

Non-drug Treatment for Behavioural and Psychological Symptoms of Dementia (BPSD)

Dr. Grace Lee, PhD,
Senior Occupational Therapist,
Advanced Practitioner in Psychogeriatrics,
Occupational Therapy Department, Kwai Chung Hospital
Certified Montessori Trainer, HKOTA
Certified Remotivation Therapy Instructor, HKRMTA
Cognitive Therapist, Beck Institute
ACP Horticultural Therapist

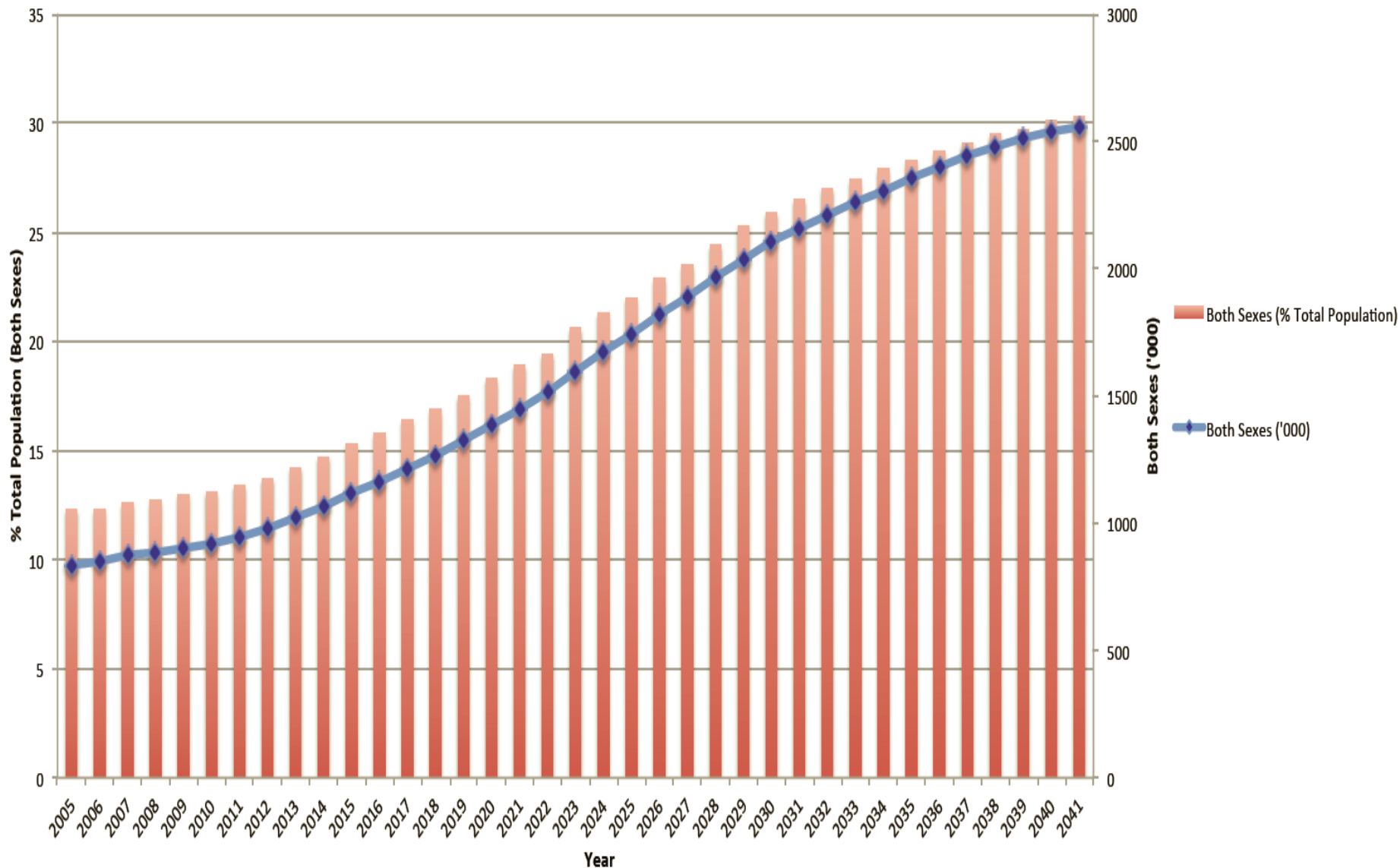


Dementia

- **Neurodegenerative** disease, decline in cognitive function, affect mood, personality & social behaviour; **progressive** illness (Sadock & Sadock, 2005)
- **Prevalence** of behavioural and psychological symptoms of dementia (**BPSD**) was **very high** in **dementia** patients (Kar, N, 2009; Shaji, George, Prince & Jacob, 2009).

Ageing population in HK

Projected Hong Kong Population Age Over 65 from 2005 to 2041



Population Estimates- Publication | Census and Statistics Department. (2015, February 17). Retrieved June 9, 2015.

Treatment of Dementia

- Pharmacological Interventions
- Non-pharmacological (non-drug) Interventions

Non-pharmacological Interventions/ Client-centred approach

- Cognitive
- Activities of daily living (ADL)
- Behavioural
- Psychological
- Social
- Caring environment

Non-pharmacological Interventions for BPSD

- Several **systematic reviews** and an overview of non-pharmacological intervention have been done by different professionals and occupational therapists, who recommend **non-pharmacological treatment** as an evidence-based practice for formal and informal carers to **delay disease progression** and **functional decline** (Hulme, Wright, Crocker, Oluboyede, & House, 2010; Lee et al., 2012; Olazaran et al., 2010; ; Yamaguchi, Maki & Yamagami, 2010).

Selection of Evidenced Based Training Programme: Client-centred approach

- Clients' **needs**
- **Background**
- **Interests**
- Cognitive, physical and functional **performance**
- **Environment** (physical, psychological & social)

Nonpharmacological Intervention I

- **Cognitive rehabilitation**: cognitive stimulation, errorless learning, Spaced Retrieval, Vanishing Cues
- **Activities of Daily Life / functional training**
- **Reality Orientation**
- **Reminiscence therapy**
- **Montessori-based program**
- **Remotivation Therapy**
- **Lifestyle redesign program**
- **Physical exercise/ fall prevention program**
- **Art activities**
- **Music therapy**

