Introduction

Hepatitis C is a blood-borne viral infection that causes inflammatory liver disease [1]. Globally, an estimated 170 million persons are chronically infected with hepatitis C virus (HCV) and 3 to 4 million persons are newly infected each year [2]. HCV causes acute hepatitis, but only one third of cases are symptomatic, with clinical features similar to other forms of acute viral hepatitis [3]. Approximately three quarters of all people infected with HCV develop chronic infection leading to various degrees of liver disease.

Transmission

Transmission of HCV typically occurs via blood-to-blood contact [1]. Transfusion, shared drug injecting equipment, and needlestick injuries are the most efficient methods for transmitting HCV infection [4]. Injecting drug use (IDU) is the most common method of contracting the virus and is responsible for the vast majority of new notifications. Unsterile tattooing and body piercing procedures also pose a risk for the transmission of HCV, as does the use of unsterile hairdressing equipment (such as razors and clippers) and needlestick injuries among health care workers [1]. In the past, blood transfusions too contributed to levels of infection, but current screening procedures have almost completely eliminated the risk of contracting HCV from a blood transfusion [5]. HCV can be passed from mother to foetus during pregnancy but perinatal transmission is relatively ineffective [4]. Sexual contact cannot be dismissed as a possible route of HCV transmission [4] but the contribution of sexual transmission to overall levels of HCV infection remains controversial [6] [7]. Australian studies indicate that less than 2% of HCV infection is associated with sexual contact [8] [9] cited in [6] and the risk of sexual transmission from a person
with chronic HCV infection is probably negligible [10] cited in [4]. Person-to-person transmission in the household setting appears to be extremely uncommon but where the possibility of blood contact exists, toothbrushes, razors or other items should not be shared [4].

**Acute HCV infection**

Symptoms associated with acute HCV occur in approximately 30% of cases [3]. Symptoms are variable but usually mild, the infected person may develop nausea, right upper abdominal discomfort, malaise, dark urine, light-coloured stools and jaundice [3] [5]. The number of notified incident cases of acute HCV are small because most acute infections do not present with definite symptoms [11]. In the majority of cases, the person remains asymptomatic and develops a chronic infection that may go undetected for years [12].

Between 75% - 80% of all patients infected with HCV develop chronic infection (persisting for more than 6 months) [11] with potentially serious, long term physical and psychological consequences [13].

**Chronic HCV infection**

Fatigue, lethargy and exhaustion are very common among patients with chronic HCV [11]. Other physical symptoms include nausea, pain and feelings of general malaise [14]. Psychological problems are not uncommon among HCV infected persons [15] and include: depression and mood swings; anxiety; social isolation; low self esteem; the development of mild paranoia; and acute stress [14]. Chronic HCV infection may result in various degrees of liver disease from: minimal damage; to chronic hepatitis (that may be mild, moderate or severe in degree); through to cirrhosis, liver cell cancer and liver failure [11]. People with chronic HCV infection are at increased risk of advanced liver disease if their alcohol consumption is heavy, they are co-infected with HIV or HBV, or have already progressed to moderate-severe hepatic fibrosis [16] cited in [6].

**Level of HCV infection**

HCV infection became a notifiable disease in all Australian state and territory health jurisdictions in the early 90s [1] [6]. In 2002, an estimated 225,000 Australians were living with hepatitis C infection [17] and up to 20 000 new cases are now notified annually [6] [17]. Much lower numbers of incident HCV cases are reported due to the generally asymptomatic nature of newly acquired HCV infection, inadequate HCV testing and the demands of enhanced HCV surveillance [6].

**Risk associated with IDU**

Several population groups are clearly at increased risk of HCV infection [6] foremost among them injecting drug users (IDUs). In Australia, current and past injecting drug users comprise the vast majority of infected persons [15]. IDUs continue to have high HCV incidence rates [6] and are at greatest risk for ongoing transmission [15]. More than 75% of newly acquired HCV cases are associated with a recent history of IDU [17].

Recent evidence suggests ongoing and possibly increasing HCV risk among IDUs. Among people seen at needle and syringe programs (NSPs), prevalence of hepatitis C among those injecting for less than three years increased from 17% in 1998 to 38% in 2002 [17]. In addition, the prevalence of IDU has increased with estimates of the number of dependent heroin injectors doubling between 1988 and 1997 [18] cited in [6]. The prevalence of HCV in prison populations is extremely high with studies from Melbourne and Sydney suggesting infection among more than a third of prisoners and approximately two thirds of prisoners reporting a history of injecting drug use [19] [20] cited in [6].

**Prevention**

The HCV epidemic continues to grow in response to high levels of HCV transmission among IDUs [6]. Given the high prevalence of infection, the sharing of needles and syringes must be virtually eliminated if transmission is to be significantly reduced [21]. No vaccine exists for HCV and prevention of transmission remains the most effective way to avoid infection [4].

Evidence suggests that the distribution of clean needles and syringes reduces the spread of blood-borne diseases. Needle and syringe distribution services, also referred to as needle exchanges, operate in every state of Australia. However, as HCV was endemic among IDUs before the implementation of NSPs, and as the exclusive use of sterile needles and syringes is difficult to ensure, even occasional episodes of shared injecting equipment may be sufficient to sustain high rates of HCV transmission [4]. Calls have been made for a major expansion of strategies for distribution and disposal of needles and syringes to combat current high levels of HCV [21].
References


The Australian Indigenous HealthInfoNet is an innovative Internet resource that contributes to ‘closing the gap’ in health between Indigenous and other Australians by informing practice and policy in Indigenous health.

Two concepts underpin the HealthInfoNet’s work. The first is evidence-informed decision-making, whereby practitioners and policy-makers have access to the best available research and other information. This concept is linked with that of translational research (TR), which involves making research and other information available in a form that has immediate, practical utility. Implementation of these two concepts involves synthesis, exchange and ethical application of knowledge through ongoing interaction with key stakeholders.

The HealthInfoNet’s work in TR at a population-health level, in which it is at the forefront internationally, addresses the knowledge needs of a wide range of potential users, including policy-makers, health service providers, program managers, clinicians, Indigenous health workers, and other health professionals. The HealthInfoNet also provides easy-to-read and summarised material for students and the general community.

The HealthInfoNet encourages and supports information-sharing among practitioners, policy-makers and others working to improve Indigenous health – its free on line yarning places enable people across the country to share information, knowledge and experience. The HealthInfoNet is funded mainly by the Australian Department of Health and Ageing. Its award-winning web resource (www.healthinfonet.ecu.edu.au) is free and available to everyone.