Methods: VITamin D and OmegA-3 TriaL (VITAL) is a 2x2 factorial trial of vitamin D3 (2000 IU/day) and/or omega-3s (1 g/day) for cardiovascular and cancer prevention (enrollment: November 2011-March 2014; end date: December 31, 2017). In this targeted prevention study, we included 720 VITAL clinical sub-cohort participants who completed neurobehavioral assessments at baseline and 2 years (91.9% retention). High-risk factors were: subthreshold or clinical anxiety, impaired activities of daily living, physical/functional limitation, medical comorbidity, cognitive impairment, caregiving burden, problem drinking, and low psychosocial support. Co-primary outcomes were: incident major depression (MDD), adjudicated using DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th edition); change in mood (Patient Health Questionnaire-9 [PHQ-9]). We used exact tests to determine treatment effects on MDD incidence and repeated measures models to determine treatment effects on PHQ-9.

Results: 11.1% had subthreshold depression, 60.8% had ≥1 high-risk factors, MDD incidence=4.7% (5.0% among completers), and mean PHQ-9 change=0.02 points. Among those with subthreshold depression, the MDD risk ratio (95% confidence intervals)=0.36 (0.06 to 1.28) for vitamin D3 and 0.85 (0.25 to 2.92) for omega-3s, compared to placebos; results were also null among those with ≥1 high-risk factors [vitamin D3 vs. placebo: 0.63 (0.25 to 1.53); omega-3s vs. placebo: 1.08 (0.46 to 2.71)]. There were no significant differences in PHQ-9 change comparing either supplement with placebo.

Conclusion: Neither vitamin D3 nor omega-3s showed benefits for indicated and selective prevention of late-life depression; statistical power was limited.

P34: How does active ageing policies and practice reconfigure cognitive impairment? Findings from an ethnographic study.

Author: Christine Carter

Objective: Active ageing is the maintenance of positive subjective well-being, good physical, social and mental health in later life. It aligns with the 'successful ageing' narrative where obligation to undertake activities is deemed beneficial to health status (Swallow 2019). How this narrative plays out for people with mild cognitive impairment (MCI) which is not dementia has not been considered.

My PhD investigated experiences of people over 60 with MCI who engaged within an active ageing intervention. The APPLE-tree (AT) programme stands for Active Prevention in People at risk of dementia through Lifestyle, Behaviour change and Technology to build Resilience (Cooper et al 2019). It aims to facilitate active ageing in people who are limited by cognitive impairment. I explored how older people with memory impairments situate themselves within this active ageing health intervention and how policies and practices reconfigure MCI.

Methods: I adopted an ethnographic approach, undertaking participant observations and semi structured interviews with participants. I followed two 20 week programs, undertaking 65 field notes and conducting 16 interviews with participants. I used reflexive thematic analysis to analyse the results through Nvivo.

Results: Four themes with sub-themes were identified.

- **Arrival into the intervention – learning, listening, knowing, and doing active aging**. Participants navigated fears and uncertainties of MCI with their expectations of active ageing.
- **Being an individual in a group experience – retaining a sense of self whilst embracing the collective unknown.** Participants reconfigured their MCI through a tension between individual responsibility and a collective group experience.

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- **Managing uncertainly and attempting to create certainty through navigating knowledge.** Active ageing changed how participants viewed and dealt with MCI with attempts to clarify knowledge of dementia risk.
- **Being an active ager; actively able to be active and participate in active ageing.** Individuals demonstrated engagement through sharing achievements, ability and inabilities.

Conclusion: Active ageing is a collective habitus, with absence of clear knowledge and direction creating a mismatch between rhetoric and lived experiences of people with MCI. Ultimately results inform the development of concepts in social gerontological theory and active ageing

P43: Hormone therapy and the decreased risk of dementia in women with depression: a population-based cohort study

Author: Dahae Kim

Background: The literature has shown depression to be associated with an increased risk of dementia. In addition, hormone therapy can be a responsive treatment option for a certain type of depression. In this study, we examined the association between hormone therapy, including lifetime oral contraceptive (OC) use, and hormone replacement therapy (HRT) after menopause with the occurrence of dementia among female patients with depression.

Methods: The South Korean national claims data from January 1, 2005, to December 31, 2018, was used. Female subjects aged 40 years or older with depression were included in the analyses. Information on hormone therapy was identifed from health examination data and followed up for the occurrence of dementia during the average follow-up period of 7.72 years.

Results: Among 209,588 subjects, 23,555 were diagnosed with Alzheimer's disease (AD) and 3023 with vascular dementia (VD). Lifetime OC usage was associated with a decreased risk of AD (OC use for < 1 year: HR, 0.92 [95% CI, 0.88–0.97]; OC use for ≥ 1 year: HR, 0.89 [95% CI, 0.84–0.94]), and HRT after menopause was associated with a decreased risk of AD (HRT for < 2 years: HR, 0.84 [95% CI, 0.79–0.89]; HRT for 2–5 years: HR, 0.80 [95% CI, 0.74–0.88]; and HRT for ≥ 5 years : HR, 0.78 [95% CI, 0.71–0.85]) and VD (HRT < 2 years: HR, 0.82 [95% CI, 0.71–0.96]; HRT for 2–5 years: HR, 0.81 [95% CI, 0.64–1.02]; and HRT for ≥ 5 years: HR, 0.61 [95% CI, 0.47–0.79]).

Conclusions: In this nationwide cohort study, lifetime OC use was associated with a decreased risk of AD, and HRT after menopause was associated with a decreased risk of AD and VD among female patients with depression. However, further studies are needed to establish causality.

P51: Correlation between skin conductance and anxiety in virtual reality

Authors: Dongjun Kim[1,5] , Hyewon Kim[2], Kiwon Kim[3], Minji Kim[4], Hong Jin Jeon [1,5,6,7]

1 Department of Psychiatry, Depression Center, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea

2 Department of Psychiatry, Hanyang University Hospital, Seoul, South Korea.

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