Nonpharmacological Intervention II

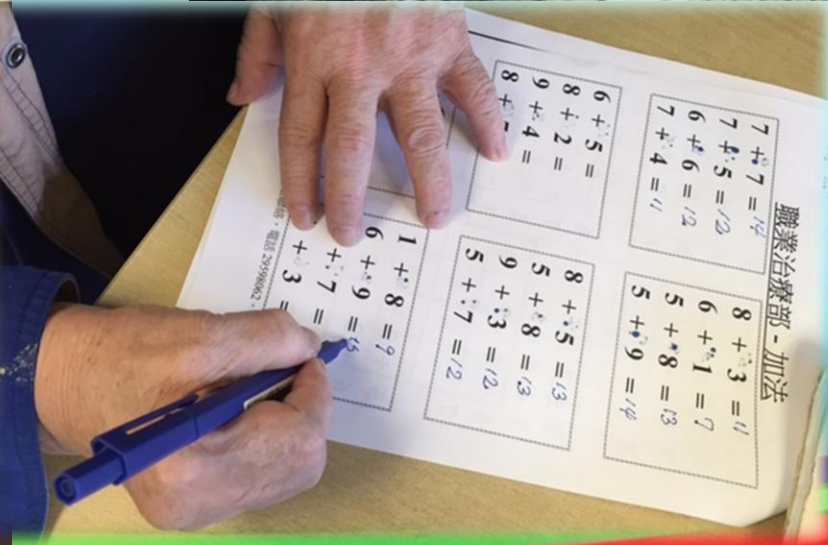
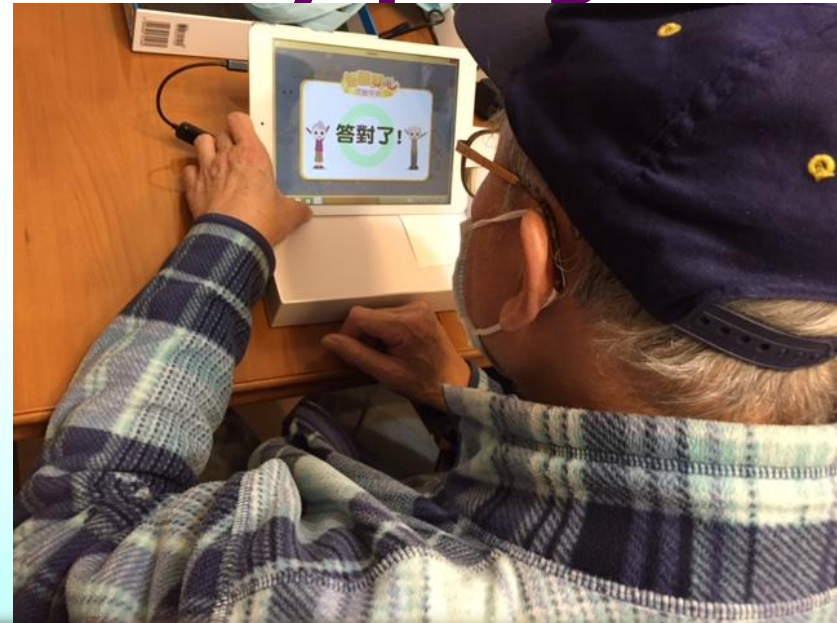
- Snoezelen/multisensory stimulation
- Aromatherapy / Massage
- Light Therapy
- Pet therapy
- Horticulture therapy
- Environmental adaptation e.g camouflaged doors
- Activity Scheduling
- Behavioral intervention: With reinforcement schedule
- Community occupational therapy programme with cognitive and behavioural intervention

(Arbesman & Lieberman, 2011; Clare, 2010; Hulme, Wright, Crocker, Oluboyede & House, 2010; Douglas, James & Ballard, 2004; Lam et al., 2010; Lee et al., 2012; Mok, 2004; Oliveira et al., 2015; Van der Ploeg, Eppingstall, Camp, Runci, Taffe, & O'Connor, 2013; Yamaguchi, Maki & Yamagami, 2010).

Cognitive rehab/computer training delay cognitive decline

- RCT study: **computer training** would **delay** the **cognitive decline** of subjects of **MCI** and dementia (Galante, Venturini & Fiaccadori, 2007); **improve cognition** after training (Miller, et al., 2013)
- Feasibility and efficacy of **intensive cognitive training** for 21 early AD patients in U.S. showed individualized cognitive training (**computerized** or **paper-and-pencil** task) showed post-test **improved outcomes** on MMSE, letter fluency & Trail-making tests, **maintained effect** at 2- & 4-month FU (Kanaan, McDowd, Colgrove, Burns, Gajewski & Pohl, 2014)
- A single-blinded RCT **Computer-assisted errorless-learning based programme** for 75 subjects, is found to be effective in **enhancing** the **memory** function of **early Alzheimer's Disease** older adults in Mattis Dementia Rating Scale, ($p=0.001$) (Lee, 2014).

