

Tattooing in prisons—Not such a pretty picture

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Background: Tattooing in prison represents a unique combination of risk factors for blood borne virus (BBV) transmission because it is illicitly performed by untrained operators with homemade, unsterile, and frequently-shared equipment. It occurs in a setting where a high proportion of people are already infected with hepatitis C virus (HCV) and other BBVs.

Objectives: This study measured the frequency of tattoo acquisition by prisoners inside and outside prison, and the associations between tattooing, injecting drug use, and HCV infection risk.

Methods: A cross-sectional survey was conducted in correctional facilities in Victoria, Australia. Participants completed a questionnaire that asked about injecting drug use and tattooing and provided a finger-prick blood sample that was tested for HCV antibody.

Results: Six hundred and forty-two prisoners participated in the study; 449 had ever been tattooed, of whom 182 (41%) had been tattooed in adult or juvenile prison. Of the participants who were not tattooed professionally, 27% reported someone using the same needle, and 42% reported someone had used the ink before them. Prisoners with a history of drug injection were more likely to have a tattoo and to have acquired a tattoo in prison (OR 3.0; CI 1.7–5.4). The HCV antibody-positive prisoners were more likely to have acquired a tattoo in prison compared with HCV antibody-negative prisoners.

Conclusions: Acquiring a tattoo in prison was common and the reports of sharing the tattooing needle and ink was high, placing prisoners at risk of acquiring HCV through tattooing in prison. Trials need to be undertaken that evaluate the risk and benefits of legal tattoos in prison. (*Am J Infect Control* 2007;35:477-80.)

Tattooing is a practice that has existed for thousands of years, formerly as a component of religious rites but more recently as part of popular culture.^{1,2} The popularity of tattooing varies over time and between civilizations, but is currently high in Australia and other developed countries. One in ten Australians over the age of 14 report having a tattoo.^{3,4} Estimates vary in the United States, with studies reporting the prevalence of tattoos in adolescents aged 12 to 18 years ranging from 10% to 16%.⁵⁻⁷

Tattooing involves piercing the skin and potential blood contact. It is a risk factor for infection with blood borne viruses (BBVs), notably the hepatitis C virus (HCV).^{8,9} We have previously found that tattooing was an independent risk factor for HCV among prisoners in Australian prisons,¹⁰ a finding supported by a recent US study of users of Department of Veteran Affairs medical centers.¹¹ A recent study in the state prison

system in Georgia identified tattooing as a risk behavior for HIV transmission.¹² Another Australian study reported that two prisoners had become HCV positive while in prison; they reported no history of injecting but had been tattooed in prison.¹³ Studies of injecting drug users (IDUs) in New Mexico and Thailand also reported an association between having a BBV and having been tattooed in prison.^{14,15}

Tattooing is an illegal activity in most prisons throughout the world, placing prisoners at high risk of contracting HCV because neither tattooing equipment nor disinfection facilities are provided. Tattooing in prison is common, with previous studies in Australian and overseas reporting up to 38% of prisoners acquiring tattoos whilst in prison; one of these studies also observed that IDUs were significantly more likely to report receiving a tattoo in prison compared with non-IDUs.¹⁶⁻¹⁹

In this article we report in more detail on the frequency of prisoners obtaining a tattoo while in prison and the frequency of tattooing “risk behaviors”—namely the sharing of tattoo needles and ink that places these prisoners at high risk of HCV infection. Tattooing risk behavior is particularly important because of the finding that 57.5% of the 630 prisoners tested in this study were HCV antibody-positive.¹⁰

METHODS

The authors conducted a cross-sectional survey of the five largest correctional facilities (four men’s

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Table 1. Prisoners' tattoos — frequency and location where tattoo was acquired

	Total (%) n = 642	Female (%) n = 124
Ever had a tattoo	449 (70%)	82 (66%)
Tattoo in prison		
Adult	156 (35%)	26 (32%)
Juvenile	26 (6%)	7 (8%)
Tattoo - previous 12 months		
Total	123 (19%)	29 (23%)
Prison	67 (10%)	14 (11%)
Backyarder/friend	16 (2.5%)	2 (1.6%)

prisons, one women's) in the State of Victoria, Australia between August and November 2001. Each prison held a recruitment day during which research staff entered the prison and moved from unit to unit, inviting prisoners to participate in the study. Participants voluntarily completed a questionnaire that asked general demographic questions, about injecting drug use, tattooing and body piercing both inside and outside of prison, then gave a fingerprick blood sample that was tested for HCV antibodies. The participants completed the questionnaire at tables in communal rooms.¹⁰

Data were entered to an Access database, then analysed using SPSS and STATA statistical packages. Chi-square tests and Fisher exact test were used to examine associations between variables. Logistic regression was used to calculate odds ratios (ORs) for the association of HCV seropositivity with particular risk factors for infection.

