Short cuts

What's new in the other general journals

Results often change between scientific meetings and full publication

PUBLICATION OF TRIALS PRESENTED AT AMERICAN COLLEGE OF CARDIOLOGY

Most big scientific meetings have sessions reserved for important late breaking trials. Between 1999 and 2002, 86 trials made it into these sessions at meetings of the American College of Cardiology. Unsurprisingly they were bigger, better, and more likely to be subsequently published than trials presented in other sessions, a recent study has found.

Despite their high quality and impact, reports of late breaking trials were just as likely as other trials to change between the meeting stage and full publication up to three years later. Overall, 41% of trials reported different effect sizes, and a quarter reported different sample sizes in the initial report and the full paper. In one trial in seven, the statistical significance of the effect also changed. Effect sizes changed by more than one standard deviation, on average.

The authors don't explore in detail why discrepancies are so common, but at least some of the sample sizes changed because preliminary results presented at the meetings were later extended. The authors do question, however, whether early reports of important papers should be included in the evidence base for treatments, since so many of them seem unstable.

JAMA 2006;295:1281-7

Traditional treatment for croup doesn't work

Doctors have been treating croup with humidified air for well over 100 years. That's probably long enough, say researchers from Canada, after their carefully controlled and blinded trial failed to find any evidence of benefit. Children

given 40% oxygen at 100% humidity did no better than children who were effectively given enriched room air to breathe. One control group had the standard humidification from flexible tubing directed towards the face by a parent. The other control group had 40% oxygen at 40% humidity via a face mask. The researchers did not include an untreated group because humidification is the standard treatment for croup.

Although the trial was small (140 children), it was powered to find any useful differences in croup scores between the high humidity group and the controls. None were found. Nor did 100% humidity improve the children's oxygen saturation or respiratory rate more than control treatments, even though the inspired mix contained water droplets specifically sized to deposit to the larynx.

The authors say that theirs is the fifth study of humidification for croup and the most methodologically sound so far. In the previous four studies, humidification did not work. The researchers conclude that this ineffective treatment may have persisted simply because of other factors associated with its use, such as the comfort of being close to parents.

JAMA 2006;295:1274-80

Association between sex hormones and diabetes is different in men and women

Type 2 diabetes affects men and women in different ways. Diabetes is a more powerful risk factor for coronary heart disease in women than in men, for example. There's also some evidence that being fat is more likely to lead to diabetes in women than in men. The difference could well be something to do with sex hormones, probably testosterone.

A systematic review of 43 observational studies found a link between serum concentrations of testosterone and risk of type 2 diabetes. But the link operated in different directions for men and women, such that a high serum concentration was associated with an increased risk in women but a decreased risk in men. Data on sex hormone binding globulin, which decreases the bioavailability of testosterone, corroborated these findings. The protective effect of a high serum concentration was much more powerful in women (relative risk 0.20; 95% confidence interval 0.12 to 0.30) than in men (0.48; 0.33 to 0.69).

TESTOSTERONE CONCENTRATION AND TYPE 2 DIABETES

The associations of sex hormones with diabetes were independent of body mass index, so if testosterone really does have opposite effects on diabetes risk in men and women, it's not just because testosterone also has opposite effects on body fat.

JAMA 2006;295:1288-99

Mortality gap persists between rich and poor with HIV

Nine out of 10 people with HIV or AIDS live in Africa, Asia, and South America, where they have limited access to highly active antiretroviral therapy (HAART), the most effective treatment so far. For the lucky few who get it, HAART works substantially better than nothing, although a recent study shows that mortality stays higher than in developed countries, especially during the first few months of treatment.

When researchers compared mortality in 18 cohorts in low income countries (total 4810 patients) with equivalent data from 12

cohorts in Europe and North America (total 22 217 patients), they found that poor patients were four times more likely to die in the first month of treatment than rich patients (hazard ratio 4.3; 95% confidence interval 1.6 to 11.8). The difference persisted for four to six months and was only partly explained by the fact that patients in poor countries had more advanced HIV disease before they started treatment.

Twelve of the 18 clinics from low income countries provided care free of charge. Patients attending the other six had to pay between \$8 and \$198 (£113; €163) a month for drugs and up to \$100 for each virological test. Mortality was significantly lower in patients treated for nothing (0.23; 0.08 to 0.61).

