

Health risk profile of prostitutes in Dublin

R J McDonnell MICGF MFPHMI¹, P M McDonnell MPH MFFHMI²,
M O'Neill RGN RM² and F Mulcahy MD FRCPI³

¹Health Information Unit, Eastern Health Board, Dr Steeven's Hospital, Dublin 8,
²Women's Health Project, Royal City of Dublin Hospital, Dublin 2 and ³Department of
Genitourinary Medicine, St James's Hospital, Dublin 8, Ireland

Summary: This study examined the health risk profile of prostitutes in Dublin. Clinical records of all 150 new prostitutes who attended a drop-in clinic for prostitutes in Dublin city during the period 1991-1997 were reviewed. Variables examined included: age, use of injectable drugs, human immunodeficiency virus (HIV) status, hepatitis B and C status, presence of sexually transmitted disease (STD), cervical cytology. Results showed the mean age of the women was 32 years. Among those tested, 2.5% were HIV positive, 5% were hepatitis B positive, 8% were hepatitis C positive and 25% had an STD. Almost 8% were injecting drug users (IDU) with higher prevalences of HIV, hepatitis B and C compared with non-IDU ($P < 0.001$). The clinic has been successful in providing a health-care facility for the specific health needs of this patient cohort.

Keywords; Prostitution, sexually transmitted disease (STD), hepatitis B, human immunodeficiency virus (HIV), Dublin

INTRODUCTION

Prostitution has been recognized as a high-risk activity for the spread of STD^{1,2} and recently HIV³. In addition, the presence of STD is an important co-factor for HIV transmission⁴. The fact that a proportion of prostitutes are IDUs who use prostitution as a means of supporting their drug habit⁵⁻⁸, increases the risk of HIV spread. In Europe, cases of HIV transmitted through injecting drug use or heterosexual contact continue to increase⁹. In 1991, the Eastern Health Board, which provides health services for this region of Ireland, initiated a Women's Health Project as part of its HIV prevention strategy. It is run from a community hospital in south Dublin and aimed at women working in prostitution, offering a wide range of health-care services. These include screening for STD, HIV testing and counselling, cervical cytology, hepatitis B screening and vaccination, and family planning. The Women's Health Project is a member of EUROPAP¹⁰, a European network for HIV and STD prevention among prostitutes. This study describes the health profile of prostitutes attending in relation to risk factors for the spread of STD and HIV.

METHODS

The Women's Health Project provides health-care services for prostitutes through a weekly drop-in clinic during the late evening. Prostitutes are encouraged to attend by outreach workers. A basic health screen for risk factors related to prostitution is offered to women on their first attendance. We undertook a retrospective study of the anonymized records of all new prostitutes who attended between 1991 and mid-1997. Parameters measured were as follows: age, marital status, smoking status, injecting drug use, hepatitis B and C status, proportions who undergo HIV testing, proportions who had screening and diagnosis of STD on attendance and methods of family planning. The data were analysed on Epi Info 6-04 software¹¹. Chi-square tests for statistical significance and relative risks were calculated. Where items of data are missing, the analysis relates to the number for which data were available.

RESULTS

A total of 150 prostitutes attended the clinic during the study period. The age of women ranged from 16-59 years. Smoking status was available for 140 women; 83% (116/140) of whom smoked. Higher proportions of women in older age groups smoked although this did not reach statistical significance. The marital status was available for 137 women, of these, 26% (36/137) were married, 50% (69/137) were single and 23% (32/137) were separated or divorced.

Correspondence to: Dr Robert McDonnell Health Information Unit, Eastern Health Board, Or Steeven's Hospital, Dublin 8, Ireland

Table 1 shows the proportions of women who were smokers or who were separated/divorced in each age group.

Eight per cent (12/150) of the women reported that they were current IDUs. Their mean age was 25.8 years compared with 32.2 years among non-IDU prostitutes ($P < 0.05$). They were less likely than non-IDU women to undergo testing for HIV, hepatitis B or hepatitis C ($P < 0.01$) and had higher seropositivity rates for these infections than prostitutes who were not IDUs (Table 2).

Seventy-nine per cent (119/150) of the prostitutes were tested for HIV, of whom 2.5% (3/119) were positive. Eighty-three per cent (124/150) of women were tested for all hepatitis B markers of whom 4.8% (6/124) showed evidence of current or previous infection. The 118 women who tested negative were offered hepatitis B vaccinations, of whom 25% (30/118) have completed the course of three injections and 20% (23/118) have had 2 injections. Sixty-six per cent (99/150) of the prostitutes were tested for antibody to hepatitis C by enzyme immunoassay test; 8.1% (8/99) were positive.

Almost all the women reported using condoms on all occasions with clients as a means of protection against STD, but the majority also reported burst condoms on at least one or more occasions. Data on contraceptive methods used with their non-client partner were available for 128 women; 19.5% (25/128) used condoms as their method of contraception (Figure 1). The most frequent method used was the oral contraceptive pill. Almost 16% (20/128) used no contraception.

