



# 30 days in medicine

## Mouthwash reduces oral gonorrhoea

Gargling daily with the antiseptic mouthwash, Listerine, may control oral gonorrhoea, according to a study in Australia. Researchers in Melbourne looked at 196 gay or bisexual men positive for *Neisseria gonorrhoea*, who presented at the Melbourne Sexual Health Centre for treatment. Of the 58 men who tested positive for oral gonorrhoea, 33 were randomly assigned to gargle with Listerine Cool Mint and 25 with a saline solution.

After rinsing and gargling for 1 minute, the proportion of viable gonorrhoea in the throat was 52% in the men using Listerine, compared with 84% in those using saline ( $p=0.013$ ). Five minutes after gargling, men in the Listerine group were 80% less likely to test positive for gonorrhoea in their throat than the men using the saline solution.

The researchers also tested different dilutions of Listerine in a laboratory setting. Listerine, at dilutions of up to 1 in 4 and applied for 1 minute, considerably reduced the number of *N. gonorrhoea* on the culture plates, whereas the saline solution had no effect.

The effects may be short lived as the follow-up time was short, even though the laboratory evidence of an inhibitory effect of Listerine is encouraging.

Chow E, Howden B, Walker S, et al. Antiseptic mouthwash against pharyngeal *Neisseria gonorrhoeae*: A randomised controlled trial and an in vitro study. *Sex Transm Infect* 2016;92:A2. <http://dx.doi.org/10.1136/sextrans-2016-052718.4>

## Living near major roads increases risk of dementia

Living next to a major road slightly increases the risk of dementia, but not of Parkinson's disease or multiple sclerosis. These are the results of a population-based cohort study, recently published in the *Lancet*. Two cohorts of people were studied to assess the link between living near a busy road and incident neurodegenerative disease. The first cohort, studied for the onset of multiple sclerosis, included all 4.4 million adults aged 20 - 50 in Ontario, Canada, on 1 April 2001. The second, studied for the risk of dementia and Parkinson's disease, included all the older adults (2.2 million aged 55 - 85 years) living in the same area.

Results showed that people living <50 m from a busy road had a 7% higher risk of new-onset dementia than those living 300 m away, after adjusting for age, sex, comorbidities and education. This increased risk was even higher for people living <50 m from a busy road and for those who had always lived next to major traffic. It would seem that this risk may operate through exposure to nitrogen dioxide (NO<sub>2</sub>) and fine particulate matter (PM<sub>2.5</sub>). Adjusting for these two pollutants attenuated the association with proximity to a roadway.

Chen J, Kwong JC, Copes R, et al. Living near major roads and the incidence of dementia, Parkinson's disease and multiple sclerosis: A population-based cohort study. *Lancet* 2017. [http://dx.doi.org/10.1016/S0140-6736\(16\)32399-6](http://dx.doi.org/10.1016/S0140-6736(16)32399-6) (published online 4 January 2017).

## 'Weekend warriors' as fit as those who exercise through the week

The World Health Organization and US Department of Health and Human Services recommend at least 150 minutes a week of moderate-intensity aerobic activity or 75 minutes a week of vigorous activity spread through the week. However, many people concentrate their exercise over the weekend because of time constraints during the week. There has been little research on the effects of the 'weekend warrior' physical activity pattern, until recently. Now, a study published in *JAMA Internal Medicine* suggests that compressing this amount of physical activity into

a weekend rather than spreading it through the week may be enough to reduce all-cause, cardiovascular and cancer mortality.

The research, from Loughborough University, UK, was carried out on a pooled analysis of 63 591 adults from 11 cohorts of respondents to English and Scottish health surveys. Data from 1994 to 2008 were collected, and the mean age of participants was 58.6 years.

Participants reported the amount of exercise carried out in the previous 4 weeks and were divided into inactive; insufficiently active, if they did less than the recommended amount of exercise; weekend warrior, if they did the recommended amount of exercise in 1 or 2 sessions; or regularly active, if the exercise was spread across 3 or more sessions.

