(72/74 deaths) followed by benzodiazepines (56/74 deaths).

The risk of drug-related death was higher for patients while off treatment (0.39 deaths/100 person treatment years) than on treatment (0.24 deaths/100 person treatment years). The overall mortality rate off treatment was more than three times the mortality rate on treatment (1.57 vs 0.51 deaths/100 person years).

The risk of drug-related death was substantially higher in the month following the ending of a treatment episode, with mortality rates of between six and nine times those in patients on longer-term treatment at this time. Differences in mortality during different phases of treatment (first two weeks, weeks three to four and greater than five weeks) did not reach statistical significance.

Drug-related death was lower in those with supervised methadone consumption, though after adjustment there was insufficient evidence for the authors to state that supervision was protective. Mortality increased with age and was higher in those patients with comorbidities.

This study has confirmed some data that have been demonstrated previously, that both all-cause and drug-related death in this cohort is common; that being in treatment is protective; that the period immediately following leaving treatment is particularly high risk and that opioids and benzodiazepines are the drugs most commonly implicated in deaths by poisoning.

However, this study did not confirm other previous findings: there was no significantly increased rate of death during the initial treatment period, or a protective effect of methadone supervision. The authors moot that the study's relatively low power was inadequate for this purpose, and that for their study cohort, the first weeks of treatment represented transition from specialist care, rather than methadone dose induction.

These findings are highly relevant to GPs who are involved in the management of opioid dependence.

DR JEZ THOMPSON

Cousins G, Boland F, Courtney B et al. Risk of mortality on and off methadone substitution treatment in primary care: a national cohort study. *Addiction* 2015;111:73-82

Sexual health

Lidocaine spray reduces pain during IUD insertion

Women treated with a 10% lidocaine spray during IUD insertion suffered significantly less pain than those treated with a placebo spray in a randomised, double-blind, placebo-controlled trial.

A total of 200 women, aged 19-49 years, were randomly assigned to the placebo or active treatment group after a pelvic examination and transvaginal ultrasound scan to confirm uterine shape and exclude pathology. All the women were parous and had chosen the IUD as their preferred method of contraception. None had any known hypersensitivities to lidocaine, or a history of pelvic pain or dysmenorrhoea.

Two identical spray bottles indistinguishable in appearance, colour and consistency were used. One contained 10% lidocaine and the other normal saline. The patients, the anaesthesia technician administering the visual analogue scale for pain (VAS) and gynaecologist performing IUD insertion were blinded to the contents of the bottles.

All IUD fitting procedures were successfully completed without complications or adverse reactions. There were five mild vasovagal reactions which did not require treatment; two of these were in the control group. There were no statistically significant differences between the treatment group and control group. There was no difference in total procedure time from speculum insertion to removal which averaged four minutes.

Patients using saline spray (control) experienced greater pain than the intervention (lidocaine spray) group. Mean pain scores 3.23 (±1.60) vs 1.01 (±1.20), $P < 0.001$. The frequency of higher VAS pain scores was 41% in controls versus 6% in the treatment group and was statistically significant, $P < 0.001$. An overall lower score for pain during the procedure was found in the treatment group.

Application of the tenaculum to grasp the cervix, inserting a uterine sound to measure uterine depth, insertion of the IUD, and having the device in situ may all be associated with pain and discomfort. The pain may be severe enough to cause vasovagal reactions. Sometimes concerns about pain and discomfort may deter women from using what is an effective method of long-term contraception.

Lidocaine spray is simple and convenient to use; yet up till now there has been little evidence regarding its use to provide pain control in IUD insertions. These findings suggest that lidocaine spray appears to be effective.

The study authors concluded: 'More larger-scale, prospective and homogeneous studies involving topical anaesthetics or other interventions are needed to determine the effectiveness, safety and optimal dosage of lidocaine spray.'

Lidocaine spray may become an effective anaesthetic option for those who fit IUDs.

DR RICHARD MA

Aksoy H, Aksoy U, Ozyurt S et al. Lidocaine 10% spray to the cervix reduces pain during intrauterine device insertion: a double-blind randomised controlled trial. *J Fam Plann Reprod Health Care* 2016;42:83-87

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