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EDITORIALS

The role of opioid substitution treatment in reducing HIV transmission

Risks for drug users and the wider community are substantially reduced

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Prevention of HIV is one of the more persuasive public health arguments in favour of opioid substitution treatment. However, until now, there has been no quantitative estimate of the extent to which this treatment reduces the transmission of HIV. This knowledge gap has been filled by the findings of a linked systematic review by MacArthur and colleagues (doi:10.1136/bmj.e5945).[1] This analysis of data from nine studies that included 819 incident HIV infections over 23 608 person years of follow-up found that treatment with methadone was associated with a 54% reduction in the risk of HIV infection among people who inject drugs.

An earlier systematic review found that opioid substitution treatment with methadone or buprenorphine is associated with reductions in behaviours associated with a high risk of HIV transmission,[2] but owing to methodological limitations, overall estimates of the extent of reduction of these risk behaviours were not calculated. Individual studies were consistent in their findings of reductions of illicit opioid use (ranging from 32% to 69%), injecting drug use (20-60%), and sharing of injecting equipment (25-86%). Treatment was also associated with reductions in multiple sex partners or exchanges of sex for drugs and money, but it had little effect on condom use. By focusing on the risk of HIV transmission and by seeking unpublished data, MacArthur and colleagues identified a different but overlapping set of studies from the previous review. When taken together, these two systematic reviews provide strong evidence that methadone reduces high risk behaviours associated with intravenous drug use and the risk of acquiring HIV. By achieving these two things, opioid substitution treatment could reduce HIV transmission more widely because people who inject drugs can also transmit HIV to non-drug users through sexual contact.

A further benefit of this treatment is its potential to improve adherence with antiretroviral therapy in HIV positive injecting drug users through a more stable lifestyle and daily routine.[3] Adherence to prescribed antiretroviral therapy ensures reduced HIV viral load, which in turn reduces the risk of transmission of HIV, as well as improving health and quality of life for the infected individual.

Other programmes that promote the safer use of drugs, such as needle and syringe exchange, can also reduce the incidence of HIV infections. They increase access to clean equipment and reduce risks from injections,[4] as well as providing a means of reaching people who inject drugs, who are a largely hidden population. Cocaine and amphetamine-type stimulants are also injected, and because no substitution treatment programmes are available for people who use these drugs, needle and syringe programmes remain an important component of efforts to control the spread of HIV and other blood borne viruses, including hepatitis C.[5]

Several questions remain, however. The studies that were included in MacArthur and colleagues' review all involved methadone. The review that studied the impact of opioid substitution treatment on risk behaviours included some studies that looked at buprenorphine, although it was still dominated by studies of methadone. Current evidence suggests that buprenorphine is similar to methadone in its capacity to reduce risk behaviours,[6] but evidence is needed regarding the capacity of buprenorphine to reduce HIV transmission when delivered as a routine intervention.

Opioid substitution treatment has a greater effect on drug related risk behaviours than on risk behaviours related to sexual encounters, particularly condom use.[2] The risk of HIV infection has been estimated to be around one in 125 injections with an HIV contaminated syringe, one in 40-400 acts of receptive anal intercourse, and one in 2000-3000 heterosexual sex acts.[4] The high risk of injecting drug use makes this a high priority for prevention, but with a reduction in injecting drug use, it becomes more important to target sexual transmission.[7] Greater attention now needs to be paid to interventions aimed at changing sexual risk behaviour in people receiving opioid substitution treatment, with a view to further reducing the transmission of HIV. All preventive efforts aimed at ensuring a low prevalence of HIV will help to reduce transmission when risky behaviours occur.

Despite the clear efficacy of opioid substitution treatment in reducing the risk of HIV transmission among and by people who inject drugs, governments, the general community, and drug users themselves are often ambivalent towards this

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treatment. This may be partly because the prescription of opioids is perceived as maintaining addiction, and partly because of the expense of the prolonged treatment that is typically needed to achieve sustained behavioural change and "recovery."[8] Drug dependence is a chronic relapsing condition, underpinned by neurobiological changes,[9] so the benefits of opioid substitution treatment are to some extent lost when treatment stops, particularly if cessation is not voluntary. Hence, the greatest benefit of opioid substitution treatment comes from maximising the proportion of injecting drug users in the treatment programme and promoting their retention.[10]

Opioid substitution treatment has clear benefits for people who inject drugs and the wider community, and it should be endorsed by all governments as an important treatment option and public health measure.

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