general, the presence of a garden, albeit small, was appreciated by the patients, family/carers and the staff, giving their encouragingly positive feedback in this study. Having a garden in an acute hospital setting to conduct outdoor therapy may be a novel idea, which was a refreshing change from the traditional sterile hospital environment.

Sundown syndrome and sleep disorders are among the most difficult to manage in dementia, causing caregiver burnout. In the hospital setting, some of the patients exhibiting sundown syndrome may be physically or chemically restrained. Sleep disorders in the hospital settings are also poorly tolerated as the sleepless patients may disturb the other patients who need their rest. At home, sleep disorders are a major determinant for nursing home placement. [24-25] Light therapy has some evidence in the management of sundown syndrome and sleep disorders among the PWDs [26]. The balcony in the dementia ward gets the afternoon sun. While the patients receive their therapy outdoors, they also got exposure to direct sunlight. This may explain the improvement in sleep duration among the patients who had afternoon therapy sessions.

Eating disorders resulting in weight loss is common as dementia progresses [25]. The poor oral intake may be a cause of significant caregiver stress, and in some cases, is a reason for insertion of feeding tubes. Consuming a meal with family and friends has been shown to improve oral intake among the PWDs [26]. In this study, the patients seemed to eat better when they had their meals together with the other patients during their therapy sessions. In the authors' hospital, mealtimes are often spent eating alone by their bedsides or in their beds. There is space limitation in the acute wards and mealtimes are too short to mobilize the patients for communal dining. There is also concern that patients may get distracted while having their meals, resulting in longer nursing time for supervised feeding. In this small sample, the benefit of communal dining was encouraging, while providing opportunities for social interactions.

## Limitation of the study

The sample was small, some of the data could not reach statistical significance. Nevertheless, the data is promising.

## Conclusion

As the acute hospitals see increasing trend of elderly patients occupying most of the beds, care models need to be reviewed in order for the care team to attend to the patients' psychosocial needs, in addition to the urgent medical/surgical issues. A significant of the elderly in-patients have undiagnosed background neurodegenerative diseases which may present itself as delirium, changes in behaviour or at crisis points where they fall in the hospitals. Behavioral symptoms are challenging for most healthcare staff unless they had received training in mental health or gerontology. Most of the PWDs with behavioral symptoms end up being restrained while they are admitted to reduce their risk of falls and injuries. Restraining the PWDs are associated with poor outcome, and perhaps adoption of PCC should be more widespread

in the hospital settings, which are beneficial to the patients, their caregivers and even the care team.

## Acknowledgment

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## Conflict of Interest

None.

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