

Difficulties with diabetes education

Mash RJ, Rhode H, Zwarenstein M, et al. Effectiveness of a group diabetes education programme in underserved communities in South Africa: a pragmatic cluster randomised controlled trial. *Diabetic Medicine* 2014; 31: 987–993

Education of diabetic patients about their disease and its management is an accepted part of diabetes care. The literature supporting this approach is very scarce in Africa, and this report from South Africa is of a large randomised controlled trial (RCT) of educational intervention in type 2 diabetes. The study took place in community health clinics in resource-limited areas near to Capetown. There were 17 control clinics with 860 patients, which delivered standard diabetes care. At other different 17 intervention sites (710 patients), there was additional educational input. This consisted of four separate sessions of 1 hour's duration, led by trained 'health promoters'. Patients were all followed for 12-months post-intervention. Parameters measured at baseline and 12 months included blood pressure (BP), body mass index (BMI), glycated haemoglobin (HbA1c), as well as questionnaire scores of self-care activities, quality of life and locus of control. The results were disappointing – apart from a small but just significant ($p=0.04$) fall in BP, the intervention group showed no improvement in other measurements. There was a high failure to attend rate – 59% of intervention patients did not come to any of the four sessions. The group leaders also reported that finding suitable rooms or space for the sessions was often very difficult. The authors of this report acknowledge that the negative results were far from encouraging. Health clinics in Africa need to find dedicated space for group sessions – not just for diabetes, but for other conditions such as HIV, TB, hypertension, and asthma. One also wonders if the outcomes may have been better if the education had been delivered by senior nurses from the patient's own clinic.

Metformin and sleep

Kajbaf F, Fendri S, Basille-Fantinato A, et al. The relationship between metformin therapy and sleep quantity and quality in patients with type 2 diabetes referred for potential sleep disorders. *Diabetic Medicine* 2014; 31: 577–580

Metformin is undoubtedly the key drug for type 2 diabetes (T2DM). The United Kingdom Prospective Diabetes Study (UKPDS) showed that it reduces complications and mortality. Further analysis demonstrated that it was effective in normal-weight as well as over-weight patients. Some now believe that all patients diagnosed with T2DM should go straight onto metformin. This recent paper from French researchers suggests that the drug may also improve quantity and quality of sleep. Disorders of sleep such as obstructive sleep apnoea (OSA) are known to be related to insulin resistance. The authors postulated that as metformin increases insulin sensitivity, it may indirectly improve sleep in susceptible patients. They studied 387 patients referred with possible OSA, all of whom had T2DM. Sleep time and efficiency were measured. Sleep efficiency was the proportion of time 'asleep' when the patient was actually sleeping, by EEG (electroencephalogram) criteria.

Both sleep time ($p=0.002$) and efficiency ($p=0.003$) were better in those treated with metformin, even though those on metformin had a higher body mass index (BMI) – a known risk factor for OSA. This is a fascinating study, but we are certainly not at the stage where we should take a metformin pill at bed time for a good night's sleep!

Alcohol and type 2 diabetes

Blomster JI, Zoungas S, Chalmers JH, et al. The relationship between alcohol consumption and vascular complications and mortality in individuals with type 2 diabetes. *Diabetes Care* 2014; 37: 1353–1359

The possible health benefits of moderate alcohol ingestion have been debated for a long time. This paper looks at the issue in relation to patients with type 2 diabetes (T2DM), using data from a recent large outcome study ('ADVANCE') carried out in 20 countries. A total of 11 140 patients were followed for 5 years, during which time 9% died, 10% experienced a cardiovascular event, and 10% had a microvascular complication. Outcome was compared with self-reported alcohol consumption. Both the type of alcoholic drink and units of alcohol per week were recorded. Heavy consumption was defined as >21 units/week for men and >14 units/week for women. Moderate consumption was anything below these figures. The analysis showed that compared to non-drinkers, moderate consumers had less cardiovascular events ($p=0.008$), less microvascular complications ($p=0.03$), and lower all-cause mortality ($p=0.05$). Predominantly wine drinkers showed a particularly protective effect. High alcohol consumers, however, had dose-dependent higher risks of cardiovascular events and mortality. This study therefore shows a 'U-shaped' curve of alcohol consumption compared with mortality and morbidity in T2DM. The mechanism for the findings are uncertain, and the authors point out that a causal relationship is unproven, and potential benefits must be weighed against detrimental effects.

TB screening in diabetic patients

Mtwangambate G, Kalluvya SE, Kidenya BR, et al. 'Cough-triggered' tuberculosis screening among adults with diabetes in Tanzania. *Diabetic Medicine* 2014; 31: 600–605

The increased risk for tuberculosis (TB) amongst diabetic patients has been known for some time, but only recently has there been an interest in what has become known as 'bidirectional screening'. This is screening diabetic patients for TB, and screening TB patients for diabetes. Though both strategies sound sensible, there is a lack of supporting data. This study from Tanzania has examined a 'cough-triggered' strategy for TB screening amongst diabetic patients. Of 693 diabetic patients studied, 121 (18%) had cough. If the cough was non-productive, more intensive symptom screening was undertaken, and more intensive investigation undertaken if indicated. Those with productive cough had sputum microscopy and culture, and sputum-negative subjects had a chest x-ray performed. Overall, 9 new cases of TB were found, which represents an incidence 7 times the Tanzanian national average. The authors of this paper concluded that TB screening amongst African diabetic patients is worthwhile, and that their method is simple and low cost.