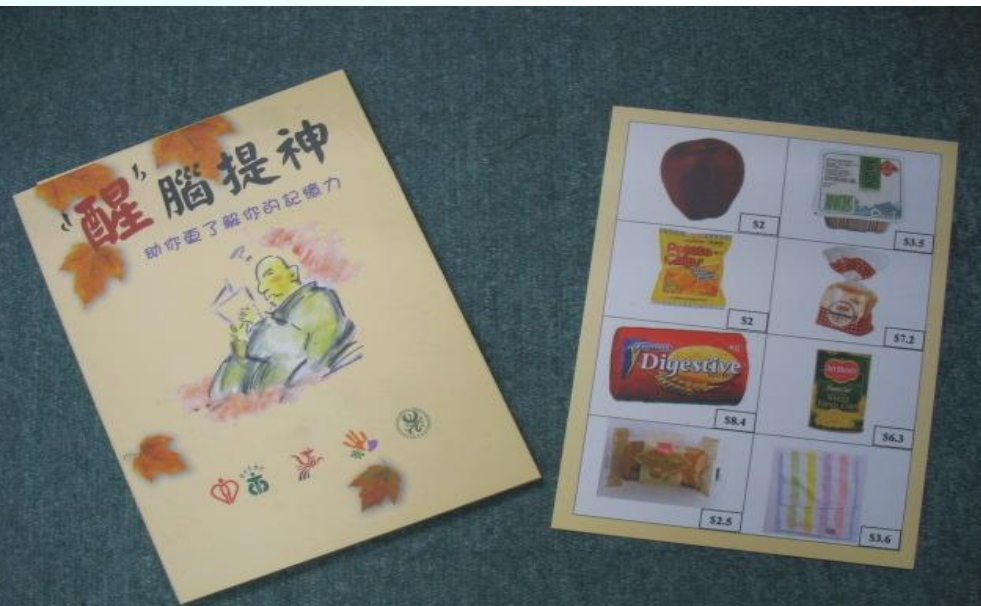
Cognitive/Computer-assisted errorless learning memory program



Memory Training Kit

KCH & NAAC study

- ◆ 125 elderly subjects in NAAC elderly service were recruited (**case control**)
- ◆ **Intervention** group got **sig. improvement** in
 - ◆ **Cognitive**
 - ◆ **Emotional**
 - ◆ **Daily function**



醒腦提神-助你更了解你的記憶力
(Li et al., 2006;
OTCOC, HKOTA,
CRN, ADA,)



“至醒之旅” KCH & NAAC

Functional Enhancement Program (FEP)

- RCT study of FEP improved functional abilities in mild and moderate dementia & program was tailor made to meet the individual needs of clients

(Lam , Ko, Luk & Lui 2008; Lam et. al, 2010)



Activity Training Kit on Lapboard

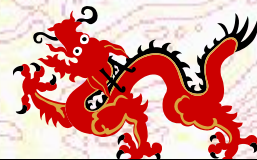
By Helen Sezto (OTCOC, CRN, ADA, HKOTA)



Cochrane Review: RO on Dementia

- 6 RCT, 125 elderly subjects
- 67 clients in **intervention** group
- 58 clients in control group
- **RO improves the cognition & behavioral problem** of dementia clients
(Spector A et al, 2003)





Reminiscence case control study using reminiscence training Kit (Chung J. & Lee G., 2004)



HKPU & KCH
study:

- **intervention** group showed **significant improvement in cognition and mood**

Montessori based programme

- Establish **Montessori based programme** and **activity scheduling** for management of BPSD is important
- A randomized crossover trial to study the effect of personalized, one-to-one interaction using Montessori-based activities on **agitation, affect, and engagement** in nursing home residents with dementia (van der Ploeg, Eppingstall, Camp, Runci, Taffe, & O'Connor, 2013)



開心時間表

時間	活動
10:00-11:00	晨身 梳洗
11:00-12:00	平台花園晨運
12:00-13:00	同先生飲早餐
13:00-14:00	去老人中心參加活動
14:00-15:00	午飯
15:00-16:00	午睡 小休
16:00-17:00	同節爺行街 / 同工人一齊行海傍
17:00-18:00	沖涼 休息
18:00-19:00	一家大細食晚飯
19:00-20:00	一家大細睇電視
20:00-21:00	同孫細B一齊玩 / 搵大妹、三妹傾計
21:00	睡覺 休息