Data on cervical cytology were available for 65% (97/150) of women. Of these, 45% (44/97) had a normal smear result, 35% (34/97) had an inflammatory smear and 19% (18/97) had evidence of dysplasia, which was moderate or severe in 8

Table 1. Age of women, smoking and marital separation or divorce

Age group	No. smokers <i>n</i> =140 (%)		No. separated/divorced <i>n</i> =137 (%)	
Under 20 years	7/10	(70)	0/10	(0)
20-29 years	41/53	(77)	3/51	(6)
30-39 years	40/45	(89)	15/45	(33)
40-49 years	22/26	(85)	11/24	(46)
Over 50 years	6/6	(100)	3/7	(43)

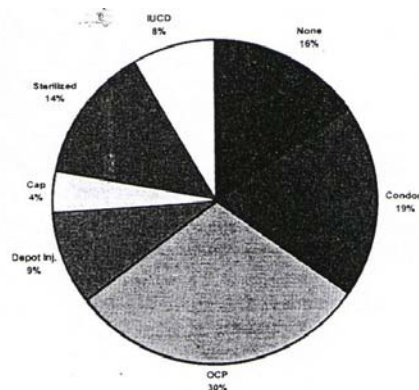


Figure 1. Methods of contraception with partner. IUCD: intrauterine contraceptive device, OCP=oral contraceptive pill

women. Screening for STD was available for 3 of the 6 years of the study. Of 94 women offered screening, 85 availed of the service representing 57% (85/150) of all the prostitutes; 25% (21/85) had documented evidence of infection. Of these, the most frequently encountered infections were genital warts (8/21), *Chlamydia trachomatis* (4/21) and *Trichomonas vaginalis* (3/21). Women with STD were significantly more likely to have an inflammatory or dysplastic smear than those with a normal STD screening result ($P < 0.05$) and the relationship was strongest for genital warts ($P < 0.05$).

DISCUSSION

This is the largest study of prostitutes in Ireland to date. Although we do not know how representative the women are of all prostitutes working in Dublin, it nevertheless represents a sizeable sample of the estimated 600 prostitutes in the city¹⁰. The clinic is located in the south side of the city and may not be readily accessible to some prostitutes working elsewhere. The women in this study are mostly 'street workers' and generally ensure anonymity by giving their working name rather than their real names, even though confidentiality is assured. They are encouraged to return to the

Table 2. Risk profile of prostitutes for HIV, hepatitis B and C

	Non-IDU prostitutes	IDU prostitutes	Relative risk (CI)	<i>P</i> value
HIV	1/113 (0.9%)	2/6 (33.3%)	37.7 (4.0-359.4)	$P < 0.001$
Hepatitis B	3/119 (2.5%)	3/5 (60.0%)	15.25 (3.64-63.82)	$P < 0.001$
Hepatitis C	3/93 (3.2%)	5/6 (83.3%)	26.67 (8.28-85.91)	$P < 0.001$

IDU=injecting drug user

CI=confidence interval

clinic on a 6-monthly basis, but some attend for only one visit, missing out on tests as well as other services such as hepatitis B vaccination; this has given rise to some of the missing data in this study. A small minority refused to have specific tests or may not have provided information on different aspects of their health for various reasons.

The vast majority were smokers, where older women were more likely to smoke; smoking has also been found to be a serious problem among both brothel and street prostitutes elsewhere¹². Although half of the prostitutes were married at some stage, the proportion of women who were separated or divorced is much higher than in the general population. Data from the 1991 census¹³ showed that approximately 5% of married women were separated or divorced, compared with well over one-third of the prostitutes in this study.

The proportion of prostitutes who are IDUs varies between countries and between cities within the same countries¹⁰. In our study, the proportion who were IDUs is similar to that found by Ward *et al.* in their study of prostitutes in London¹, but much lower than that of a drop-in centre for prostitutes in Glasgow¹⁴ where more than three-quarters were IDUs. Prostitutes who are IDUs appear to be a different population from those who are non-IDUs; many IDU prostitutes work primarily to fund their habit and would give up prostitution if they were not using drugs⁸. The women who were IDUs in our study were younger and had the least favourable health risk profile among all the prostitutes. Some were reluctant or unable to undergo testing at the clinic, others may have been tested elsewhere. It is more difficult to attract women who are IDUs to the clinic even though they may be in greater need of the services provided. It is therefore likely that the proportion of IDU prostitutes attending our clinic are an underestimate of the overall proportion working in prostitution in Dublin.

