Intravenous drug abusers attending an inner city accident and emergency department

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SUMMARY

In a 3-month prospective study, intravenous drug abusers represented 1.14% of all new attendances at Glasgow Royal Infirmary. They generated a significant workload and were often difficult to identify. A very high proportion required surgery or other invasive procedures. The clinical and epidemiological characteristics of the patients were often unexpected. The risks to staff and other implications for the A&E department are discussed.

INTRODUCTION

Despite much public health education and the devotion of increasing resources, intravenous drug abuse remains a significant problem, especially in the inner cities. Awareness of the risks involved in treating the increasing number of patients who abuse drugs has been highlighted in recent years, especially since the advent of HIV (Anonymous, 1990). A considerable number of such patients present to our accident and emergency department. Previous studies at Glasgow Royal Infirmary (Stone *et al.*, 1989, 1990), have attempted to examine the problem retrospectively.

This prospective study set out to quantify the workload generated by intravenous drug abusers, to identify the conditions with which they present, and their subsequent management requirements. The epidemiological characteristics of this group of patients were also examined.

METHODS

Over a 3-month period a questionnaire was inserted into all A&E notes, to be completed by the doctor attending the patient. All patients were asked if they had ever used intravenous drugs.

If they answered positively the questionnaire was completed. The epidemiological information collected included their age, duration of drug abuse and age at first drug injection, postcode, registration and drugs used. The clinical data collected included the time of attendance, site of injection, diagnosis and subsequent management.

RESULTS

A total of 177 intravenous drug abusers attended on 215 occasions. This represented 1.14% of the 18,849 new attendances in the study period. Of the 38 return visits 12 (5.6%) were related to the initial condition.

The age distribution of the patients is shown in Fig. 1.

The age at which the patients first started injecting drugs, and the duration of their habit are shown in Figs 2 and 3.

The geographical distribution of the patients addresses by postcode, showed clustering which tended to correspond with the areas of greatest social deprivation.

A total of 140 (65.1%) of patients were registered as drug abusers. Of the 75 not registered 34 (45%) stated that they did not wish to be registered.

The number and types of drugs used are listed in Fig. 4 and Table 1. Eighteen patients (8.4%) were in police custody. The distribution of the times of arrival are shown in Fig. 5. The sites of injection are listed in Table 2.

A total of 112 (52.1%) patients were admitted, 41 (36.6%) for specific surgical procedures. Their diagnoses and management details are given in Tables 3 and 4.

Fig. 1. Age distribution.

Fig. 2. Age at first injection.

Fig. 3. Duration of habit.

Fig. 4. Number of drugs used (2%, >4 drugs; 6%, 4 drugs; 14%, 3 drugs; 36%, 1 drug; 41%, 2 drugs).

Fig. 5. Times of arrival.

Table 1. Frequency of use of individual drugs.

Drug used	No of patients
Temgesic	142
Heroin	120
Temazepam	105
Diconal	9
Palfium	8
Amphetamines	5
Morphine	4
DF 118	2
Valium	1
Triazolam	1
'Sulph'	1
Methadone	1
LSD	1
Pethadine	1
Cocaine	1
Distalgesic	1

Table 2. Sites of most recent injection.

Upper limb		107
Antecubital	35	
Hand	16	
Unspecified	56	
Lower Limb		83
Groin	55	
Feet	10	
Unspecified	18	
Neck		8
Not known		17

Table 3. Diagnoses.

Drug related problems		Not Drug Related	
Abscesses: Groin	13	Head Injury	11
Rupt. Aneurysm	1	Lacerations	10
Other: L. Limb	7	Hand Injuries	9
U. Limb	22	Stabbings total	4
Cellulitis	20	(with pneumothorax)	2
Opiate overdose	17	Facial fractures	5
Fits	11	Hanging	1
		(Died on ITU)	
		Other trauma	8
Deep Venous Thrombosis	7		
Phlebitis	3	Chest Infections	3
Vascular	3	Chest Pain	4
		Oral Overdoses	5
Hepatitis	6	Other medical	11
Intraneural injection	2		
Broken Needle	1	Surgical problems	8
Pancreatitis	2		
Drug Withdrawl	3	Intoxicated	3
?Infective endocarditis	3		
?Meningitis	3	Orthopaedic problems	3
		Psychiatric	2
	124 (58.8%)		89 (41.4%)
Admissions	81 (65.3%)		31 (35.6%)

Table 4. Management details.

Admissions (Total 112 [52.1%])			
A&E wards	59	(30 for surgery)	} 36.6% of admissions
Medical wards	25		
Surgical wards	18	(11 for surgery)	
Orthopaedic	2		
Intensive care	1	(Died)	
Psychiatric	2		
Infective diseases	4		
Maternity	1		
Discharges (Total 103 [47.9%])			
Discharge no follow up	65		
Irregular Discharge	20	(0.9%)	
Narcan Reversal	9		
Discharge with appt	9		

A total of 72.3% of all admissions were for problems directly attributable to intravenous drug abuse.