The researchers found 8 802 deaths from all causes, 2 780 from cardiovascular disease, and 2 526 from cancer during 561 159 person-years of follow-up.

The risk of death from all causes was about 30% lower in weekend warriors than in inactive adults. When compared with inactive adults, the risk of cardiovascular death in weekend warriors was 40% lower and the risk of death from cancer was 18% lower.

However, the risk of all-cause mortality was still lowest among the regularly active adults, although the authors concluded that 'The weekend warrior and other physical activity patterns characterised by one or two sessions per week of moderate or vigorous intensity physical activity may be sufficient to reduce risks for all cause, cardiovascular and cancer mortality regardless of adherence to prevailing physical activity guidelines.'

O'Donovan G, Lee I, Hamer M, et al. Association of 'weekend warrior' and other leisure time physical activity patterns with risks for all-cause, cardiovascular disease and cancer mortality. *JAMA Intern Med* 2017. <http://dx.doi.org/10.1001/jamainternmed.2016.8014> (published online 9 January 2017).

## Elderly patients do better with female doctor

Elderly hospital patients have a lower 30-day mortality and readmission rate if treated by female doctors, according to a study published in *JAMA Internal Medicine*. Previous studies have found that men and women practise medicine differently; for example, women are more likely to adhere to clinical practice guidelines and offer preventive care more often. However, it is not known whether these differences affect clinical outcomes.

In this new study by Tsugawa *et al.* from Harvard T H Chan School of Public Health, Cambridge, Massachusetts, 1.6 million admissions of patients aged >65 years for medical conditions, treated by general physicians, were analysed. After adjusting for many factors, such as type and severity of the patients' medical conditions, patient and physician characteristics, and hospital size and type, researchers found that those treated by a female physician had a lower 30-day mortality and readmission rate.

Tsugawa Y, Jena AB, Figueroa JF, Orav EJ, Blumenthal DM, Jha AK. Comparison of hospital mortality and readmission rates for Medicare patients treated by male vs female physicians. *JAMA Intern Med* 2016. <http://dx.doi.org/10.1001/jamainternmed.2016.7875> (published online 19 December 2016).

## Use inhaled corticosteroids regardless of asthma symptom frequency

Low-dose inhaled corticosteroids (ICS) are highly effective for reducing asthma exacerbations and mortality, but conventionally ICS treatment is recommended for patients who have symptoms on >2 days a week, although there is little evidence to support this recommendation. This study, published in the *Lancet*, assessed the validity of the previous

symptom-based cut-off by establishing whether there was a differential response to budesonide v. placebo for severe asthma exacerbations, lung function, and asthma symptom control across subgroups identified by baseline asthma symptom frequency.

They used a post-hoc analysis of the 3-year inhaled Steroid Treatment As Regular Therapy (START) study, done in 32 countries, with clinic visits every 3 months. Patients (aged 4 - 66 years) with mild asthma diagnosed within the previous 2 years and no previous regular use of corticosteroids were randomised to receive once daily, inhaled budesonide 400 µg (those aged <11 years 200 µg) or placebo.

They found that in mild recent-onset asthma, once daily, low-dose budesonide decreases severe asthma-related risk, reduces lung

function decline, and improves symptom control similarly across all symptom subgroups. The results do not support restriction of inhaled corticosteroids to patients with symptoms on >2 days per week and suggest that treatment recommendations for mild asthma should consider both risk reduction and symptoms.

Reddel HK, Busse WW, Pedersen S, et al. Should recommendations about starting inhaled corticosteroid treatment for mild asthma be based on symptom frequency: A post-hoc efficacy analysis of the START study. *Lancet* 2017;389(10065):157-166. [http://dx.doi.org/10.1016/S0140-6736\(16\)31399-X](http://dx.doi.org/10.1016/S0140-6736(16)31399-X)

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