

Gender differences in reoffending after discharge from medium-secure units

National cohort study in England and Wales

ANTHONY MADEN, PETROS SKAPINAKIS, GLYN LEWIS, FIONA SCOTT, RACHEL BURNETT and ELIZABETH JAMIESON

Background Previous research has shown that there are gender differences in reoffending after discharge from medium-secure units, but these have not been adequately explained.

Aims To investigate gender differences in reoffending after discharge from medium-secure psychiatric units.

Method All people discharged from medium-secure units in England and Wales between April 1997 and March 1998 were followed up for 1 year ($n=959$; 12% women). Reoffending was estimated by collecting reconviction data from the Home Office's Offenders' Index or from files at the mental health unit up to 2 years after discharge.

Results Women were less likely than men to be reconvicted within 2 years of discharge (9% v. 16%, OR=0.49, 95% CI 0.25–0.98). Adjustments for history of self-harm, drug or alcohol problems and previous offending substantially reduced the gender difference. In the full model the OR was 0.97 (95% CI 0.45–2.12).

Conclusions Some or all of the gender differences in reoffending between men and women are explained by self-harm, alcohol and drug problems and previous criminal history.

Declaration of interest None.

Previous studies of psychiatric patients discharged from medium-secure psychiatric units have suggested that women are less likely to reoffend after discharge compared with men (Coid *et al*, 2000; Edwards *et al*, 2002). However, results have been inconclusive because of the comparatively small numbers of women. Lower rates may be owing to the confounding effect of variables from psychiatric or forensic history that are known to differ between men and women, such as a history of self-harm (Hawton *et al*, 2003), physical and sexual abuse (Edwards *et al*, 2003), drug or alcohol problems (Farrell *et al*, 2001) and previous criminal history (Maden *et al*, 2004). It is important to know whether these variables explain the gender differences in reoffending because this may help to identify patients with lower or higher risk for reoffending.

In a previous paper (Maden *et al*, 2004) we examined the incidence and risk factors for reoffending in the whole sample. This paper examines data from the same national cohort study to see whether differences in reoffending between men and women exist and if any differences persist after having taken into account the possible confounding factors.

METHOD

Description of the data-set

We used data from the Pathways out of Medium Security study commissioned by the Department of Health (Maden *et al*, 2004). This study included all individuals ($n=959$) discharged from medium-secure units in England and Wales between 1 April 1997 and 31 March 1998: 843 men (88%) and 116 women (12%). The sample was drawn from 34 units, 28 within the National Health Service (NHS) and 6 independent units. Further details about the aims and method of the original study are available on request from the authors.

Ethical approval for the main study was obtained from South Thames Medical Research Ethics Committee.

Measures

Socio-demographic and clinical variables

Socio-demographic variables and clinical characteristics of the sample were obtained from the patient notes. We collected information on the following variables: age at admission, source of referral, main diagnosis, history of previous admissions to psychiatric hospital, history of physical or sexual abuse during childhood/adolescence, history of self-harm, history of drug or alcohol problems.

Follow-up data

Follow-up location data, including re-admission to a psychiatric hospital, were collected for a period of 12 months after discharge or transfer by writing to the consultant who took over care when the person was discharged or transferred. When patients had been transferred to other hospitals, data were collected from the receiving hospital's medical records department.

Forensic data

Background data in relation to the index offence were collected from the medical records department at each unit. We also recorded the legal status of the admission (voluntary or involuntary) and the number of previous convictions. Reoffending was assessed by collecting information on reconvictions from the Offenders' Index at the Home Office. Data collection time was extended to 2 years for reconviction data because some offences may take many months to go to a court, and then there is a further delay between conviction in a court and recording of this information in the index. However, less-serious offences committed by people who were not sent to court were not recorded. In addition, all convictions that appeared in the Index the first 6 months after discharge were manually checked to ensure that they were referring to new offences committed after discharge and not to the index offence.

