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Children Attending Addiction Treatment Services in Dublin, 1990–1999

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Key Words
Children · Adolescents · Substance misuse · Treatment · Heroin · Ireland

Abstract
In Europe, adolescent substance misuse increased during the 1990s. Ireland has among the highest rates of substance misuse among schoolchildren in Europe. We sought to describe the socio-demographic and drug misuse profile of children presenting to addiction treatment services in Dublin during the 1990s. Of the 9,874 individuals who sought addiction treatment, 1,953 (20%) were aged less than 18 years. There was a sharp increase in the number of children after 1993. The main drug of abuse was an opiate in 48% of cases. Compared to adults, the children were more likely to be female and less likely to inject. As the decade progressed the proportion of girls increased, injecting was reported more frequently and there was a dramatic rise in heroin misuse. Child heroin users were more likely to be female and to be homeless compared to their adult counterparts. This study highlights the need for a dedicated service for child drug users in Dublin.

Introduction

There is growing international concern regarding substance misuse by children and adolescents. European data indicate that the prevalence of substance misuse among schoolchildren increased substantially in the early 1990s [1]. Within Europe, there is evidence of comparatively high rates of drug use among Irish and UK adolescents [2, 3]. This is reflected in increases in the number of young people seeking treatment for drug misuse in Ireland. There were more than six times as many new patients under 21 years of age entering addiction treatment during the middle of the 1990s compared with 1990–1991 [4]. The majority of those presenting for treatment of drug misuse in Dublin reported that heroin was their principal drug of misuse [4]. Adolescents present with more complex patterns of drug use compared to their adult counterparts [5]. Internationally, there have been calls for specialist adolescent addiction services in view of the different needs of people in this age group [6–8]. In Ireland the National Children's Strategy has identified a need for such service development [9].

In 1990, the Health Research Board (HRB) established the Drug Treatment Reporting System. This covered the Greater Dublin area only until 1995, when it became the

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National Drug Treatment Reporting System (NDTRS). All agencies providing treatment or therapy for problem drug use were requested to complete a structured questionnaire on each client attending their service. Services providing only syringe exchange did not participate in this reporting system. Staff from the HRB maintained frequent contact with all treatment agencies to ensure compliance with the reporting system. Data were obtained on treatment contact details, socio-demographic information, problem drug use and risk behaviour. Names and other identifying information were not recorded in the database to ensure anonymity.

It has been proposed that a specialist addiction service be developed for children and adolescents in Dublin. We recognised that the NDTRS database could provide useful descriptive information on the adolescents who have been presenting to treatment services over the past decade in Dublin. Consequently, we sought to describe the socio-demographic and drug use profile of this group. Secondly, we anticipated that adolescents might present quite differently to adults, and therefore we decided to examine for these differences. Thirdly, we sought to explore for temporal changes in the profile of the adolescent drug user over the decade. As adolescent heroin users are the group of young drug users causing most concern, we looked specifically at this group, seeking to identify characteristics that distinguish them from adult heroin users.

Method

The database of the NDTRS was used in this study. Individuals were included if they made their first ever treatment contact to addiction services between January 1990 and December 1999. We confined the analysis to first treatment contacts in order to ensure that data on each adolescent was included only once. Only residents in the greater Dublin area were included. In Ireland, the Children Act 2001 defines a child as a person who is aged under 18 years. We used this definition in this study. We have attempted to avoid use of the poorly defined word 'adolescent' in subsequent paragraphs.

Pearson's χ^2 test was used to examine associations between the categorical variables and age group. Odds ratios (OR) and their 95% confidence intervals (CI) were calculated to determine the direction and magnitude of the association. The Mantel-Haenszel χ^2 test for linear trend was used to examine for the presence of significant temporal trends.

A small proportion of the data was missing for each of the variables examined. The proportion of missing data varied from 0.1% for the 'main drug' to 5.4% for 'injected in the past month'.

Results

During the 1990s, 9,874 new patients presented to addiction services in Dublin seeking treatment and 1,953 (19.8%) of these were children. Table 1 indicates that 28% of the children were aged between 10 and 15 years. The vast majority of children were living with their parents. The primary drug of misuse was an opiate in 48% of cases. Opiates, cannabis, volatile inhalants and ecstasy accounted for 93% of presentations by children. Other primary drugs of misuse included benzodiazepines (2.2%), LSD (2.2%), amphetamines (0.4%) and cocaine (0.3%).

Females were in the minority in both age groups. Compared to adults, females were over-represented among the children who attended treatment (table 1). In terms of accommodation, children were more likely to be living with parents or family of origin. More surprisingly, they were significantly more likely to be homeless compared to their adult counterparts. They were less likely to present with heroin or other opiate misuse, but more likely to identify cannabis as their main drug of misuse. The children were less likely to be using drugs on a daily basis and much less likely to report injecting.