DISCUSSION

This prospective study confirms that intravenous drug abusers generate a significant workload for the A&E Department at Glasgow Royal Infirmary. Of total attendances 1.14% represents approximately 900 consultations a year. The admission rate of 52.1% is considerably greater than the rate for all other attendances, and is double that reported in the previous study from this department (Stone *et al.*, 1989). It is likely that there is a wide variation in the size of this problem between departments, even in the same city.

The patients seen were mostly in their early twenties (Fig. 1), and most had injected for less than 10 years. It is of concern that the most common age to start injecting is the mid to late teens, but the authors were disturbed by the finding that 20% of all intravenous drug abusers first experimented whilst still at school.

The clustering of patients' home addresses coincides with some of the most socially deprived areas of the city, strongly suggesting that, in Glasgow, intravenous drug abuse flourishes in conditions of socio-economic deprivation.

The fact that only 65.1% of patients were registered as drug addicts confirms the widely held suspicion that the official figures tend to underestimate the true prevalence of the problem. The legal requirement to register drug addicts in the face of their resistance, as shown by our figures (45% did not wish to be registered), places a potential strain on the doctor-patient relationship, and may jeopardize the clinical outcome.

The authors were surprised by the apparent widespread mixing of abused drugs, only 36.5% were regularly using the same drug (Fig. 4). Although Temgesic, Temazepam and Heroin were far more commonly abused than any other drugs, there were a total of 16 drugs named by different patients (Table 1). The wide pharmacological variation of drug types raises the possibility that the drug usage is a way of life rather than a true pharmacological dependency. Another factor in this variability may be a problem of street availability.

The small proportion of patients (8.4%) who were in police custody did not seem excessive, in view of their likely dependency on petty crime to finance their habit. The irregular discharge rate of 0.9% is lower than anticipated in view of the previously reported level of 10% (Stone *et al.*, 1989). This may reflect a better understanding of the needs of these patients, facilitating their access to clinical care.

The attendance times mirrored the standard pattern of peak attendances in the afternoon and evening (Fig. 5), refuting the popular belief that they present at more antisocial times than other patient groups.

The distribution of injection sites was perhaps predictable, but the authors are concerned by the high proportion (31.8%) using major veins, especially in the groin and neck, with the associated risk of major vascular complications.

Nearly 60% of all presentations were directly related to the abuse of drugs. A total of 29.3% of these patients had infective conditions (abscesses and cellulitic reactions) related to the site of a recent injection. This is dissapointingly similar to the infection rate of 31% reported previously (Stone *et al.*, 1990), prior to the widespread availability of needle exchange schemes. Another smaller group

(5.6%) had systemic infections related to their habit. Overall infective conditions represented less than one third of all presentations, which is perhaps less than might be anticipated.

Of interest is the fact that 41.2% of conditions were not directly drug related (Table 3), but may be in part a reflection of the patient's life style. This group were less likely to require admission to hospital (35.6% admission rate against 65.3% for drug-related problems) although a large proportion of both groups of patients required invasive procedures such as suturing or venepuncture.

Each of these invasive procedures exposes medical, nursing and other staff to the risk of infection by, in particular, HIV and Hepatitis B virus. Accidental needle stick injury is probably one of the greater risks (Astbury & Baxter 1990, Anderson *et al.*, 1991). Our study identified double the prevalence of drug abuse than the previous retrospective study (Stone *et al.*, 1989). This, combined with the fact that many of our patients presented with non-drug related problems, and may not be immediately identifiable as 'high risk' patients, emphasizes the need to take protective measures to prevent contamination with serum. The recent recommendation from the Royal College of Surgeons (R.C.S. England, 1990) on pre-operative HIV testing cannot be applied in the A&E department due to the immediacy of care required. In our view the use of gloves, eye protection, and the careful disposal of sharps and other contaminated material is imperative in the A&E department.

Intravenous drug abusers present a significant health care need in the A&E department. They represent a risk to staff, especially in view of the difficulty in identifying a large proportion of them. Whilst this risk can be contained by the use of proper protective measures, and adequate staff awareness, the eventual aim must be to prevent future generations becoming drug-abusers. Our epidemiological data suggests that, to have the desired impact, this aspect of public health education must be aimed at children in their early teens (Fig. 2). The geographical clustering of the patients strongly suggests the need to attend to the socio-economic causes of intravenous drug abuse, for in the authors' view education alone is unlikely to be adequate. The data on the age of first injection of drugs suggest that this education should be targetted at, or before, the beginning of secondary school especially in those areas where intravenous drug abuse is most prevalent.

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ERRATUM

R. M. MAKOWER, A. G. PENNYCOOK & C. MOULTON (1992) Intravenous drug abusers attending an inner city accident and emergency department. *Archives of Emergency Medicine* 9(1), 32–39.

The authors would like to correct the following error which appeared in Table 4 of the above paper.

In Table 4 the irregular discharge rate of 20 out of 215 attendances should have shown 9% instead of 0.9%.

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