Data analysis

All data analyses were conducted using Stata version 7.0 for Windows. A non-parametric kappa sample test for the

equality of medians evaluated differences in the age at admission and length of stay between women and men. Pearson's χ^2 test was used to test for gender differences in the various admission, clinical and forensic variables. The association between gender and reconviction was estimated with a series of logistic regression models using the logit command in Stata. We used the robust option of the logit command combined with the cluster option, to take into account the clustering of the observations within the medium-secure units. We used reconviction at either the first or the second year (Yes/No) as the dependent variable. Crude odds ratios (with 95% confidence intervals) were first obtained for gender; then we entered into the model age and history of self-harm, physical and sexual abuse, alcohol- and drug-related problems and the number of previous convictions. A final model adjusted for all these variables.

RESULTS

Demographic and admission characteristics

Table 1 shows gender differences in admission characteristics and other clinical variables. Women had higher historical levels of self-reported physical and sexual abuse and much higher levels of self-harm than men. Women, however, were less likely than men to have a drug problem and possibly less likely to have problems with alcohol, although the latter did not reach statistical significance. Women were more likely than men to be admitted with a personality disorder and were more likely to have had previous psychiatric treatment. No difference was found between men and women in terms of re-admission to any psychiatric hospital over follow-up.

Forensic characteristics

Table 2 shows details of gender differences in various forensic variables. The forensic profile of men differed significantly from that of women. Men were more likely to be referred from prison, and the index offence was more likely to concern property or be of a sexual nature. Men were also more likely to have two or more previous convictions and/or previous prison sentences.

Association between reconviction and gender

Table 3 shows that women were less likely to be reconvicted compared with men and

Table 1 Gender differences in admission characteristics, clinical variables and clinical course of 959 patients discharged from medium-secure units

	Women		Men		P
	n	%	n	%	
Age at admission, years: median (range)	32 (17–70)		32 (16–70)		0.35 ¹
Length of stay, days: median (range)	259 (7–2619)		206 (7–3501)		0.09 ¹
Diagnosis on discharge					
Schizophrenia	60	52	575	68	<0.01 ²
Personality disorder	34	29	79	10	
Depression–neurosis	17	15	103	12	
Other	5	4	84	10	
Previous psychiatric treatment					
Yes	108	93	725	87	0.065 ²
No	8	7	107	13	
History of physical childhood abuse					
Yes	31	28	155	19	0.025 ²
No	79	72	658	81	
History of sexual abuse					
Yes	46	41	88	11	<0.01 ²
No	65	59	723	89	
History of self-harm					
Yes	88	78	309	38	<0.01 ²
No	25	22	500	62	
Drug problem					
Yes	40	35	428	53	<0.01 ²
No	75	65	379	47	
Alcohol problem					
Yes	40	35	341	42	0.12 ²
No	76	65	472	58	
Readmission to hospital ³ (n=549)					
Yes	24	27	131	21	0.24 ²
No	65	73	480	79	

1. Non-parametric kappa sample test for equality of medians; χ^2 P corrected for continuity.

2. Pearson's χ^2 .

3. At 12 months after discharge. Patients who spent all of their time in hospital units (n=251) or could not be traced (n=159) were excluded.

the crude OR was 0.49 (95% CI 0.25–0.98), that is women were half as likely to be reconvicted compared with men. We hypothesised that a number of variables would reduce the gender differences in reconviction, and these models are also presented in Table 3. Adjustment for self-harm and number of previous convictions had the strongest effect. In the final model, adjustment for all variables reduced significantly the gender differences in reconviction (OR 0.97, 95% CI 0.45–2.12). In this model significant independent predictors of reconviction were age, self-harm,

history of drug problems and number of previous convictions.

DISCUSSION

Summary of main findings

This study found that women were less likely to be reconvicted than men, but adjustment for a number of variables substantially reduced the gender difference. Logistic regression analysis showed that the gender difference in reconviction was partly explained by the increased level of

Table 2 Gender differences in forensic-related variables of 959 patients discharged from medium-secure units

