

**George Winter** provides an overview of recently published articles that may be of interest to practice nurses. Should you wish to look at any of the papers in more detail, a full reference is provided.

## Improving primary eye care in children in low income countries



This article addresses how primary eye care (PEC) can best be integrated into child health policies in a global context (Malik et al, 2017). The authors state that the prevalence of blindness ranges from 12 to 15 per 10 000 in very low-income countries (LICs), whereas it is 3 to 4 per 10 000 in high-income countries, with around 75% of blind children living in LICs. In 1999 VISION 2020 was launched by the World Health Organization

(WHO) and the International Agency for the Prevention of Blindness, aiming for the global elimination of blindness by 2020. However, despite 'some progress in terms of tertiary care for children, little attention has been paid to PEC.'

At a primary care level, the ten key activities for healthy eyes in children recommended by the WHO are in three categories: health promotion (e.g. face washing), high coverage of preventive measures (e.g. immunisation), and the detection and referral of treatable eye conditions, and routine vitamin A supplementation of children; the promotion of breastfeeding and good nutrition; and the avoidance of traditional eye remedies.

Yet despite evidence of the efficacy of these WHO-specified activities, 'there is little evidence that these have been implemented or evaluated as a comprehensive package.' As a result, there is an 'urgent need to evaluate the effectiveness of integrating this package of interventions.'

## New technology aims to avoid topical antimicrobial use in wound care

The author of this article notes that annually in the UK at least 100 000 new patients develop leg ulcers, costing up to £198 million in 2005/6, and pressure ulcers cost an estimated £2.64 billion at 2006 prices (Dryden, 2017).

Although 'topical antimicrobial (antibiotic and non-antibiotic) agents are frequently used, especially in primary care' for superficial, mild infections, the author states: 'The use of topical antibiotics should be discouraged because there is limited evidence of the effectiveness of topical antibiotics and they often select for resistant colonizing bacteria.'

However, the recent advent of reactive oxygen species (ROS) technology means that topical antibiotics and antiseptics could be replaced, avoiding antibiotic resistance and

promoting antimicrobial stewardship. ROS are directly antimicrobial, and a recently developed agent Surgihoney Reactive Oxygen (SHRO) 'is a modified honey that has been engineered to provide a constant level of ROS over a prolonged period of time when applied to a wound', and it is 'the first ROS product available for topical use delivering sustained release of ROS as an entirely novel solution to controlling and eradicating bacteria.'

SHRO is not the same as Manuka honey, and the author observes that 'ROS technology requires much further research but has the potential to deliver exciting novel therapeutic options.' In the context of the burgeoning global antibiotic resistance crisis, SHRO appears to offer one means of limiting antibiotic use.

## Researchers discover potential new targets for CFS treatment

Myalgic encephalomyelitis, also known as chronic fatigue syndrome (CFS), is a debilitating illness of unknown aetiology, whose characteristic symptom is persistent fatigue lasting at least 6 months and which cannot be resolved by rest or sleep. With a prevalence reported at between 0.1% and 5%, the range might be attributable to a lack of standardised diagnostic criteria.

A recent development in CFS research is the idea that CFS is a hypometabolic syndrome, with abnormal cellular energy metabolism playing a crucial role. In this case-control study (Tomas et al, 2017), researchers at the University of Newcastle aimed to detect and assess changes in the energy profiles and mitochondria (which generate cellular energy) using peripheral blood mononuclear cells (PBMCs) from 52 adult CFS patients (average age 36 years) and 35 healthy controls (average age 43 years).

The researchers found 'statistically significant differences in the bioenergetic profile of PBMCs derived from CFS patients when compared to non-diseased control cells. Importantly, these results do not establish whether differences in PBMC energy pathways are a cause or a consequence of CFS, however, this data clearly implies that these cells may play a role in the disease pathway.' It might be, the researchers speculate, that the use of PBMCs could offer a new model to further investigate possible therapeutic options in the treatment of CFS.



## Active travel in long-distance commutes is associated with reduced adiposity

The authors of this UK study (Mytton et al, 2017) cite evidence showing that despite the potential of active commuting to reduce obesity and the incidence of related cardio-metabolic disorders, uncertainty remains over the 'nature and strength of associations between different modes of travel and adiposity.'

Using data from the ongoing Cambridgeshire Fenland study (including 7680 active commuters aged 29 to 65 years), a population-based cohort study, the researchers investigated whether commuting patterns influenced objective measures of adiposity, i.e. body fat and visceral adipose tissue (VAT). Their questionnaire ranged across four domains: home, occupation, transport and leisure.

They found that, compared to women, men had a lower average percentage of body fat and a greater average volume of VAT, and

were more likely to travel farther to work, have a manual job and drink more alcohol. Further, men living five miles or more from work tended to have more body fat and more VAT than those living closer.

Of commuters living within five miles of work, those who cycled regularly had lower body fat and lower VAT than those who only used a car. However, '[a]mong those living five miles or further from work, people who reported regular car-use combined with active travel had reduced body fat and VAT compared to those using only the car.'

Interestingly, 'incorporating active travel into long-distance commutes is associated with reduced adiposity.' Therefore, it may be beneficial to encourage those who live too far from work to actively commute the whole journey to actively commute for part of the way.

Dryden M. Reactive oxygen therapy: a novel therapy in soft tissue infection. *Curr Opin Infect Dis.* 2017;30: 143-9. <https://www.doi.org/10.1097/QCO.0000000000000350>

Malik ANJ, Mafwiri J, Gilbert C. Integrating primary eye care into global child health policies. *Arch Dis Child.* 2017. <https://www.doi.org/10.1136/archdischild-2017-313536>

Mytton OT, Ogilvie D, Griffin S. Associations of active commuting with body fat and visceral adipose tissue: A cross-sectional population based study in the UK. *Prev Med.*

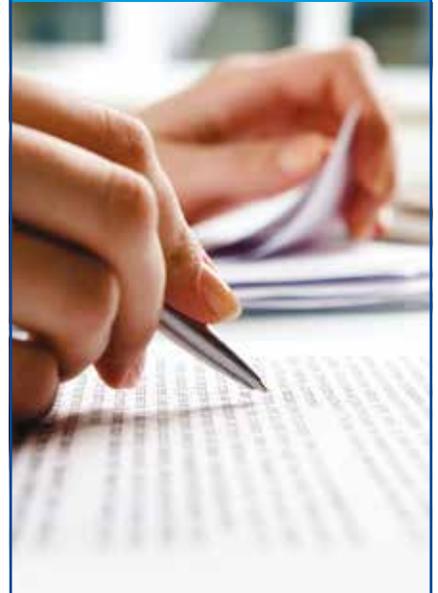
2017;pii: S0091-7435(17)30367-5. <https://doi.org/10.1016/j.ypmed.2017.10.017>

Tomas C, Brown A, Strassheim V et al. Cellular bioenergetics is impaired in patients with chronic fatigue syndrome. *PLoS One.* 2017; 12(10): e0186802. <https://doi.org/10.1371/journal.pone.0186802>

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