A SELECTION OF TEN CURRENT READINGS ON TOPICS RELATED TO DEMENTIA AVAILABLE AS FREE FULL-TEXT

Selection of readings made by A/Prof Goh Lee Gan

Reading 1 - CPG ON PHARMACOLOGIC TREATMENT

Qaseem A, Snow V, Cross JT Jr, Forciea MA, Hopkins R Jr, Shekelle P, Adelman A, Mehr D, Schellhase K, Campos-Outcalt D, Santaguida P, Owens DK; American College of Physicians/American Academy of Family Physicians Panel on Dementia. Current pharmacologic treatment of dementia: a clinical practice guideline from the American College of Physicians and the American Academy of Family Physicians. Ann Intern Med. 2008 Mar 4;148(5):370-8.

URL: URL: http://www.annals.org/cgi/content/full/148/5/370 (Free full text).

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ABSTRACT

DESCRIPTION: The American College of Physicians and American Academy of Family Physicians developed this guideline to present the available evidence on current pharmacologic treatment of dementia.

METHODS: The targeted literature search included evidence related to the effectiveness of 5 U.S. Food and Drug Administration-approved pharmacologic therapies for dementia for outcomes in the domains of cognition, global function, behavior/mood, and quality of life/activities of daily living.

RECOMMENDATION 1: Clinicians should base the decision to initiate a trial of therapy with a cholinesterase inhibitor or memantine on individualized assessment. (Grade: weak recommendation, moderate-quality evidence.)

RECOMMENDATION 2: Clinicians should base the choice of pharmacologic agents on tolerability, adverse effect profile, ease of use, and cost of medication. The evidence is insufficient to compare the effectiveness of different pharmacologic agents for the treatment of dementia. (Grade: weak recommendation, low-quality evidence.)

RECOMMENDATION 3: There is an urgent need for further research on the clinical effectiveness of pharmacologic management of dementia.

Reading 2 - NON-PARMACOLOGICAL & PHARMACOLOGICAL TREATMENT

Hogan DB, Bailey P, Black S, Carswell A, Chertkow H, Clarke B, Cohen C, Fisk JD, Forbes D, Man-Son-Hing M, Lanctôt K, Morgan D, Thorpe L. Diagnosis and treatment of dementia: 5. Nonpharmacologic and pharmacologic therapy for mild to moderate dementia. CMAJ. 2008 Nov 4;179(10):1019-26.

URL: http://www.pubmedcentral.nih.gov /articlerender.fcgi?tool=pubmed&pubmedid=18981443 (Free full text).

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ABSTRACT

BACKGROUND: Practising physicians frequently seek advice on the most effective interventions for dementia. In this article, we provide practical guidance on nonpharmacologic and pharmacologic interventions for the management of mild to moderate dementia based on recommendations from the Third Canadian Consensus Conference on the Diagnosis and Treatment of Dementia.

METHODS: We developed evidence-based guidelines using systematic literature searches, with specific criteria for the selection and quality assessment of articles, and a clear and transparent decision-making process. We selected articles published from January 1996 to December 2005 that dealt with the management of mild to moderate stages of Alzheimer disease and other forms of dementia. Recommendations based on the literature review were drafted and voted on. Consensus required 80% or more agreement by participants. Subsequent to the conference, we searched for additional articles published from January 2006 to April 2008 using the same major keywords and secondary

search terms. We graded the strength of the evidence using the criteria of the Canadian Task Force on Preventive Health Care.

RESULTS: We identified 1615 articles, of which 954 were selected for further study. From a synthesis of the evidence in these studies, we made 48 recommendations for the management of mild to moderate dementia (28) and dementia with a cerebrovascular component (8) as well as recommendations for addressing ethical issues (e.g., disclosure of the diagnosis) (12). The updated literature review did not change these recommendations. An exercise program is recommended for patients with mild to moderate dementia. Physicians should decide whether to prescribe a cholinesterase inhibitor on an individual basis, balancing anticipated benefits with the potential for harm. For mild mood and behavioural concerns, nonpharmacologic approaches should be considered first.