Our study was approved by the Office of the Correctional Services Commissioner in Victoria and conducted in consultation with prisoners, prison management, and staff.¹⁰ Ethics approval for the study was gained from the Department of Human Services (Victoria) Human Research Ethics Committee.

RESULTS

Six hundred and forty-two prisoners participated in the study. Four hundred and forty-nine prisoners (70%) reported they had ever been tattooed, of whom 156 (35%) had received a tattoo in prison as an adult and 26 (6%) while in juvenile detention. Thirty-nine prisoners had their first tattoo in prison and 24 prisoners while in juvenile prison. One hundred and twenty-three prisoners (19%) reported receiving a tattoo in the 12 months prior to the interview; 50 of the 123 (41%) had been professionally tattooed, 67 received a tattoo in prison, and 16 were tattooed outside prison by a nonprofessional (friend or "backyarder") (Table 1). Of prisoners who were not tattooed professionally, 27% claimed that someone else had previously been

tattooed with the same needle and 42% reported the ink had been used beforehand.

Female prisoners

Eighty-two (66%) of 133 female prisoners surveyed had at least one tattoo. Of these 82 prisoners, 26 (32%) reported receiving a tattoo in adult prison and 7 (8%) had a tattoo in juvenile detention. Four women in adult prison and all 7 prisoners who received a tattoo in juvenile detention said these were their first tattoos. Fourteen (48.3%) of 29 women who were tattooed in the 12 months prior to the interview acquired them in prison; 2 of these 14 women had also been given a tattoo by a friend (Table 1). Of these 14, 4 (29%) reported someone using the needle before them and 1 (7%) was unsure if this had occurred. Nine women (60%) claimed someone had used the ink before them and 2 (13%) were uncertain.

Injecting drug users

Prisoners with a history of IDU were significantly more likely to have a tattoo (OR 4.6; 95% CI 3.2–6.7) and were significantly more likely to have acquired a tattoo in prison (OR 3.0; 95% CI 1.7–5.4). Prisoners who injected drugs while in prison were more likely to have received a tattoo in prison compared with the overall study population (OR 3.0; 95% CI 1.7–5.5). Female prisoners who reported injecting drugs were more likely to have a tattoo (OR 11.5; 95% CI 4.1–32.2) but were not significantly more likely to have received a tattoo in prison (OR 2.5; 95% CI 0.3–22.1) (Table 2).

Hepatitis C status

Prisoners who acquired a tattoo in prison were significantly more likely to be HCV antibody-positive. This association remained significant following adjustment for having ever injected drugs, injecting drugs in prison, having a tattoo done elsewhere, body piercing, and length of time in prison (OR 2.7; 95% CI 1.4–5.2). In the subgroup of prisoners who had ever injected drugs, receiving a tattoo in prison was independently associated with being HCV-positive after adjusting for ever injecting drugs in prison and having tattoos done elsewhere (OR 2.2; 95% CI 1.1–4.5). Receipt of a tattoo in prison was also an important risk factor for HCV for prisoners who reported they had never injected drugs (OR 3.5; 95% CI 1.0–12.0) after adjusting for tattoos performed elsewhere and time in prison.

