Testosterone and sexual desire

Much has recently been made of the medicalisation of women's sexual desire. Does low desire constitute a problem, and if for a particular individual it does, what forms of treatment are available?

The first step must be for the woman to decide for herself whether decreased desire poses a difficulty for her personally or in her intimate relationship or, indeed, in her motivation to form or sustain such relationships. With more research being published, it is clear that many women value their sexuality well past the menopause and when circumstances curtail their enjoyment they are prepared to seek help.

The causes of less than optimal function can be described as physiological due to ageing or psychological due to situations such as work, family or medical problems affecting the woman or her partner. Certainly medications such as serotonin re-uptake inhibitors, beta-blockers or hormone replacement therapy (HRT) need to be enquired about, but to date most recommendations are for psychosocial or couple therapy rather than pharmacological agents.

Heiman from the Kinsey Institute believes that insufficient funding has been forthcoming to research the problem (*NEJM* 2008; 359: 2047-2049) and welcomes the work by Davis *et al*. (*NEJM* 2008; 359: 2005-2017) as 'all good news'. A large cohort of postmenopausal women in 5 countries participated in a randomised trial of placebo or one of two dosages of testosterone delivered transdermally to establish whether their libido, arousal and number of satisfying sexual episodes improved over 6 months. The active patches were either 300 µg or 150 µg per day of testosterone applied twice weekly to the abdomen (Intrinsa; Proctor & Gamble). No women were on HRT.

At the end of the trial, those allocated to the 300 µg patches had significant improvements from baseline in desire, arousal, orgasm and number of pleasurable sexual episodes per month. There was a clear placebo effect, but the efficacy of the higher dose of the active medication was still significant. Whether this 'near doubling to two' of episodes indicates a successful intervention or not must again be up to women with depressed desire to decide.

Side-effects were similar in the three groups, the only difference being a 20% increase in hair growth in the 300 µg group compared with 10% in the placebo group. A concern was that 4 of the 800 participants developed breast cancer over the year's surveillance – 2 after 4 months of treatment and one whose disease probably predated the trial – all of whom received the active patches. Although this may be due to chance, a causal association must be considered.

The authors suggest that these improvements are clinically valuable, offering relief for women with hypoactive sexual desire disorder and low oestrogen levels and adding to the list of pharmacological agents available to help older people to enjoy their sex lives.

Virginity pledges

The UK and the USA are attempting to reduce their numbers of pregnant teenagers. Both have rates far higher than other developed countries, but their approaches to prevention seem to be divergent. The teenage pregnancy rates for selected countries are: USA 22%, UK 15%, Germany 8%, France 6%, Sweden 4%.

Take the US Government's official stance up till 2009, for example. It spends $200 million a year on abstinence-only sex education, which includes virginity pledges. The problem is that virginity pledges don't work. Neither does abstinence-only education. If anything, this hands-off approach appears to have the opposite of its desired effect, since research on virginity pledges and matched controls shows that the two groups end up behaving almost identically after 5 years. Pledgers and non-pledgers had the same incidence of premarital sex and sexually transmitted infections. The difference was that those who took the pledge were less likely to protect themselves from pregnancy or infection (Rosenbaum, Pediatrics 2009; 123: e110-120).

It seems that the UK is adopting a more relaxed attitude to teenage sexuality. Kmietowicz (*BMJ* 2009; 338: 10) reports on a pilot scheme in London whereby women over the age of 16 years will be able to buy oral contraceptives without a doctor's prescription. They will consult with the pharmacist or nurse, and pregnancy rates in the trial areas will be monitored.

JASS believes this to be a small step in the right direction, with much larger and bolder initiatives warranted – like over-the-counter access.

Nobel and Ig-Nobel

Virus researchers have won the 2008 Nobel Prize for medicine. It was shared between two French scientists who discovered HIV and a German pathologist who proved the link between the human papillomavirus and cervical cancer. The HIV award was controversial as the recipients, Barre-Sinonssi and Montagnier, had been embroiled in an acrimonious dispute with the American Gallo about who had actually identified the virus. The *BMJ* report (Watts, *BMJ* 2008; 337: 2023-2833) sides with the French, saying the accolade was well deserved, while acknowledging the part played by the US contributors.

The purse of one million Euros will be split between them and Zur Hanson from Germany, who diligently pursued HPV as the causative agent of cervical cancer while others had put their money on other viruses like herpes. His meticulous documentation of the sub-types and their recovery from preserved specimens was virological detective work of the highest order without which the vaccines now available would not have been defined and developed. A worthy winner.

But then there are the Ig-Nobel prizes. These are organised by the Annals of Improbable Research at Harvard University and have become quite an institution in themselves, honouring work that 'first makes you laugh and then makes you think'. Many of the awards are handed out by genuine Nobel laureates, and examples of the fine art are:

• Nutrition – it is difficult to swallow, but an Oxford don and an Italian researcher showed that potato crisps with loud crackling sounds when eaten tasted 15% better than those with quieter crackles (*J Sensory Studies* 2004; 19: 347-363).

• Medicine – some electrifying work from the Massachusetts Institute of Technology concerned research into pain killers. Scientists shocked volunteers with increasing intensities of current. They gave the subjects various analgesics to alleviate the pain without disclosing the nature of the substances they were receiving – but they did tell them the price and the country of origin. Four substances were tested – two American (one cheap and one expensive) and two Chinese, again one cheap and one expensive. The subjects had to rate the analgesic efficacy of each. The fact they were in fact all placebos allowed the effects of price and faith in the products of the country of origin to be assessed (Tanne, *BMJ* 2008; 337: 838-839 or Waber *et al.*, *JAMA* 2008; 299: 1016-1017). With true patriotic fervour, these brave souls rated the expensive American placebo best, the cheap American one second, the expensive Chinese placebo third and the cheap Chinese one fourth.

• Economics (but of far more interest to gynaecologists) – the definitive study on the earnings of lap dancers in the fleshpots of Albuquerque (Miller *et al.*, *Evolution & Human Behaviour* 2007; 28: 375-387). In carefully controlled but certainly not blinded circumstances, these intrepid academics looked at what these outstanding ladies earned in takings at various stages of their menstrual cycle. Those on oral contraceptives showed no cyclical patterns, but those with natural cycles got bigger tips around ovulation time. The authors say the women felt themselves to be more attractive then, and the men obviously agreed and responded accordingly.

Contraceptive Coke?

Vaginal douching with Coca-Cola as a form of contraception is part of folklore. It was believed that the ingredients of Coca-Cola made it spermicidal and that a 'shake and shoot' application of the classic stuff would protect against unwanted pregnancies. Delving more deeply into the underpinning theory, Anderson comes up with some fundamental flaws in the methodology (*BMJ* 2008; 337: 1454). Should the application be pre- or post-coital? Pre would reduce natural lubrication drastically and could increase the risk of vaginal and pelvic infections, while post would require immediate action that is unlikely to find favour. Either way, use-failure could be a factor, especially in the dark!

Laboratory investigations show that Coke can damage epithelial cells and negatively affect vaginal flora and pH. No wonder the author was awarded the Ig-Nobel prize for chemistry last year.

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