original paper

Blood-borne infections in Dublin's opiate users

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Abstract

Background Injecting drug users are at high risk of acquiring blood-borne infections. Ireland has had a harm reduction policy of methadone maintenance and needle exchange since 1992.

Aim To estimate prevalence of hepatitis B, hepatitis C and HIV infection and appropriate uptake of hepatitis B vaccine in methadone attendees and to make recommendations for a simple record-based surveillance system.

Method Retrospective study of 138 client records for evidence of laboratory tests or test results for blood-borne viruses and appropriate immunisation against hepatitis B.

Results A total of 60% of clients had evidence of one or more laboratory tests in their notes. Of those tested for individual viruses, 5.1% were positive for hepatitis B surface antigen, 78.8% had antibodies to hepatitis C and 16.7% were HIV positive. Nearly two-thirds of clients had no evidence of vaccination or information on prior immunity in their records.

Conclusions A standardised written protocol for screening for blood-borne viruses and for immunisation against hepatitis B in methadone service attendees was clearly needed, and was subsequently introduced by the Eastern Region Health Authority.

Introduction

Injecting drug users are known to be at high risk of acquiring blood-borne infections.[1-3] Since 1992, the Irish Government has actively pursued a policy of harm reduction in injecting drug users by providing methadone maintenance and needle exchange.[4-6] This resulted in an increase in the number of opiate users in the Eastern Health Board (EHB) region in receipt of methadone from 150 in 1992 to just under 3,000 by the end of 1997 (715 of whom were attending methadone dispensing clinics run by the Health Board).

However, information relating to the prevalence in these opiate users of the blood-borne diseases, hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV), had not been comprehensively documented at that time, although reports were later published on these infections in specific sub-groups of opiate users in 1998.[7,8] When this survey was undertaken at the end of 1997 there was no simple means of ascertaining the prevalence of blood-borne infections in this client group.

The aims of this study were as follows: to determine the prevalence of HBV, HCV and HIV in opiate users attending methadone clinics in the EHB region based on information already available in their clinical records; to determine the proportion of susceptible opiate users in this population immunised against HBV; and to make recommendations on a simple surveillance system to enable easier access to prevalence data in the EHB Drugs/AIDS Services.

Method

The study population was 715 opiate users who were attending five dedicated EHB run methadone dispensing clinics in December 1997. Following a statistical analysis based on the expected prevalence of blood-borne infections in this population, it was decided that taking a randomly selected 20% sample would be adequate to achieve a significant result.[1,2] To allow for initial interview and history taking of new clients, only those in the service for at least four weeks were included in the survey. Each clinical record was examined on-site in the clinics by one of the authors (MF) for a record of the blood-borne infections, either in the form of laboratory reports or in the hand-written clinical notes and letters. Documented information on hepatitis B vaccination status was also looked for in the record. Data were entered and analysed using Epi Info version 6.04b.[9]

Hepatitis B virus screening and immunisation in people who are not immune should ideally be commenced within one month of starting methadone and the course of three doses completed within the next six months. Therefore, in order to give a realistic estimate of hepatitis B vaccination uptake, evidence of-immunisation was only looked for in clients who had been attending a methadone dispensing clinic for at least six months at the time of the study.

Results

The records of 143 clients were examined, of whom 138 had been attending the service for more than four weeks.

Ninety-nine (72%) of the sample were male. The mean age was 29 years (SD ± 6.7) and 45 (32.6%) were under 25 years. The median duration of attendance in the methadone service was eight months. Eighty-three (60%) had a laboratory test result for blood-borne viruses in the notes. The estimated prevalence of the infections, based on laboratory reports seen and a combination of those laboratory reports and the hand-written medical notes, is given in Table 1.

Evidence of hepatitis B vaccination was only looked for in the records of the 85 clients in the sample who had been attending a clinic for at least six months (see Table 2).

Table 1. Blood-borne viral infections in a random sample of clients attending EHB methadone clinics in December 1997

Viral marker (Number who had test)	Prevalence in those with reported results*	
	Test No.	Positive %
Hepatitis B surface antigen (n=79)	4	5.1
Hepatitis B core antibody (n=64)	18	28.1
Hepatitis C antibody (n=99)	78	78.8
HIV antibody (n=90)	15	16.7

*Based on laboratory reports or records' in medical notes

Table 2. Hepatitis B vaccination status (as documented in medical records) in December 1997 in 85 clients attending EHB methadone clinics*

Description	Number	%
Evidence of past infection (Hepatitis: B core-antibody +ve)	15	7.6
Partially immunized (1-2 doses of hepatitis B vaccine given)	2	2.4
Fully immunized (3 doses of hepatitis B vaccine given)	13	15.3
Not vaccinated or information on immunity not available	55	64.7
Total	**85**	**90**

*For six months or more

Discussion

This study was carried out in a multidisciplinary specialist setting of the health board clinics. These clinics are staffed by GPs on a sessional basis, with paramedical and clerical support — the primary aim being to support methadone replacement. A low level of comprehensively documented serological testing for blood-borne infections was found and it was difficult to establish the prevalence of these diseases accurately. Reasons ascertained from the notes for this low level of testing included the short time most clients were in the service, their high turnover and their mobility due to prison sentences and inpatient hospital care. Health workers pointed out the difficulties in carrying out blood tests when pre-test counselling was required, as this often meant the client returning on another day with the potential for defaulting.