Lancet 2006;367:817-24

US citizens get half the health care they need

The quality of health care received by US citizens falls a long way short of expectations, say quality experts. The shortfall is so great and so universal that it swamps any small differences between men and women, rich and poor, or young and old.

A study based on a survey of the medical records of 6712 randomly selected US citizens found that they had received only 55% of recommended care during all their healthcare encounters in the preceding two years. Women did slightly better than men (57% v 52%, $P < 0.001$), the rich did slightly better than the poor (56% v 53%, $P < 0.001$), and those with a black African or Hispanic heritage did slightly better than white people (58% v 54%, $P < 0.001$), but, in general, inequalities between groups were small compared with the overall problem of suboptimal care. So, although this study doesn't look at inequality of access to care, it does suggest that once US adults have made it into the system, things are equally bad for everybody.

The authors used a quality assessment tool to compare what actually happened to participants during healthcare encounters with what should have happened. Although they only had medical records to go on, and the overall response rate was a meagre

37%, the authors argue that sensitivity analyses show that their findings are about right.

N Engl J Med 2006;354:1147-56

To laugh is human

"Is it OK to laugh at patients?" asks a medical student. Are we allowed a little comic relief during long nights on call, or is it always unprofessional, even behind closed doors and in the company of other consenting doctors?

Laughing, she argues, makes us human. And if you are careful, it can help you take better care of people. Laughing together is bonding and therapeutic, giving young and inexperienced doctors the stamina to care for patients in circumstances that they would otherwise find emotionally destabilising. A few jokes in the cafeteria late at night about bizarre on-call requests ("doctor your patient's on fire", or "doctor your patient is covered in ants") probably do no harm and may do some good.

But she warns against the kind of dark humour that gratuitously insults patients—often because they are fat. This kind of humour is toxic and distorts professional relationships, even when the patients don't hear it but particularly when they do—an epidural and a thin blue sheet will not protect any large woman from casual remarks about "veterinary medicine" made from the other end of the operating table.

N Engl J Med 2006;354:1114-5

Paroxetine stops depression recurring in older people; psychotherapy does not

Relapse is common in older people recovering from depression, and there is still no consensus about how to prevent it, especially after a first episode. In the latest randomised trial, the selective serotonin reuptake inhibitor paroxetine worked well as a maintenance treatment for two years, reducing the risk of relapse significantly more than placebo and significantly more than monthly psychotherapy sessions.

The study, which was independent of the drug industry, included 116 people older than 70, all of whom were recovering well from serious depression after four months' combined treatment with paroxetine and interpersonal psychotherapy. Sixty nine participants (55%) had been depressed only once. During two years of maintenance treatment, serious depression recurred in 35% of those who had paroxetine and psychotherapy, 37% of patients who had paroxetine and a monthly chat about symptoms, 68% of those who had psychotherapy and placebo pills, and 58% of patients who took placebo pills and had a monthly chat about symptoms.

The authors, who were slightly surprised by the poor performance of psychotherapy in this study, estimate that only four people would need maintenance treatment with paroxetine to prevent one recurrence. This, they say, makes paroxetine better at preventing recurrent depression in older people than statins are at preventing recurrent heart attacks (the number needed to treat over five years is 21).

N Engl J Med 2006;354:1130-8

Atkins diet linked to life threatening acidosis

Community health experts have once again questioned the safety of the Atkins low carbohydrate diet after a US woman developed life threatening ketoacidosis one month after starting the diet. The 40 year old woman had lost about 9 kg when she became short of breath, lost her appetite, and began to vomit up to six times a day. Five days after her symptoms began she was admitted to hospital, where doctors found ketonuria and a severe metabolic acidosis. Her blood pH was 7.19 (normal 7.4), and she had a serum concentration of bicarbonate of 8 mmol/l (24-30 mmol/l). She recovered quickly after treatment with intravenous bicarbonate, but doctors were unable to find any cause for her ketoacidosis apart from the Atkins diet, which is well known to be ketogenic.

The Atkins diet, which is low in carbohydrate and high in protein and fats, is seductive because it can produce rapid weight loss without the hunger associated with other restrictive diets. But there's no evidence that it outperforms the traditional low fat diet in the long run, write the experts, and it's a lot less healthy because it restricts access to the whole grains, fruits, and vegetables that help prevent cardiovascular disease. It also loads the kidneys with protein and alters the body's acid-base balance. The long term effects of these changes are still unclear, but they are unlikely to be good.

Lancet 2006;367:958

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