Montessori based programme

Cognitive Training Task -

Reading poems/ matching fruits



Art activity & BPSD

(Peisah, Lawrence, & Reutens, 2011)

- Need support & guidance
- Client's interests



Music Therapy & BPSD

- Music therapy is **effective** to **reduce BPSD** for **moderate** and **severe** stage of **dementia** (Svansdottir & Snaedal, 2006; Yamaguchi, Maki & Yamagami (2010).).

Remotivation Therapy (RT) programme

- Pilot study: **sig. improvement** in RT gp in **orientation, communication & well-being** (Ng B et al., 2016)



重燃動力治療小組 五步曲

1. 互相接納 (The Climate of Acceptance)
2. 現實導向 (A Bridge to Reality)
3. 分享體驗 (Sharing the World We Live In)
4. 瞭解個人的工作世界 (Appreciating the Work of the World)
5. 互相欣賞 (The Climate of Appreciation)

重燃動力治療師
治療師需要接受重燃動力的專業培訓及註冊，才可提供重燃動力的治療康復服務。

如有任何疑問，請向以下的重燃動力治療師查詢：

接納 Acceptance **欣賞** Appreciation
分享 Sharing

HKRMTA
香港重燃動力治療協會
Hong Kong Remotivation Therapy Association



Social Functioning of Elderly with Cognitive Deterioration Using Remotivation Therapy

(Ng, BFL, Wong, KKY, Lee, ATM, Kong, RWL, Shek, JSY, Lee JCK, Tang, DCS, Leung FSY, Tang, NYM, Lui, WKY, Chan, ETM, Sezto HNW, Tang, SKL, Chow, EOW, Lee, GYY)

Design: Cohort study $n = 28$ (16 F, 12 M)

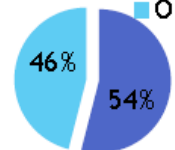
Age: $M = 79.25$ $SD = 5.14$

Inclusion: Social & Cognitive F(x), i.e. (Schizo., Dementia, stroke)

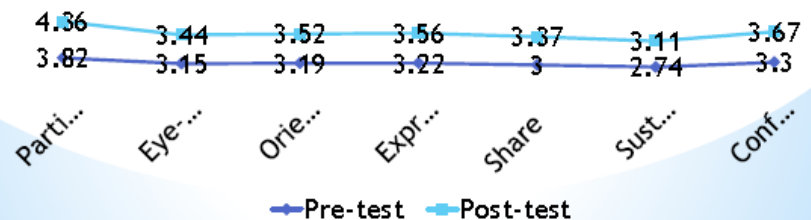
Result:

- SOFAS, SF-12 & WHO-5 ☒ significant difference
- RT and ACIS ☒

■ In-patient
■ Out-patient



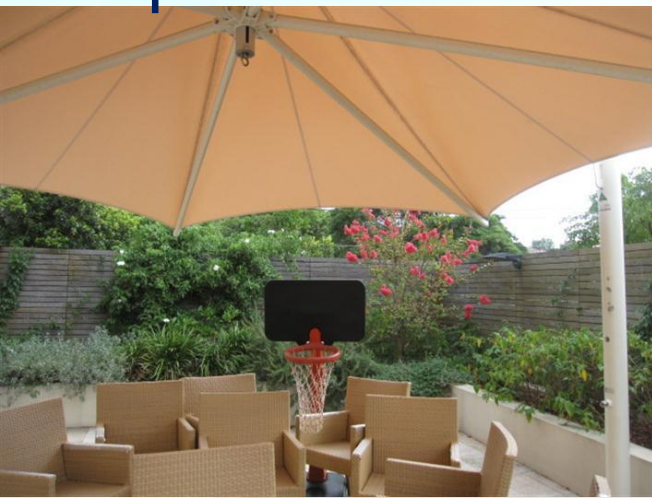
Significant \uparrow with $p < .05$



Horticultural Therapy (HT)

