

30 days in medicine

Keep mentally active to prevent cognitive decline

Playing games, using a computer, or doing crafts such as knitting regularly will help to prevent mild cognitive impairment in healthy older people, according to a study published recently in *JAMA Neurology*.

The prospective trial followed up 1 929 people aged ≥ 70 years who were cognitively normal at baseline for 4 years. They underwent neurocognitive assessment every 15 months, providing information on how often they took part in mentally stimulating activities during the year before the study began, including reading, crafts, using a computer, playing games, and social activities such as going to the cinema or theatre. Individuals who engaged in these activities at least twice a week had a 22% lower risk of developing mild cognitive impairment than those who did so only two or three times a month. This reduced risk of mild cognitive impairment with mentally stimulating activities remained after the researchers further adjusted the study findings to take account of participants' comorbidities, depression and apolipoprotein E (*APOE*) $\epsilon 4$ genotype.

Stratified analysis by *APOE* $\epsilon 4$ carrier status suggested that people without this genotype who engaged in mentally stimulating activities regularly had the lowest risk of developing new-onset mild cognitive impairment (for example, hazard ratio 0.73 with frequent computer use). *APOE* $\epsilon 4$ carriers who did not take part in these activities had the highest risk (1.74 among those not using a computer regularly).

Krell-Roesch J, Vemuri P, Pink A, et al. Association between mentally stimulating activities in late life and the outcome of incident mild cognitive impairment, with an analysis of the *APOE* $\epsilon 4$ genotype. *JAMA Neurol* 2017. <http://dx.doi.org/10.1001/jamaneurol.2016.3822> (published online 30 January 2017).

No obesity risk among children of pregnant women with a high BMI

Popular wisdom has it that women who are overweight or obese during pregnancy predispose their children to obesity in later life, but this longitudinal study suggests that this is not the case. While being overweight or obese during pregnancy does result in larger babies at birth, it seems that the tendency does not remain later in life.

The study, reported in *PloS Medicine*, analysed information from 6 057 pairs of mothers and children from two prospective birth cohort studies. Researchers investigated whether women who had genetic variants shown to be associated with obesity and who had a high body mass index (BMI) during pregnancy were more likely to have babies who went on to be overweight or obese in childhood and adolescence than would be expected from genetic transmission of BMI-associated genes alone. This included looking at genotype results in mothers and repeat measurements of BMI in children from age 7 to 18 years in the Avon Longitudinal Study of Parents and Children and then replicating findings on BMI at age 6 in children from the Generation R study.

Results showed little evidence to support the long-term impact of maternal BMI in pregnancy on a child's risk of obesity in childhood and adolescence. Instead, most of the association between a mother's BMI in pregnancy and her child's obesity was explained by genetic transmission of BMI-associated variants.

The authors suggest that public health messages need to be aimed at a healthy weight before and after pregnancy, and not simply during.

Richmond RC, Timpson NJ, Felix JF, et al. Using genetic variation to explore the causal effect of maternal pregnancy adiposity on future offspring adiposity: A Mendelian randomisation study. *PLoS Med* 2017;356:e1002221. <http://dx.doi.org/10.1371/journal.pmed.1002221>

No difference in outcomes with partial meniscectomy for traumatic or degenerative meniscal tears

Knee arthroscopy for meniscal tear is one of the most commonly performed orthopaedic procedures, in spite of findings that such surgery has no better effect than placebo surgery or exercise for middle-aged and older patients with degenerative meniscal tears. This study, however, compared traumatic and degenerative meniscal tears, the former usually occurring in younger sports-active individuals and attributed to specific sport-related trauma. Degenerative meniscal tears are found in older people and attributed to incipient knee osteoarthritis.

Despite these differences, the same surgery is offered to both groups of patients. Previous studies have provided equivocal results, with some suggesting worse outcomes in individuals with degenerative changes than in those with traumatic tears. This comparative cohort study, published in the *BMJ*, compared patient-reported outcomes from before surgery to 52 weeks after surgery between individuals undergoing arthroscopic partial meniscectomy for traumatic meniscal tears and for degenerative tears. Individuals aged 18 - 55 years were selected from four public Danish orthopaedic departments.