Examination of medical records revealed that clients were also less likely to have had a blood test if they were described on first interview as "not sharing needles" or "not using needles". There were no agreed standard procedures for screening of blood-borne viruses in use at the clinics. This highlighted the need for a standardised protocol for screening and immunisation.

The standards of medical records varied between centres, and patients' notes were incomplete in some centres. The level of clerical support also varied between centres and this may have been reflected in the difficulties in maintenance of detailed and complex records. An audit of the service such as this highlights the difficulties in keeping medical records for a mobile population in a primary care setting. Clients attending the main methadone dispensing clinics tend to be the most chaotic drug users in the system.

The prevalence of antibodies to hepatitis B core antigen in patients known to have had the test in this study was 28.1%, indicating the high level of exposure in this group. This is considerably higher than that of prisoners who were injecting drugs in another recent study of the prevalence of blood-borne infections (18.5%).[10]

HCV seroprevalence is very high in this study (78.8%), although those under 25 years of age had lower recorded prevalence rates (52%). The overall prevalence rate is higher than that described by Smyth et al in short-term injecting drug users in Dublin between 1993 and 1996 (52.1%)[7] and slightly lower than the figure found by Allwright et al in drug using Irish prisoners in 1998 where more than one-third of all prisoners and 80% of drug using prisoners were positive for antibodies to hepatitis C virus.[10] According to their records, clients in our study had generally been using drugs over a longer duration than the drug users in the study by Smyth et al.[7] The fact that there was no surveillance information "for HCV" on a significant percentage (28%) of the study population may have also resulted in a higher prevalence of HCV, since the clients who have no record of a test result might have been those perceived to be less at risk or who had tested negative. This desk-based study, therefore, has limitations in estimating prevalence rates, as possibly those who were most likely to have evidence of a test were those with greatest risk of being positive.

Estimated prevalence rates for HIV infection in this group (16.7%) were higher than those found by Dorman et al in 1997[3] (8.4%) in drug users, and also higher than those found by Allwright[10] in drug users in Irish prisons (3.5%). However, as with HCV, no one under 25 years was positive for HIV in the study group, indicating the potential for a positive impact of harm reduction strategies in younger addicts.

Evidence of uptake of hepatitis B vaccination in the study group was poor. Even though short-term attendees (n=53) were excluded from this part of the analysis, only one-third of the remaining 85 clients had evidence of either immunity, or partial or full immunisation. The remaining two-thirds had either not been vaccinated or did not have any record in their notes to indicate that they had been vaccinated. Evidence of a test to ascertain anti-HBs status after vaccination, as recommended by vaccine protocol for the methadone service, was also not present in most of the records. Vaccine refusals were not recorded.

While this study was primarily an audit of screening for infectious diseases and immunisation practice, it is of limited value in estimating true prevalence rates of blood-borne viruses and of practices in immunisation. Despite this, the study highlights the

need for a written standard protocol for screening and immunisation in attendees at methadone programmes.

High levels of HCV infection reflect the infectivity of this virus and the need for early intervention in injecting drug users.[11] With regard to HBV, there is also scope for improve-
ment in terms of offering screening and immunisation to susceptible drug users and their contacts as early as possible, with good documentation to flag defaulters to other health professionals and outreach workers.[12]

Provision of an accurate surveillance system for these infections in this population is complex. The logistics of carrying out HTV surveillance in a less complex population have been documented.[13] Following this study, in consultation with the doctors working in the ERHA's Drugs Service, a standard protocol was developed for screening their patients for blood-borne infectious diseases; it was introduced in October 1998. At the same time, a front sheet was developed to go in each patient's records to summarise his or her status regarding the screening for blood-borne infections, the results of the tests for the various antigens and immunisation.

The overall aims of implementing this standard protocol throughout tile Drugs Service are to improve the screening for blood-borne diseases of drug users entering the methadone service and to ensure that the results of that screening are recorded and then acted upon, where appropriate. The protocol proposes that all -'rug users receiving methadone in the ERHA's Drugs Service should be offered screening for hepatitis B, hepatitis C and HIV within four weeks of commencing on a methadone programme. If a patient refuses screening for one or all of the viruses, it should be clearly recorded in the notes giving the reason. The tests for hepatitis C and HIV should be repeated annually so long as the patient remains negative for these viruses. Hepatitis B testing should be done using two serological markers, HBsAg and anti-core antibody. If neither of these markers is positive, a course of immunisation against hepatitis B infection should be offered. Refusals should again be recorded. The first dose of immunisation should be offered when the negative screening results are available with boosters to be given at one month and at six months.

This protocol has now been implemented throughout the ERHA's Drugs Service and a study is in progress to audit its implementation.

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