(Gigliotti & Jarrott 2005)

- HT enhanced engagement and positive affect of dementia clients



評估方法
園藝治療福祉效益前後測問卷表

各位親愛的伙伴：
請回想這一個月的感覺並圈選數字，問卷資料將予以保密。
非常感謝您的填寫！

姓名：_____ 服務機構（單位）：_____

（平時是否喜好園藝：☐是 ☐否）

項 目	前／後測	完全不同意	不同意	還好	同意	完全同意
我的肢體運動夠強	前測	1	2	3	4	5
	後測	1	2	3	4	5
我有興趣嗜好	前測	1	2	3	4	5
	後測	1	2	3	4	5
我覺得心情放鬆	前測	1	2	3	4	5
	後測	1	2	3	4	5
我具有成就感	前測	1	2	3	4	5
	後測	1	2	3	4	5
我的邏輯意識清楚	前測	1	2	3	4	5
	後測	1	2	3	4	5
我有良好的社交技巧	前測	1	2	3	4	5
	後測	1	2	3	4	5
我了解園藝栽培技術	前測	1	2	3	4	5
	後測	1	2	3	4	5

前測總分：_____ 後測總分：_____ 前後分數差異：_____

我想對老師說：_____

Principles of Environmental Design in Care of Dementia

(Cohen et al, 1991; Gresham, 1999)

- **Safety** and security
- **Orientation**
- Home-like environment
- Stimulation
- Privacy
- Adaptability
- **Supportive atmosphere**
- **Eliminate** environmental **barrier**



BPSD: Tailor-made Adapted seating/ Protective Helmet/ hand roll



Community OT (COT) & BPSD

- RCT studies on community occupational therapy (COT) for older clients with dementia showed that occupational therapy programme, including cognitive and behavioural intervention showed significant improvement in functional performance, mood, health status and quality of life in subjects of intervention group, and their care givers also demonstrated significant improvement in health status (Graff, Vernooij-Dassen, Thijssen, Dekker, Hoefnagels & Rikkert, 2006, 2007 & 2008).

COT RCT Research I

- Research design: **Single blind RCT**
- Subjects: 135 pts of age > 65, **mild** to **moderate** dementia, living in community with caregivers
- Treatment: **10 sessions of COT** with **cognitive and behaviour intervention**, train pt to use memory aids; train caregivers in coping behaviour & supervision
- **Evaluation**: Assessment of Motor and Process Skills (AMPS) for pt daily **functioning**; **Sense of competence** questionnaire for caregiver burden

COT RCT Research II

- Results: score **improved significantly** relative to baseline in patients and caregivers in intervention group compared with control group
- Assessment of Motor and Process Skills (**AMPS**) for pt daily functioning at 6 wks : improvement in process scale. Difference bet. Gp is sig. Process scale 1.5 ($P < 0.001$) & Performance scale -11.7 ($P < 0.001$). And improvement was **maintained** at Ax at **12 weeks**
- Sense of **competence** questionnaire for **caregiver** burden is **sig. better** at 12 weeks at 107.5 compared of baseline at 89.4 ($P < 0.001$)
- **Conclusion: COT improved pt's daily function & reduced burden of caregivers**

A-B-C approach in BPSD

- A - Antecedent (something happen before beh)
- B - Challenging Behaviour
- C – Consequence (what happens after beh occur)