Patient outcomes were reported via online questionnaires, and the primary outcome was the average between-group difference in change on four of five subscales of the knee injury and osteoarthritis outcome scores, covering pain, symptoms, sport and recreational function and quality of life.

Although there were better self-reported outcomes in participants with degenerative tears, the difference between groups was not significant. This calls into question the idea that patients with traumatic meniscal tears experience greater improvement in outcomes after surgery than those with degenerative meniscal tears.

Thorlund JB, Englund, M, Christensen R, et al. Patient reported outcomes in patients undergoing arthroscopic partial meniscectomy for traumatic or degenerative meniscal tears: Comparative prospective cohort study. *BMJ* 2017;356:j356. <http://dx.doi.org/10.1136/bmj.j356>

Assisted partner services in Kenya increase HIV testing and case-finding

Assisted partner services for index patients with HIV infection involve finding information about sex partners and contacting them to ensure that they test for HIV and link to care. Assisted partner services are not widely available in Africa. This study, published in *Lancet HIV*, aimed to establish whether or not assisted partner services increase HIV testing, diagnoses, and linkage to care among sex partners of people with HIV infections in Kenya.

Non-pregnant adults aged at least 18 years with newly or recently diagnosed HIV and without a recent history of intimate partner violence who had not yet or had only recently linked to HIV care from 18 HIV testing services clinics in Kenya were recruited for a cluster randomised controlled trial, enrolling 1 305 participants.

Primary outcomes were the number of partners tested for HIV, the number who tested HIV-positive and the number enrolled in HIV care, in those who were interviewed at 6 weeks' follow-up. Participants in each cluster received the same intervention.

Eighteen clusters were allocated to immediate and delayed HIV assisted partner services (nine in each group), 625 (48%) in the immediate group and 680 (52%) in the delayed group. Six weeks after

enrolment of index patients, 392 (67%) of 586 partners had tested for HIV in the immediate group and 85 (13%) of 680 had tested in the delayed group. Of the partners, 136 (23%) had new HIV diagnoses in the immediate group compared with 28 (4%) in the delayed group, and 88 (15%) v. 19 (3%) were newly enrolled in care. Assisted partner services did not increase intimate partner violence (one intimate partner violence event related to partner notification or study procedures occurred in each group).

The conclusion was that assisted partner services are safe and increase HIV testing and case-finding; implementation at the population level could enhance linkage to care and antiretroviral therapy initiation and substantially decrease HIV transmission.

Cherutich P, Golden MR, Wamuti B, et al. Assisted partner services for HIV in Kenya: A cluster randomised controlled trial. *Lancet HIV* 2017;4(2):e74-e82. [http://dx.doi.org/10.1016/S2352-3018\(16\)30214-4](http://dx.doi.org/10.1016/S2352-3018(16)30214-4)

Little point in taking NSAIDs for back pain

Non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen are little better than placebo for back pain, according to a systematic

review and meta-analysis published in the *Annals of Rheumatic Diseases*. The review of 35 randomised placebo-controlled trials involving 6 065 people found that NSAIDs did provide some relief from pain and disability, but little evidence that they were better than placebo. Six patients needed to be treated for one to benefit. Patients taking NSAIDs were also more likely to experience side-effects, such as gastrointestinal events, than those taking placebo.

These findings are significant, because spinal pain is a leading cause of disability worldwide and is commonly managed by general practitioners with prescription medication. Clinical guidelines generally recommend NSAIDs as a second-line analgesic after paracetamol – which has also been shown to be ineffective in recent studies. Even the third-line treatment, opioids, have been shown to be of little benefit.

The authors suggest that the focus should be on prevention and new treatments.

Machado G, Maher C, Ferreira P, et al. Non-steroidal anti-inflammatory drugs for spinal pain: A systematic review and meta-analysis. *Ann Rheum Dis* 2017;2. <http://dx.doi.org/10.1136/annrheumdis-2016-210597> (published online 2 February 2017).