INTERPRETATION: Although the available therapies for dementia can help with the management of symptoms, there is a need to develop more effective interventions.

Reading 3 - BRIGHT LIGHTS & MELATONIN

Riemersma-van der Lek RF, Swaab DF, Twisk J, Hol EM, Hoogendijk WJ, Van Someren EJ Effect of bright light and melatonin on cognitive and noncognitive function in elderly residents of group care facilities: a randomized controlled trial. JAMA. 2008 Jun 11;299(22):2642-55.

URL: http://jama.ama-assn.org/cgi/reprint/299/22/2642. (Free full text).

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ABSTRACT

CONTEXT: Cognitive decline, mood, behavioural and sleep disturbances, and limitations of activities of daily living commonly burden elderly patients with dementia and their caregivers. Circadian rhythm disturbances have been associated with these symptoms.

OBJECTIVE: To determine whether the progression of cognitive and noncognitive symptoms may be ameliorated by individual or combined long-term application of the 2 major synchronizers of the circadian timing system: bright light and melatonin.

DESIGN, SETTING, AND PARTICIPANTS: A long-term, double-blind, placebo-controlled, 2 x 2 factorial randomized trial performed from 1999 to 2004 with 189 residents of 12 group care facilities in the Netherlands; mean (SD) age, 85.8 (5.5) years; 90% were female and 87% had dementia.

INTERVENTIONS: Random assignment by facility to long-term daily treatment with whole-day bright (+/- 1000 lux) or dim (+/- 300 lux) light and by participant to evening melatonin (2.5 mg) or placebo for a mean (SD) of 15 (12) months (maximum period of 3.5 years).

MAIN OUTCOME MEASURES: Standardized scales for cognitive and noncognitive symptoms, limitations of activities of daily living, and adverse effects assessed every 6 months.

RESULTS: Light attenuated cognitive deterioration by a mean of 0.9 points (95% confidence interval [CI], 0.04-1.71) on the Mini-Mental State Examination or a relative 5%. Light also ameliorated depressive symptoms by 1.5 points (95% CI, 0.24-2.70) on the Cornell Scale for Depression in Dementia or a relative 19%, and attenuated the increase in functional limitations over time by 1.8 points per year (95% CI, 0.61-2.92) on the nurse-informant activities of daily living scale or a relative 53% difference. Melatonin shortened sleep onset latency by 8.2 minutes (95% CI, 1.08-15.38) or 19% and increased sleep duration by 27 minutes (95% CI, 9-46) or 6%. However, melatonin adversely affected scores on the Philadelphia Geriatric Centre Affect Rating Scale, both for positive affect (-0.5 points; 95% CI, -0.10 to -1.00) and negative affect (0.8 points; 95% CI, 0.20-1.44). Melatonin also increased withdrawn behavior by 1.02 points (95% CI, 0.18-1.86) on the Multi Observational Scale for Elderly Subjects scale, although this effect was not seen if given in combination with light. Combined treatment also attenuated aggressive behaviour by 3.9 points (95% CI, 0.88-6.92) on the Cohen-Mansfield Agitation Index or 9%, increased sleep efficiency by 3.5% (95% CI, 0.8%-6.1%), and improved nocturnal restlessness by 1.00 minute per hour each year (95% CI, 0.26-1.78) or 9% (treatment x time effect).

CONCLUSIONS: Light has a modest benefit in improving some cognitive and noncognitive symptoms of dementia. To counteract the adverse effect of melatonin on mood, it is recommended only in combination with light.

TRIAL REGISTRATION: controlled-trials.com/isrctn Identifier: ISRCTN93133646.

Reading 4 - EPIDEMIOLOGICAL UPDATE

Qiu C, De Ronchi D, Fratiglioni L. The epidemiology of the dementias: an update. : Curr Opin Psychiatry. 2007 Jul;20(4):380-5.

URL: http://meta.wkhealth.com /pt/pt-core/template-journal/ lwwgateway/media/ landingpage.htm?an = 00001504-200707000-00012 (Free full text).