DISCUSSION

This study has shown that acquiring tattoos in prison is an independent risk factor for HCV antibody-positive, independent of a history of IDU.¹⁰ A high percentage of prisoners in our study had tattoos

Table 2. Association between injecting drug use and tattooing

	Ever had a tattoo (%)	Crude odds ratio	Confidence interval
Prisoners - ever injected drugs			
No	96 (49.5%)	1	
Yes	352 (81.9%)	4.6	3.2–6.7
Female prisoners - ever injected drugs			
No	6 (23.2%)	1	
Yes	76 (77.6%)	11.52	4.2–32.2
Ever had a tattoo in prison (%)			
Prisoner - ever injected drugs			
No	17 (17.7%)	1	
Yes	138 (39.5%)	3.0	1.7–5.4
Prisoner - ever injected drugs in prison			
No	17 (21.3%)	1	
Yes	121 (45.1%)	3.1	1.7–5.5
Female prisoners - ever injected drugs			
No	1 (16.7%)	1	
Yes	25 (32.9%)	2.5	0.3–22.1
Female prisoners - ever injected drugs in prison			
No	6 (22.2%)	1	
Yes	19 (6.0%)	2.3	0.8–6.7

and a substantial proportion of prisoners received tattoos in prison, in line with previous research.^{16,17} Our data also confirm that prisoners with a history of IDU are more likely to have tattoos and to have received a tattoo in prison.¹⁶ Many prisoners also reported knowingly having a tattoo with a previously used instrument and/or ink.

Although drug injection remains the most important risk behavior leading to HCV transmission, tattooing is common and is an independent risk factor for HCV; therefore, measures to reduce incidence must be considered. It must first be recognized that to stop prisoners from getting tattoos in prison is practically impossible. Prisoners get tattooed for complex reasons; they go to great lengths to do so, substituting a variety of materials for the “tattoo gun” and inks.¹⁶ Prohibition has not worked in the past and may in fact be counterproductive, as prisoners’ methods of circumventing prohibition put them at increased risk of BBV infections. Permitting tattooing in prisons and providing prisoners with ways to acquire tattoos safely seems an obvious solution but is very difficult to implement.

There are logistical problems in bringing tattooing equipment into the “secure” prison environment and ensuring there is no risk to prisoners or staff. Transporting a tattooist to and from prisons can be costly, particularly if unexpectedly the prison is in lockdown mode when no one is allowed to enter or leave the prison for security reasons. Also if there are not multiple bookings for the tattooist it may not be cost-effective, particularly when—as is often the case—prisons are located well away from population centers. There is also the cost of providing the space and facilities that would enable tattooing to be performed with

appropriate infection control. The political implications of such measures must also be acknowledged; the public struggles with concepts such as providing free vaccine to prisoners, so they are likely to be reluctant to subsidize the cost of prisoners’ tattoos.

It has been suggested that in lieu of using professionals, prisoners could be trained to become “prison tattooists.” Although in many jurisdictions there is no formal training required to become a tattooist, professional associations are concerned that training prisoners will devalue the standard apprenticeship-style training commonly undertaken. There is also concern that prisoners, upon release, would not have the resources to establish licensed tattooing premises and would instead apply their skills in the unregulated and much less safe “backyard” tattooing industry, increasing the risk of BBV transmission.

Another important consideration is the lack of evidence that providing prison inmates with safe tattoos will stop them from acquiring unsafe tattoos. Amateur prison tattoos are cheap and they constitute a form of rebellion against the prison system and an effective method of avoiding boredom. Prisoners may even prefer them to professional tattoos as symbols of their prisoner identity.

Despite the complexity surrounding the provision of tattooing in prisons, it is not good enough to ignore the problem. Non-IDU prisoners who faced little risk of BBV infection from tattooing or other practices performed in the community are at risk of contracting HCV if tattooed in prison. The IDUs, despite exposure to HCV through injecting, are also at risk. The issues associated with legalizing tattooing and body piercing in prisons should be formally assessed, and the arguments against providing tattooing and piercing in prison

systematically addressed. Correctional Services Canada's "Safer Tattooing Practices Initiative" is an attempt to do just that; it is a 1-year pilot study of tattooing in prisons involving six corrective institutions.²⁰ The initiative will involve educating prisoners about safer tattooing practices and the training of prisoners to provide tattoos under supervision. Such pilot programs should be undertaken elsewhere in the world and the risks and benefits carefully assessed.

At the very least, prisoners need to be clearly informed that getting a tattoo in prison is a risk factor for contracting a BBV. They should be educated about how to reduce their risk of infection by being given clear information on how to clean tattooing equipment and the use of clean and safe "ink." They should also be informed that, even if they have previously injected illicit drugs, tattooing in prison poses a significant independent risk of contracting a BBV.

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