	Women		Men		P
	n	%	n	%	
Admission source					
High security	17	15	121	14	<0.05 ¹
Other hospital	44	38	197	23	
Prison	39	34	406	48	
Community	16	14	117	14	
Legal section					
Voluntary	10	9	39	5	<0.01 ¹
Civil	47	41	235	28	
Criminal	57	50	560	67	
Discharge placement²					
High-security/medium-security/ locked ward	33	28	211	25	
Open ward/general hospital unit	25	22	166	20	0.33 ¹
Prison	8	7	115	14	
Community	50	43	351	42	
Index offence					
None	30	26	118	14	<0.01 ¹
Violent	49	42	409	49	
Property	26	22	65	8	
Sexual	0	0	70	8	
Other	11	10	181	22	
Number of previous convictions					
0 or 1	73	63	297	35	<0.01 ¹
2 or more	43	37	546	65	
Number of previous prison sentences					
0	90	78	404	48	<0.01 ¹
1	14	12	150	18	
2 or more	12	10	289	34	

1. Pearson's χ^2 .

2. Discharge placement after first admission.

self-harm in women, together with less previous offending and reduced drug problems in comparison with men. This study also found significant univariate differences between men and women in a number of demographic, clinical and forensic variables, with women being less criminal and more likely to have a past psychiatric history than men.

Comparison with other studies

One of the key findings from the literature review on women and secure psychiatric services (Lart *et al*, 1999) was that, although women make up less than one-fifth of the population in secure settings in Britain, they are a heterogeneous group, with a wide range of ages and

personal, psychiatric and forensic histories. This was found to be the case in this study. It was also observed in the 1999 review that women in secure psychiatric services have a different pattern of diagnosis compared with men; in particular, in the medium-secure services they are more likely to be diagnosed as having a borderline personality disorder than their male counterparts. Again, this was confirmed in our study.

Lart *et al*'s (1999) review notes the absence of recent outcome studies including women. In high-secure hospital samples, Buchanan (1998) found that gender exerted no independent effect, and Jamieson & Taylor (2004) also showed that there was no statistically significant difference between men and women in the proportion of each reconvicted.

Self-harm and physical or sexual abuse

In terms of levels of self-harm and abuse, there are few studies with which to compare our data as there is even less clinical detail available on women in medium security than on women in high security. Bland *et al* (1999) described 87 women in Broadmoor in 1994 and found that nearly 70% had a confirmed or suspected history of childhood sexual abuse and 94% had a history of self-harm. Heads *et al* (1997) found that for women with schizophrenia in special hospitals, rates of childhood sexual and physical abuse were significantly higher than for their male counterparts. A history of self-harm and sexual abuse is more likely in women (Lart *et al*, 1999). Histories of early physical or sexual abuse are particularly common in adults with a diagnosis of borderline personality disorder, and may represent a final common pathway for future impulsive and aggressive offending behaviour (Ogata *et al*, 1990; Shearer *et al*, 1990). A compulsion to repeat early trauma may be a manifestation of the re-experiencing phenomena of post-traumatic stress disorder (Deblinger *et al*, 1989). Physical abuse and sexual abuse may increase the risk of violence against others, whereas self-harm is violence against one's self and may lower the risk for violence against others. Self-harm has been shown to be associated with a lower risk of reconviction (Maden *et al*, 2004), whereas a history of sexual abuse has been shown to be associated with a higher risk (Maden *et al*, 2004).

Alcohol and drug problems

Further, alcohol and drug problems are more common in men and substance misuse has been shown to be associated with an increased risk of reconviction (Maden *et al*, 2004; Scott *et al*, 2004). Bland *et al* (1999) found that 38% of their high-secure hospital sample had an alcohol problem and 37% had a drug problem, levels very similar to those found in our study. There is a well-established link between substance misuse and higher rates of violence by people with major mental illness (Arseneault *et al*, 2000). In a medium-secure hospital sample, Baxter *et al* (1999) found that comorbidity, with conduct disorder or problem alcohol use, doubled reoffending compared with schizophrenia alone, whereas young age or polydrug use

or conduct disorder increased reconviction rates by factors between 2 and 3.

Previous convictions

It has been shown that the strongest predictor of reoffending is the number of previous convictions (Bowden, 1981; Black, 1982) and the current study confirmed that. In our own study women appear to have a lower risk of being reconvicted because they tend to less often have a history of previous convictions or of drug problems, and more often have a history of self-harm.