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ABSTRACT

PURPOSE OF REVIEW: The epidemiology of dementia is one of the priority fields in aging research. This review aims to highlight the most relevant findings over last years concerning occurrence, risk factors, and prevention of dementia and its major subtypes.

RECENT FINDINGS: It is estimated that currently around 24 million people have dementia in the world, with the number being projected to double every 20 years, and that 60% of dementia patients live in developing countries, with the proportion being raised to more than 70% by 2040. Current evidence suggests that vascular factors, such as midlife hypertension, diabetes, and cerebrovascular disease, contribute significantly to the development of dementia and Alzheimer's disease, and that active engagement in mental, physical, and social activities may postpone the onset of dementia by providing cognitive reserve.

SUMMARY: Dementia represents a major public health challenge as a consequence of rapid increase in the aging population worldwide, especially in developing countries. This challenge can be partly confronted by successful development of preventive strategies. Evidence has emerged that proper control of vascular disorders and maintenance of active lifestyles may prevent or delay the onset and progression of dementia and Alzheimer's disease. Intervention trials are warranted to determine, to what extent, such programs are effective against dementia.

Reading 5 - TEA CONSUMPTION

Ng TP, Feng L, Niti M, Kua EH, Yap KB. Tea consumption and cognitive impairment and decline in older Chinese adults. Am J Clin Nutr. 2008 Jul;88(1):224-31.

URL: http://www.ajcn.org/cgi/content/full/88/1/224 (Free full text).

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ABSTRACT

BACKGROUND: Laboratory research suggests that tea has potential neurocognitive protective effects, but this is not established in humans.

OBJECTIVE: We aimed to examine the relation between tea intake and cognitive impairment and decline.

DESIGN: Among community-living Chinese adults aged > or = 55 y in the Singapore Longitudinal Ageing Studies cohort, we measured tea consumption at baseline and administered the Mini-Mental State Examination (MMSE) at baseline and 1-2 y later. Cognitive impairment was defined as an MMSE score < or = 23 and cognitive decline as a drop in MMSE score of > or = 1 point. We performed cross-sectional analysis of baseline data from 2501 participants and longitudinal analysis of data from 1438 cognitively intact participants. Odds ratios (ORs) of association were calculated in logistic regression models that adjusted for potential confounders.

RESULTS: Total tea intake was significantly associated with a lower prevalence of cognitive impairment, independent of other risk factors. Compared with the ORs for rare or no tea intake, the ORs for low, medium, and high levels of tea intake were 0.56 (95% CI: 0.40, 0.78), 0.45 (95% CI: 0.27, 0.72), and 0.37 (95% CI: 0.14, 0.98), respectively (P for trend < 0.001). For cognitive decline, the corresponding ORs were 0.74 (95% CI: 0.54, 1.00), 0.78 (95% CI: 0.55, 1.11), and 0.57 (95% CI: 0.32, 1.03), respectively (P for trend = 0.042). These effects were most evident for black (fermented) and oolong (semi-fermented) teas, the predominant types consumed by this population. In contrast, no association between coffee intake and cognitive status was found.

CONCLUSION: Regular tea consumption was associated with lower risks of cognitive impairment and decline.
of changes in weight over time (slopes) and meta-regression suggest a change of approximately -0.1 BMI unit per

month from 3 to 12 months of active programs and a regain of approximately 0.02 to 0.03 BMI unit per month during subsequent maintenance phases. Different analyses suggested that calorie recommendations, frequency of support meetings, inclusion of exercise, and diabetes may be independent predictors of weight change.

LIMITATIONS: The interventions, study samples, and weight changes were heterogeneous. Studies were generally of moderate to poor methodological quality. They had high rates of missing data and failed to explain these losses. The meta-analytic techniques could not fully account for these limitations.

CONCLUSIONS: Compared with usual care, dietary counseling interventions produce modest weight losses that diminish over time. In future studies, minimizing loss to follow-up and determining which factors result in more effective weight loss should be emphasized.

