Polypharmacy and medication adherence

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When I was at medical school, polypharmacy was frowned upon and combination tablets were considered with suspicion. Rational prescribing (perhaps better rationing) of a few key generic drugs of proven benefit was the order of the day. But times have changed. The potential for primary prevention of cardiovascular disease (or at least premature cardiovascular disease) is now a reality and with our ever-growing pharmacopia, more and more is possible. As the authors of this article point out, polypharmacy is the inevitable consequence of providing evidence-based health-care to patients with type 2 diabetes.

This paper is encouraging in that it goes in a different direction from much of the previous work in this area. The authors report very high levels of adherence. Surprisingly, no inverse correlation was found between adherence and the number of medications prescribed; indeed the opposite proved to be true, as patients taking three or more dugs were more likely to report high adherence. Good adherence was associated with better outcomes – lower cholesterol levels, lower blood pressure levels and better glycaemic control.

A number of cautions are important before we are lulled into a false sense of security by this paper. Firstly, the authors claim that self-reported adherence is a reasonably specific measure of adherence, which correlates well with electronic cap monitoring and pill counts, but admit that there is no perfect method to measure adherence. Secondly, of the 910 patients on the register, the authors randomly selected 231 patients from the 462 who had had an HbA_{1c} or cholesterol measurement in the last 6 months. The other 448 patients without current measures of metabolic control were excluded. It seems that the very acceptable self-reported adherence rates come from the 51% of patients under active management with recent evidence of good glycaemic control. What would the results have been for the other half of the patient group?

Adherence is an important issue in successful chronic disease management, especially in diabetes care. Good patient education is central; simplified regimens and combination drugs may help, but coordinated multiagency, multiprofessional support (from pharmacists, practice nurses, DSNs, educators, GPs, hospital doctors) will be required if we are going to make this a success story and maximise the health benefits available from currently prescribed drugs.

CIRCULATION

Walking associated with reduced total mortality

Readability	✓ ✓ ✓ ✓
Applicability to practice	✓ ✓ ✓ ✓
WOW! factor	✓ ✓ ✓ ✓

1 It is well established that high levels of physical activity are associated with substantial reductions in cardiovascular disease (CVD) risk. However, few epidemiological studies have examined the effects of physical activity on CVD in people with type 2 diabetes.

2 This study included 2083 men with a diagnosis of diabetes at the age of 30 years or older from the Health Professionals Follow-up Study (HPFS).

3 Physical activity was measured every 2 years.

4 During 14 years of follow-up, 266 new cases of CVD and 355 deaths of all causes were identified.

5 Walking was associated with reduced risk of total mortality. Walking pace was inversely associated with CVD, fatal CVD, and total mortality, independently of walking hours.

6 Physical activity was associated with reduced risk of CVD, cardiovascular death, and total mortality in men with type 2 diabetes.

7 Early initiation of a moderate exercise programme may be the best strategy for reducing risk of later microvascular complications.

Tanasescu M, Leitzmann MF, Rimm EB, Hu FB (2003) Physical activity in relation to cardiovascular disease and total mortality among men with type 2 diabetes. *Circulation* **107**: 2435–39

DIABETES CARE

Polypharmacy does not reduce adherence to drugs

Readability	✓ ✓ ✓ ✓
Applicability to practice	✓ ✓ ✓ ✓ ✓
WOW! factor	✓ ✓ ✓ ✓

1 Multidrug regimens are typically required to control hyperglycaemia and the associated metabolic risk factors of hypertension and hyperlipidaemia. However, the impact of polypharmacy on medication adherence is not clear.

2 The aim of this study was to test the hypothesis that adherence decreases with increased numbers of medicines prescribed.

3 A total of 128 patients with type 2 diabetes were randomly selected from a single community health centre.

4 Self-reported adherence rates for each diabetes-related medicine, barriers and attitudes about medication use, and HbA_{1c}, total cholesterol and blood pressure levels were assessed.

5 Patients were taking a mean ± SD of 4.1 ± 1.9 diabetes-related medicines. The average 7-day adherence rate was 6.7 ± 1.1 days.

6 Total number of medicines prescribed was not correlated with medication adherence.

7 Among patients on three or more medicines, 15 (71%) of 21 patients with suboptimal adherence were perfectly adherent with all but one medicine.

8 Adherence rates to medication were very high regardless of the number of medicines prescribed.

9 Physicians should not feel deterred from prescribing multiple agents in order to achieve adequate control of hyperglycaemia, hypertension, and hyperlipidaemia.

Grant RW, Devitra NG, Singer DE & Meigs JB (2003) Polypharmacy and medication adherence in patients with type 2 diabetes. *Diabetes Care* **26(5)**: 1408–12