Smear stories

Half of all cases of cervical cancer in the UK are diagnosed in women who aren’t up to date in their screening. But the numbers of those turning up for screening have been falling since 2005, and covid has caused further disruption. The NHS has trialled posting DIY human papillomavirus (HPV) testing kits directly to “non responders,” and the question is whether it would be a good strategy for everyone whose screening is due.

This study of over 31 000 women aged 30-64 years who were due for screening randomly allocated them to usual care (reminders to patients and alerts on the health record), education (usual care and a leaflet), direct mail (education and a DIY kit), or opt-in (education and the option to be sent a kit on request). Direct mailing a DIY kit was a success in boosting response rates among the screening-compliant women (whose screening was due in the next three months) compared with education or being offered the chance to opt in (61.7% v 47.6% v 51.4%). Direct mailing also worked well among those who were overdue (35.7% v 15.9% v 18.8%).


It’s never too late to change

Dementia is a growing threat to our ageing population and to healthcare and social care resources. Modifiable risk factors are thought to account for 30-40% of dementia. New research suggests that it might never be too late to take action.

This two year trial of 172 adults aged 70-89 years who were at high risk of dementia (because of having at least two of factors such as poor sleep, depression, uncontrolled diabetes or high blood pressure, smoking, and social isolation) found that a personalised multi-domain risk reduction intervention (with health coaching and nurse visits) modestly improved cognitive scores, dementia risk factors, and quality of life compared with a control group who received general health education. Larger, longer trials are needed to see whether these two year gains translate into a reduced risk or delayed onset of Alzheimer’s disease and related dementias.


Every breath you take

I’m conscious of breathing in dirty air when walking or cycling along busy roads, but I hadn’t considered that drivers and passengers inside the cars might be exposed to substantial traffic-related air pollution (TRAP) too.

This small US randomised crossover study of 16 people aged 22-45 years with normal blood pressure, took multiple three-minute blood pressure readings before, during, and up to 24 hours after a two hour drive and measured retinal artery diameters measured as central retinal arteriolar equivalent (CRAE) before and after the drive. On two days participants drove with normal road-air in the car, while on another day they breathed filtered air produced by high efficiency particulate air (HEPA) filtration, which reduced the particle count by 86%. The impact of breathing unfiltered versus filtered air was evident; adjusted mean CRAE was wider in unfiltered air and blood pressure was higher (+4.5/4.7 mm Hg at 1 hour and +1.1/3.8 mm Hg at 24 hours). The study was too small to draw firm conclusions, and was limited to one place (Seattle) and one season. But it feeds into a growing interest in the harms caused by air pollution.


Fresh hope

Some patients with relatively low risk myelodysplastic syndromes (MDS) need regular red blood cell transfusions to keep them going as they don’t respond to, or aren’t eligible for, erythropoiesis-stimulating agents (ESAs) such as epoetin. Imetelstat, a telomerase inhibitor, selectively kills malignant stem cells in the bone marrow which are the source of the problem in MDS.

In this first phase 3 trial of 178 patients with median follow up of 19.5 months, those taking imetelstat needed fewer transfusions than those given placebo (rate difference 25%), could manage up to a year without a transfusion, and showed evidence of disease-modifying activity. The downside is that, because of the way the drug wipes out stem cells, treatment-related side effects such as neutropenia were almost universal in the imetelstat group (grade 3-4 treatment-emergent adverse effects 91% v 47%). On the plus side, the adverse events were reversible and manageable and there were no treatment-related deaths. ESAs are likely to remain standard first-line treatment for symptomatic anaemia in patients with low risk MDS, but for the many who don’t respond or stop responding, imetelstat may offer an interesting second-line option.


Saving hearts

Organ donors remain in short supply. Current guidelines recommend giving thyroid hormone infusions to brain-dead (those declared dead according to neurological criteria), haemodynamically unstable people who are potential heart donors. The rationale is that brain death often causes neurohormonal deficiency, especially thyroid hormone, which starves the myocardium of energy and causes shock. Observational studies have suggested that giving thyroid hormone as part of
hormonal resuscitation is associated with more hearts and other organs being suitable for transplantation.

This randomised study of 838 brain-dead donors compared outcomes with thyroid versus saline infusions. There was no significant difference in the percentage who went on to donate their heart (54.9 v 53.2%), and graft survival at 30 days was extremely high and the same in both groups (>95%). Furthermore, the levothyroxine group had more cases of severe hypertension and tachycardia than the saline group.


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