Reading 6 - CURRY CONSUMPTION

Ng TP, Chiam PC, Lee T, Chua HC, Lim L, Kua EH. Curry consumption and cognitive function in the elderly. Am J Epidemiol. 2006 Nov 1;164(9):898-906. Epub 2006 Jul 26.

URL: http://aje.oxfordjournals.org /cgi/content/full/164/9/898 (Free full text).

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ABSTRACT

Curcumin, from the curry spice turmeric, has been shown to possess potent antioxidant and antiinflammatory properties and to reduce beta-amyloid and plaque burden in experimental studies, but epidemiologic evidence is lacking. The authors investigated the association between usual curry consumption level and cognitive function in elderly Asians. In a population-based cohort (n = 1,010) of nondemented elderly Asian subjects aged 60-93 years in 2003, the authors compared Mini-Mental State Examination (MMSE) scores for three categories of regular curry consumption, taking into account known sociodemographic, health, and behavioral correlates of MMSE performance. Those who consumed curry "occasionally" and "often or very often" had significantly better MMSE scores than did subjects who "never or rarely" consumed curry. The authors reported tentative evidence of better cognitive performance from curry consumption in nondemented elderly Asians, which should be confirmed in future studies.

Reading 7 - METABOLIC SYNDROME

Ho RC, Niti M, Yap KB, Kua EH, Ng TP. Metabolic syndrome and cognitive decline in Chinese older adults: results from the singapore longitudinal ageing studies. Am J Geriatr Psychiatry. 2008 Jun;16(6):519-22.

URL: http://ajgponline.org/cgi/pmidlookup?view=long&pmid=18515697 (Free full text).

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ABSTRACT

OBJECTIVE: To determine the association of the metabolic syndrome (MS) with cognitive decline in a Chinese older population.

METHODS: In a prospective cohort study of 1,352 community-living Chinese older adults without cognitive impairment (Mini Mental State Examination, MMSE <24) and without cardiovascular disease and stroke, the authors assessed baseline MS (defined according to International Diabetic Federation Criteria). Cognitive decline was predefined as at least 2-point drop in MMSE score at follow-up 1-2 years after baseline assessment.

RESULTS: MS was present in 26.3% of the participants at baseline and was significantly associated with the risk of cognitive decline (odds ratio, 1.42: confidence interval, 1.01-1.98), after controlling for potential confounding by age, gender, education, smoking, alcohol drinking, depressive symptoms, APOE-e4 status, level of leisure activities, baseline MMSE, and length of follow-up.

CONCLUSION: The MS was associated with increased risk of cognitive decline in Chinese older adults.

Reading 8 - PHYSICAL, SOCIAL, AND PRODUCTIVE LEISURE ACTIVITIES

Niti M, Yap KB, Kua EH, Tan CH, Ng TP. Physical, social and productive leisure activities, cognitive decline and interaction with APOE-epsilon 4 genotype in Chinese older adults. Int Psychogeriatr. 2008 Apr;20(2):237-51. Epub 2008 Jan 11.

URL: http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=1703948. (Free full text).

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ABSTRACT

BACKGROUND: We evaluated the combined and differential effects of physical, social and productive activities on cognitive decline and whether they were modified by the presence of the APOE-epsilon 4 allele.

METHODS: In a prospective cohort study of 1635 community-dwelling Chinese older adults aged 55 or older participating in the ongoing Singapore Longitudinal Aging Study, physical, social and productive leisure activities were assessed at baseline, and cognitive decline (at least one point drop) in MMSE scores between baseline and follow-up after one year.

RESULTS: Cognitive decline was observed in 30% of the respondents. Controlling for age, gender, education and other risk factors, odds ratios (ORs) were significantly reduced in those with medium (OR: 0.60, 95% CI: 0.45-0.79) and high activity levels (OR: 0.62, 95% CI: 0.46-0.84). A stronger association was shown for productive activity (OR = 0.36), than for physical (OR = 0.78) and social activities (OR = 0.85). These associations showed statistically significant interactions with APOE genotype, being more pronounced in those with the APOE-epsilon 4 allele.