The prevalence of HIV infection among all prostitutes who were tested is lower than the 5% prevalence reported from a multicentre study of prostitutes in European countries¹⁵, and slightly higher than the 0.9% among London prostitutes reported by Ward *et al.*¹ In our study, the use of injectable drugs by the prostitute was the main determinant of HIV, hepatitis B and C status. However, there is evidence that the seroprevalence of HIV and hepatitis B among IDUs is decreasing in recent years due to safer needle sharing practices. A sample of male and female IDUs attending the National Drug Treatment Centre in Dublin during the same time period as this study showed much lower prevalences of HIV, hepatitis B and hepatitis C at 1.4%, 1.4% and 62.9% respectively (personal communication). Thus, as only half of the 12 IDU prostitutes in our study were tested for these infections, the proportions of IDU prostitutes who are seropositive must be interpreted with caution as numbers are small and the declining seropreva-

lence among IDUs generally may not yet be reflected among IDU prostitutes.

STD screening at the clinic was not undertaken during 3 of the 6 years of the study while the service and facilities were being reviewed and reorganized. Notwithstanding this, a quarter of the women screened were positive for STD, which is broadly similar to prostitutes elsewhere¹⁶⁻¹⁸. The majority of prostitutes in our study reported episodes of condom failure with clients. A higher than expected prevalence of STD could be explained by inaccurate reporting of condom use¹⁸ or a risk of STD associated with prostitutes' noncommercial sexual relationships¹.

In conclusion, this study has found that targeting specific health services for this group of women has been of value in the Irish context. It allows monitoring of health risk behaviours and provides a means for improving the health of the women themselves and consequently the health of the public.

References

- 1 Ward H, Day S, Mezzone J, *et al.* Prostitution and risk of HIV: female prostitutes in London. *BMJ* 1993;**307**(6900): 356-8
- 2 Woolley P, Bowman C, Kinghorn G. Prostitution in Sheffield: differences between prostitutes. *Genitourin Med* 1988;**64**:391-3
- 3 Siraprasasiri T, Thanprasertsuk S, Rodklay A, Srivanichakorn S, Sawanpanyalert P, Temtanarak J. Risk factors for HIV among prostitutes in Chiangmai, Thailand. *AIDS* 1991;**5**:579-82
- 4 Padian N, Shiboski S, Glass S, Vittinghoff E. Heterosexual transmission of human immunodeficiency virus (HIV) in Northern California: results from a ten year study. *Am J Epidemiol* 1997; **146**(4): 350-7
- 5 Patel R, Radcliffe, Rogstad K. Feedback on the Tenth International Congress on AIDS/International Conference on STD. *Int J STD AIDS* 1994;**5**:450-5
- 6 Rhodes T, Stimson G, Quirk A. Sex, drugs, intervention, and research: from the individual to the social. *Subst Use Misuse* 1996;**31**(3):375-407
- 7 Breteville-Jensen A, Sutton M. The income generating behaviour of injecting drug users in Oslo. *Addiction* 1996;**91** (1): 63-79
- 8 Gossop M, Powis B, Griffiths P, Strang J. Sexual behaviour and its relationship to drug taking among prostitutes in south London. *Addiction* 1994;**89**(8):961-70
- 9 Coates T, Aggleton P, Gutzwiller F, *et al.* HIV prevention in developed countries. *Lancet* 1996;**348**:1143-8
- 10 EUROPAP Co-ordinating Centre. *EUROPAP 1994 Final Report—European Intervention Projects AIDS Prevention for Prostitutes*. Ghent, 1995
- 11 Dean A, Dean J, Coulombier D, *et al.* *Epi Info, Version 6*. A word processing, database, and statistics program for epidemiology on microcomputer. Centers for Disease Control and Prevention, Atlanta, 1994
- 12 Perkins R, Lovjoy F. Healthy and unhealthy lifestyles of female brothel workers and call girls (private sex workers) in Sydney. *Aust N Z L Public Health* 1996;**20**(5):512-16
- 13 Central Statistics Office- *Census 91—Age and Marital Status* 1994. Dublin: Stationery Office

- 14 Green S, Goldberg D, Christie P *et al.* Female streetworkers—prostitutes in Glasgow: a descriptive study of their lifestyle. *AIDS Care* 1993;**5**(3) :321-35
- 15 European Working Group on HIV infection in female prostitutes. HIV infection in European female sex workers: epidemiological link with the use of petroleum based lubricant. *AIDS* 1993;**7**(3):401-8
- 16 Gossop M, Powis B, Griffiths P, Strang J. Female prostitutes in south London: use of heroin, cocaine and alcohol, and their relationship to health risk behaviours. *AIDS Care* 1995;**7**(3): 253-60
- 17 Mesquita P, Granato C, Castelo A. Risk factors associated with hepatitis C virus (HCV) infection among prostitutes and their clients in the city of Santos, Sao Paulo State, Brazil. *J Med Virol* 1997;**51**(4):338-43
- 18 Tchoudomirova K, Domeika M, Mardh P. Demographic data on prostitutes from Bulgaria—a recruitment country for international (migratory) prostitutes, *Int J STD AIDS* 1997;**8**(3): 187-91

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