Limitations of the study

The findings of the present study should be considered in the context of the following limitations. First, we were not able to record all types of new offences but only those that led to conviction. Therefore our results cannot be applied to people committing minor offences. This may

underestimate the real impact of antisocial behaviour in both men and women. Second, data on reconviction were only obtained from the Offender's Index at the Home Office and this will be inaccurate. The interval between committing an offence and being convicted of it in a court is often many months (especially in the case of those with mental illness), and there is further delay between conviction in a court and recording of this information in the Index. In order to minimise this misclassification, we extended the period of data collection for 2 years regarding reconviction. In addition, all convictions that appeared in the Index within the first 6 months of discharge were manually checked, to ensure that they were referring to new offences committed after discharge and not to the index offence. For practical reasons, we were not able to collect information from other sources such as the national police computer records. In any

case, we think that any misclassification would be more likely to bias the results towards the null value, i.e. to further reduce the gender difference in reoffending. Third, medical records, which were usually kept on the units themselves, were the main source of information related to the index admission. They provided details of demography, medical and offending history, source of referral, reason for referral, diagnosis and destination on discharge. Since the information was not collected for the purposes of this particular study, a degree of measurement bias is inevitable, particularly regarding information on self-harm, physical and sexual abuse and drug and alcohol use. If this bias was not random it could influence the results in either direction. Last, even in this large cohort of 959 patients, the number of women was relatively small and the power of the study may have been compromised.

The government is taking a wide-ranging approach to tackling the inequalities that affect women. The Department of Health's (2002) publication *Women's Mental Health: into the Mainstream* points out in regard to secure and forensic services that there are differences in the social and offending profiles of women and men, their experience of mental ill health, their patterns of behaviour, and their care and treatment needs. Our study highlights these differences and shows that it is possible to use a number of clinical and forensic variables to assess the risk of future offences in individuals discharged from medium-secure units in the UK. Future studies should try to address whether interventions aimed at reducing the impact of self-harm or abuse in women and of alcohol or drug problems in men could lower the risk of reoffending.

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Table 3 Odds ratios for reconviction in 116 women compared with 843 men discharged from medium secure units

Variable	Reconvicted in 2 years	
	n (%)	OR (95% CI)
Gender		
Men	135 (16)	
Women	10 (9)	
Association between reconviction and gender ¹		
Crude		
Men		1.00
Women		0.49 (0.25–0.98)
Adjusted		
Model 1: age+previous sexual and physical abuse		
Men		1.00
Women		0.47 (0.22–0.97)
Model 2: age+self-harm		
Men		1.00
Women		0.62 (0.31–1.25)
Model 3: age+any drug problems+any alcohol problems		
Men		1.00
Women		0.55 (0.27–1.13)
Model 4: age+number of previous convictions		
Men		1.00
Women		0.64 (0.32–1.29)
Model 5: age+all variables (in models 1–4) ²		
Men		1.00
Women		0.97 (0.45–2.12)

1. From logistic regression models.

2. In the final model significant odds ratios were found for age (0.93, 95% CI 0.91–0.96), self-harm (0.45, 95% CI 0.30–0.68), history of drug problems (2.81, 95% CI 1.66–4.77) and number of previous convictions (4.46, 95% CI 2.60–7.66 for 2 or more convictions v. 0 or 1).

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ANTHONY MADEN, MD, MRCPsych, Institute of Psychiatry, London; PETROS SKAPINAKIS, MPH, PhD, Departments of Psychiatry, University of Bristol, UK and University of Ioannina School of Medicine, Greece; GLYN LEWIS, PhD, FRCPSych, Department of Psychiatry, University of Bristol, Bristol; FIONA SCOTT, BA, Institute of Psychiatry, London; RACHEL BURNETT, BSc, Drugs Analysis and Research, Home Office, London; ELIZABETH JAMIESON, PhD, Broadmoor Hospital, West London Mental Health Trust, Crowthorne, UK

Correspondence: Professor Anthony Maden, Department of Forensic Psychiatry, Academic Centre, West London Mental Health NHS Trust, Southall, Middlesex UB1 3EU, UK. Email: a.maden@ic.ac.uk

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