CONCLUSION: Increased leisure activity, especially productive activities more than physical or social activities, was associated with a lowered risk of cognitive decline. APOE-epsilon 4 genotype individuals appeared to be more vulnerable to the effects of low and high levels of leisure activities.

Reading 9 - CLOCK DRAWING TEST

Yap PL, Ng TP, Niti M, Yeo D, Henderson L.Diagnostic Performance of Clock Drawing Test by CLOX in an Asian Chinese population. Dement Geriatr Cogn Disord. 2007;24(3):193-200. Epub 2007 Aug 10.

URL: http://content.karger.com.libproxy1.nus.edu.sg/ProdukteDB/ produkte.asp?Aktion = ShowPDF& ArtikelNr = 000107080&Ausgabe=233335&ProduktNr=224226&filename=000107080.pdf. (Free full text).

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ABSTRACT

BACKGROUND/AIMS: Clock Drawing Tests are commonly used for cognitive screening, but their clinical utility has not yet been studied in Chinese Singaporeans. We examined the usefulness of a Clock Drawing Test, CLOX, in detecting dementia in our population and explored its performance in the dementia subtypes, Alzheimer's disease (AD), and the vascular composite group (VCG) of AD with cerebrovascular disease and vascular dementia.

METHOD: CLOX was administered to 73 subjects (49.3%) with dementia and 75 healthy controls (50.7%). Receiver operating characteristic analysis determined the diagnostic accuracy and optimal cut-off scores, stratified by education. Analysis of Variance was used to compare CLOX scores between AD and VCG.

RESULTS: The diagnostic accuracy (area under the curve) was 84 and 85% for CLOX1 and CLOX2, respectively. Cut-offs at 10 for CLOX1 and 12 for CLOX2 yielded sensitivities of 75.3 and 75%, and specificities of 76 and 80%, respectively. The mean CLOX1 but not CLOX2 scores for AD (8.1) and VCG (5.5) remained significantly different (p = 0.002) after adjustment for the covariates age, gender, education, MMSE and dementia stage.

CONCLUSION: Our results support CLOX as a valid cognitive screen in Singaporean Chinese with adequate psychometric properties. In addition, CLOX may aid as an adjunct in differentiating AD from dementia with a vascular element, e.g. AD with cerebrovascular disease and vascular dementia. 2007 S. Karger AG, Basel.

Reading 10 - BEFRIENDING CARERS

Charlesworth G, Shepstone L, Wilson E, Reynolds S, Mugford M, Price D, Harvey I, Poland F. Befriending carers of people with dementia: randomised controlled trial. BMJ. 2008 Jun 7;336 (7656):1295-7. Epub 2008 May 27.

URL: http://www.bmj.com.libproxy1.nus.edu.sg/cgi/content/full/336/7656/1295 (Free full text).

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ABSTRACT

OBJECTIVE: To evaluate the effectiveness of a voluntary sector based befriending scheme in improving psychological wellbeing and quality of life for family carers of people with dementia.

DESIGN: Single blind randomised controlled trial.

SETTING: Community settings in East Anglia and London.

PARTICIPANTS: 236 family carers of people with primary progressive dementia.

INTERVENTION: Contact with a befriender facilitator and offer of match with a trained lay volunteer befriender compared with no befriender facilitator contact; all participants continued to receive "usual care."

MAIN OUTCOME MEASURES: Carers' mood (hospital anxiety and depression scale-depression) and health related quality of life (EuroQoL) at 15 months post-randomisation.

RESULTS: The intention to treat analysis showed no benefit for the intervention "access to a befriender facilitator" on the primary outcome measure or on any of the secondary outcome measures.

CONCLUSIONS: In common with many carers' services, befriending schemes are not taken up by all carers, and providing access to a befriending scheme is not effective in improving wellbeing. Trial registration Current CONTROLLED TRIALS: ISRCTN08130075.
