Hepatitis C Virus (HCV) is a blood-borne pathogen that affects an estimated 125 million people; approximately 2% of the world’s population. Current major risk factors for infection include injecting drug use and other procedures requiring skin penetration, such as non-sterile injections, tattooing and other body art. The contribution of unprotected sex to hepatitis C transmission is difficult to quantify. However, given that hepatitis C RNA was found in the semen of hepatitis C RNA-positive men, and that sexual partners of HCV-infected individuals more often demonstrate HCV infection than spouses of non-HCV-infected partners, this route of transmission might be at least as significant as transmission via tattooing. Over 80% of all newly acquired hepatitis C infections in Australia and most Western countries are associated with injecting (illicit) drug use. A modelling study inferred that the number of new hepatitis C infections in Australia decreased from a peak of 14,000 in 1999 to 9700 in 2005, mainly due to reductions in injecting drug use. In sub-Saharan Africa where unnecessary therapeutic injections and reuse of injecting equipment for immunization and other medical procedures are common, up to 10% of hepatitis C infections are thought to be iatrogenic. Globally, the poor are disproportionately affected by hepatitis C infections. It is a stigmatizing infection with major psychological and social consequences for sufferers.

The prevalence of HCV infection is high in prison settings, mainly due to the popularity of injecting drug use among individuals in contact with the criminal justice system, as well as injecting drug use initiation in prison settings. Imprisonment per se is considered a risk factor for hepatitis C infection, with infection risk increasing with length of incarceration. A 2007 Australian prison entrants’ blood-borne virus survey found that 35% of 740 consecutive prison entrants were HCV antibody positive, compared with 0.2% in the general Australian population. In cross-sectional surveys in United Kingdom prisons, at least 20% of prisoners reported that they initiated injection drug use in prison. Hepatitis C is known to be transmitted in prison settings. Of 90 inmates who were seronegative in a 1996 New South Wales inmate health survey, 16 (18%) sero-converted by 2001, an incidence of 7.1 per 100 person-years.

In the United States, hepatitis C related mortality increased overall by 123% between 1995 through 2004, with the most dramatic age-specific increase occurring among the economic productive 45- to 54-year olds. Socio-economically vulnerable populations were over-represented in US hepatitis C morbidity and mortality statistics. A 2005 hepatitis C economic evaluation study in Australia found that, over 55 years, the undiscounted lifetime treatment cost of each incident case of hepatitis C is $A13,845, and discounted at 5%, a lifetime treatment cost is $A5,979. In addition, there are costs of infection to the individual that are not easily quantifiable in monetary terms, especially those related to social exclusion, depression, fatigue and sub-clinical impairments in cerebral function. A modelling study estimated the costs of achieving sustained virological clearance for a hepatitis C patient in a United States correctional facility at about $A70,000. Given the high costs of treatment and limited prison budgets for secondary and tertiary prevention of chronic disease, it is appropriate for custodial health authorities to implement evidence-based primary prevention strategies for reducing the risk of hepatitis C infection in prison settings. Despite much attention focussed on needle and syringe exchange programs as a preventive measure, well-conducted studies indicate that this approach is not cost-effective for preventing hepatitis C infections. The following approaches are suggested.

First, improving surveillance and enforcing stiff penalties for drug and injecting equipment trafficking in prison settings. Apart from enhancing perimeter security and greater accountability of injecting
equipment in prison clinics, a strong focus should be placed deterring, arresting and punishing on inmates, visitors and staff who traffic illicit drugs or injecting equipment. Second, particularly in poor countries, improved infection control standards in correctional health care and discouraging the use of unnecessary therapeutic injections. Third, the effectiveness of structured and sustained health education messages, behaviour modification interventions and preventive health services provided to prisoners should be ascertained through research studies. A recent small study comparing simple health education and enhanced health education suggested that health education to prisoners has an effect in improving knowledge, attitudes and behaviour of injecting drug users in favour of preventing hepatitis C infection, and that enhanced health education is likely to be more effective to achieve this objective. A number of promising frameworks for risk reduction, behaviour modification and harm reduction, such as Stages of Change, Self Efficacy remain under-utilised in relation to hepatitis C prevention among prisoners. Larger primary prevention studies, such as one initiated by the author in Australian prisons, should facilitate improved understanding of the costs and benefits of preventive health interventions in the control of hepatitis C in prison settings.

References


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