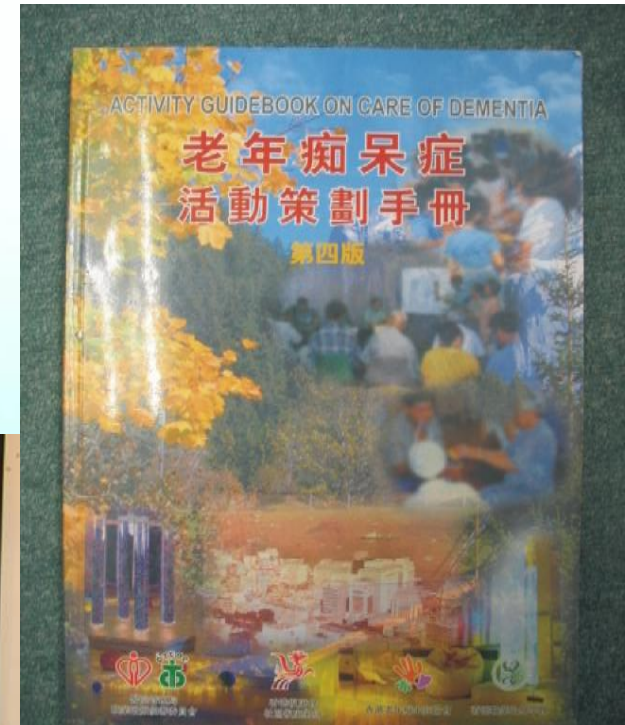
TECH approach to BPSD (Gresham,1999)

- Task
- Environment
- Communication
- Health

Training Workshop on Care of Dementia

- tx **reduce BPSD & improve staff behaviour** (Spector, Orrell, & Goyder, 2013)

**OTCOC, HKOTA,
CRN, ADA**



HKPU, KCH & NAAC



Conclusion

- Client-centred approach
- Design the environment and activity programme to meet the needs & functioning of the dementia persons to minimize BPSD & enhance their well being & Quality of Life
- Caregiver training
- Multidisciplinary treatment are important in successful management of BPSD.



Acknowledgement:

COS of PG Team & PG team
colleagues of KCH,
NGO community partners
DM(OT) & OT in PGWG of
OTCOC of HA for the **great
support & team work!**



Reference I

- Arbesman, M., & Lieberman, D. (2011). Methodology for the systematic reviews on occupational therapy for adults with Alzheimer's disease and related dementias. *American Journal of Occupational Therapy*, 65(5), 490-496.
- Gigliotti, C. M., & Jarrott, S. E. (2005). Effects of horticulture therapy on engagement and affect. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, 24(04), 367-377.
- Graff, M. J., Vernooij-Dassen, M. J., Thijssen, M., Dekker, J., Hoefnagels, W. H., & Rikkert, M. G. O. (2006). Community based occupational therapy for patients with dementia and their care givers: randomised controlled trial. *Bmj*, 333(7580), 1196.
- Hulme, C., Wright, J., Crocker, T., Oluboyede, Y., & House, A. (2010). Non-pharmacological approaches for dementia that informal carers might try or access: a systematic review. *International journal of geriatric psychiatry*, 25(7), 756-763

Reference II

- Kar N. (2009) Behavioral and psychological symptoms of dementia and their management *Indian J Psychiatry* ,51 , suppl (1): S77-S86 (doi: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3>)
- Lam, C. W., Ko, F. S., Luk, D. N., & Lui, V. W. (2008). P2-264: A randomized, controlled trial on the effectiveness of functional enhancement program on modulation of depressive mood and functional abilities in mild and moderate dementia. *Alzheimer's & Dementia*, 4(4), T449.
- Lam, L. C., Lui, V. W., Luk, D. N., Chau, R., So, C., Poon, V., ... & Fung, A. (2010). Effectiveness of an individualized functional training program on affective disturbances and functional skills in mild and moderate dementia—a randomized control trial. *International journal of geriatric psychiatry*, 25(2), 133-141.

