



Restraint use and dementia care

What is restraint?

There are two types of restraints, namely physical restraint and chemical restraint. Physical restraint is defined as “any device attached to or adjacent to a person’s body that cannot be controlled or easily removed by the person, and deliberately restricts a person’s freedom of movement and/or prevents a person’s normal access to his or her body”¹. Common types of physical restraint used in Hong Kong hospitals include trunk restraint, bilateral bedside rails, chair-boards (a chair with fixed tray table)², boxing gloves and strait jackets³; while chemical restraint used in clinical settings may be medication such as antipsychotic, antianxiety, or hypnotic agents used to serve the same purpose⁴.

Prevalence of restraint use (Globe and HK)

A recent longitudinal study of 11 years in ten Hong Kong long-term care facilities with 2,896 residents suggested an increase in prevalence of physical and chemical restraint se from 57.9% in 2005 to 75.7% in 2015 and 15.9% in 2005 to 21.78% in 2015 respectively⁴. Comparing the prevalence of restraint use of Hong Kong to other developed countries, Feng et al.⁵ suggested Hong Kong to have high physical restraint use (20%) comparing to the US (9%) and Switzerland (6%) but relatively with low usage of chemical restraint.

Associated factors for restraint use

Dementia or cognitive impairment was found to be correlated with likelihood of physical or chemical restraint use⁴. Chemical restraint may be applied on persons with dementia (PWD) in order to control the behavioral and psychological symptoms of dementia (BPSD)^{5,6} such as verbal and physical aggression, hallucination, delusion, sleep disturbance and wandering⁷. Healthcare workers claimed that the main reasons for applying physical restraint were person-oriented, such as to maintain safety, manage agitation and aggression and prevent wandering of service users, as extension of physical support⁸, as well as to prevent fall and to secure the operation of medical devices in hospitals for older people¹.

Harm/risks associated with restraint use

There is no evidence showing that restraint is an effective measure as a therapeutic intervention⁹. On the contrary, studies have suggested various risks associated with restraint use. Potential adverse effects associated with physical restraints included asphyxia, catecholamine rush (a compound that induce “fight or flight” response) caused by extreme stress, psychological trauma⁹, increased behavioral issues, declined cognitive performance, fall, increased dependence in walking, pressure ulcers and contractures¹⁰. Chemical restraint was found associated with increased mortality risk in older people with dementia¹¹.



Restraint reduction program

A local study which involved 2,000 patient episodes in a convalescent hospital has proved restraint reduction to be beneficial to the hospitalized elderly, especially to those with cognitive impairment¹. With the implementation of the restraint reduction program, the physical restraint rate decreased from 13.3% to 4.1%; while length of stay (LOS), which is a reliable indicator of treatment outcome¹², also decreased from 19.5 days to 16.8 days. Subgroup analysis showed a significant decrease in LOS among the cognitively impaired patients from 23.0 days to 17.8 days. In long term, it was suggested to promote restraint reduction in elderly settings in order to provide better elderly care in Hong Kong.



Reference

1. Kwok T, Bai X, Chui MY, et al. Effect of physical restraint reduction on older patients' hospital length of stay. *Journal of the American Medical Directors Association*. 2012;13(7):645-650.
2. Kwok T, Mok F, Chien WT, Tam E. Does access to bed-chair pressure sensors reduce physical restraint use in the rehabilitative care setting? *Journal of Clinical Nursing*. 2006;15(5):581-587.
3. Yan E, Kwok T, Lee D, Tang C. The prevalence and correlates of the use of restraint and force on hospitalised older people. *Journal of Nursing and Healthcare of Chronic Illness*. 2009;1(2):147-155.
4. Lam K, Kwan JS, Kwan CW, et al. Factors Associated With the Trend of Physical and Chemical Restraint Use Among Long-Term Care Facility Residents in Hong Kong: Data From an 11-Year Observational Study. *Journal of the American Medical Directors Association*. 2017.
5. Feng Z, Hirdes JP, Smith TF, et al. Use of physical restraints and antipsychotic medications in nursing homes: a cross-national study. *International journal of geriatric psychiatry*. 2009;24(10):1110-1118.
6. Foebel AD, Onder G, Finne-Soveri H, et al. Physical Restraint and Antipsychotic Medication Use Among Nursing Home Residents With Dementia. *Journal of the American Medical Directors Association*. 2016/02/01/ 2016;17(2):184.e189-184.e114.
7. Liperoti R, Pedone C, Corsonello A. Antipsychotics for the Treatment of Behavioral and Psychological Symptoms of Dementia (BPSD). *Current Neuropharmacology*. 2008;6(2):117-124.
8. Lai CK, Chow SK, Suen LK, Wong IY. The effect of a restraint reduction program on physical restraint rates in rehabilitation settings in Hong Kong. *Rehabilitation research and practice*. 2011;2011.
9. Mohr WK, Petti TA, Mohr BD. Adverse effects associated with physical restraint. *The Canadian Journal of Psychiatry*. 2003;48(5):330-337.
10. Castle NG, Engberg J. The health consequences of using physical restraints in nursing homes. *Medical Care*. 2009;1164-1173.
11. Maust DT, Kim HM, Seyfried LS, et al. Antipsychotics, other psychotropics, and the risk of death in patients with dementia: number needed to harm. *JAMA psychiatry*. 2015;72(5):438-445.
12. Jiménez RE, Lam RM, Marot M, Delgado A. Observed-predicted length of stay for an acute psychiatric department, as an indicator of inpatient care inefficiencies. Retrospective case-series study. *BMC Health Services Research*. February 17 2004;4(1):4.