Reference III

- Lee, J., Chan, A., Chau, M., Chong, J., Chu, T., Lai, N., Lau, T., et al. (2012). *Occupational Therapy clinical guideline for people with dementia*. Hong Kong, China: Working Group on Psychogeriatrics, Coordinating Committee in Occupational Therapy, Hong Kong Hospital Authority.
- Lee Y.Y.G. (2014) *Evaluation of a computer-assisted errorless learning-based memory training programme for patients with early dementia*. PhD (thesis). The Hong Kong Polytechnic University
- O'Connor, C. M., Clemson, L., Brodaty, H., Jeon, Y. H., Mioshi, E., & Gitlin, L. N. (2014). Use of the Tailored Activities Program to reduce neuropsychiatric behaviors in dementia: an Australian protocol for a randomized trial to evaluate its effectiveness. *International Psychogeriatrics*, 26(05), 857-869.
- Oliveira, A. M. D., Radanovic, M., Mello, P. C. H. D., Buchain, P. C., Vizzotto, A. D. B., Celestino, D. L., ... & Forlenza, O. V. (2015). Nonpharmacological Interventions to Reduce Behavioral and Psychological Symptoms of Dementia: A Systematic Review. *BioMed research international*, 2015

Reference IV

- Peisah, C., Lawrence, G., & Reutens, S. (2011). Creative solutions for severe dementia with BPSD: a case of art therapy used in an inpatient and residential care setting. *International Psychogeriatrics*, 23(06), 1011-1013
- Raglio, A., Bellelli, G., Traficante, D., Gianotti, M., Ubezio, M. C., Villani, D., & Trabucchi, M. (2008). Efficacy of music therapy in the treatment of behavioral and psychiatric symptoms of dementia. *Alzheimer Disease & Associated Disorders*, 22(2), 158-162.
- Sadock, B. J. & Sadock, V. A. (2005). Dementia. In *Kaplan & Sadock's Comprehensive Textbook of Psychiatry* (8th ed.), Philadelphia, P.A, USA: Lippincott Williams & Wilkins.
- Shaji, K. S., George, R. K., Prince, M. J., & Jacob, K. S. (2009). Behavioral symptoms and caregiver burden in dementia. *Indian Journal of Psychiatry*, 51(1), 45.

Reference V

- Spector, A., Orrell, M., & Goyder, J. (2013). A systematic review of staff training interventions to reduce the behavioural and psychological symptoms of dementia. *Ageing research reviews, 12*(1), 354-364.
- Svansdottir, H. B., & Snaedal, J. (2006). Music therapy in moderate and severe dementia of Alzheimer's type: a case–control study. *International psychogeriatrics, 18*(04), 613-621.
- Toba, K., Nakamura, Y., Endo, H., Okochi, J., Tanaka, Y., Inaniwa, C., ... & Hirakawa, H. (2014). Intensive rehabilitation for dementia improved cognitive function and reduced behavioral disturbance in geriatric health service facilities in Japan. *Geriatrics & gerontology international, 14*(1), 206-211.

Reference VI

- van der Ploeg, E. S., Eppingstall, B., Camp, C. J., Runci, S. J., Taffe, J., & O'Connor, D. W. (2013). A randomized crossover trial to study the effect of personalized, one-to-one interaction using Montessori-based activities on agitation, affect, and engagement in nursing home residents with Dementia. *International psychogeriatrics*, 25(04), 565-575.
- Vasse, E., Vernooij-Dassen, M., Cantegreil, I., Franco, M., Dorenlot, P., Woods, B., & Moniz-Cook, E. (2012). Guidelines for psychosocial interventions in dementia care: a European survey and comparison. *International journal of geriatric psychiatry*, 27(1), 40-48.
- Yamaguchi, H., Maki, Y., & Yamagami, T. (2010). Overview of non-pharmacological intervention for dementia and principles of brain-activating rehabilitation. *Psychogeriatrics*, 10(4), 206-213.

Dr. Grace Lee, SOT(AP), KCH
leeyyg@ha.org.hk

Thank You!