Over the decade, a number of significant trends were identified among the children presenting for treatment (see table 2). The female to male ratio increased. Services encountered an increasing proportion of children who were using heroin and a decline in both cannabis and volatile inhalant use. In parallel with the rise in heroin misuse, it was observed that children seeking treatment were more likely to report daily drug use and more likely to have experience of injecting.

Children accounted for 13.3% of the 6,332 people who sought treatment for heroin use during the 1990s. The socio-demographic and drug misuse profiles of these children are shown in table 3. This table also indicates that the children who used heroin differed from their adult counterparts in many respects. Females accounted for a relatively large proportion of the children, and homelessness was reported more frequently. Children were more likely to be smoking (i.e. chasing) heroin than injecting. Although the majority of child heroin users reported daily heroin use, they were less likely to be using heroin every day when compared to the adult group.

Table 4 demonstrates the changes that occurred in the profile of child heroin users over the decade. The number of children presenting for treatment rose sharply during the first eight years before falling back in 1998–1999. The gender profile changed significantly, with the proportion of females increasing sharply. Homelessness was encoun-

Table 1. Comparison of adults and children seeking treatment for drug misuse in Dublin, 1990–1999

Variable	Children		Adults		OR	95% CI	p value
	n	%	n	%			
Total	1,953		7,921				
Age, years							
10–12	22	1.1	NA				
13–15	527	27.0	NA				
16–17	1,404	71.9	NA				
Gender							
Male	1,339	69.1	6,011	76.4	1.0		
Female	599	30.9	1,856	23.6	1.45	1.30–1.62	<0.001
Accommodation							
With parents/family	1,653	86.1	5,396	71.1	2.50	2.17–2.88	<0.001
Other accommodation[1]	142	7.4	2,047	27.0	0.22	0.18–0.26	<0.001
Homeless/temporary	125	6.5	147	1.9	3.34	2.60–4.30	<0.001
Main drug							
Heroin	841	43.2	5,491	69.3	0.35	0.31–0.38	<0.001
Other opiate	96	4.9	989	12.5	0.35	0.28–0.44	<0.001
Cannabis	644	33.1	789	10.0	4.33	3.84–4.89	<0.001
Volatile inhalants	140	7.2	18	0.2	33.9	20.2–57.3	<0.001
Ecstasy	96	4.9	287	3.6	1.35	1.05–1.72	0.01
Other	136	7.0	337	4.3	1.68	1.36–2.08	<0.001
Frequency of drug use							
Every day	847	45.2	5,370	71.5	0.33	0.29–0.36	<0.001
Less than daily	1,028	54.8	2,136	28.5	1.0		
Injected in past month							
Yes	266	14.1	2,754	36.8	0.28	0.25–0.33	<0.001
No	1,623	85.9	4,733	63.2	1.0		
Injected ever							
Yes	406	21.6	4,276	55.6	0.22	0.19–0.25	<0.001
No	1,473	78.4	3,411	44.4	1.0		

OR = Odds ratio; CI = confidence interval.

[1] Examples included living with spouse, partner or friend.

tered more frequently as the decade progressed, but this trend did not quite reach statistical significance. Looking at the decade as a whole, there was no significant trend in terms of route of heroin use. However, this statistical fact conceals some important observed changes. A post hoc analysis reveals a very significant decline in injecting over the first eight years (χ^2 for linear trend = 17.6; $p < 0.001$). This pattern reversed dramatically in 1998–1999, during which children were much more likely to report injecting compared to their counterparts in 1996–1997 (OR = 2.1; 95% CI = 1.4–3.2; $p < 0.001$). Over the decade, children reported progressively earlier ages of initiation of heroin use. There was evidence that children were delaying entry into treatment as the proportion of children presenting to addiction services within a year of first heroin use significantly diminished.

Discussion

This study demonstrates that very substantial numbers of children presented to addiction services in Dublin seeking treatment during the 1990s. Ireland has the youngest mean age of treated drug use in Europe [10]. Our findings indicate that, between 1994 and 1999, an average of 11 children per month presented for treatment of heroin misuse in Dublin. In view of the particular challenges and difficulties of treating drug misuse in this age group, children therefore generate a substantial proportion of the workload of addiction services in Dublin [6].

Compared to their adult counterparts, children who sought treatment were more likely to be female, especially where heroin was the main drug of misuse. Although the number of boys exceeded the number of girls throughout

Table 2. Temporal trends in children seeking treatment for drug misuse in Dublin, 1990–1999

	1990–1991		1992–1993		1994–1995		1996–1997		1998–1999		χ^2	p value
	n	%	n	%	n	%	n	%	n	%		
Total	215		327		558		555		298			
Age, years												
11–15	86	40	103	31	151	27	129	23	79	27		
16–17	129	60	224	69	407	73	426	77	218	73	16.7	<0.001
Gender												
Female	65	30	95	29	126	23	207	38	106	36		
Male	150	70	232	71	427	77	339	62	191	64	9.4	0.002
Accommodation												
Homeless	10	5	29	9	35	6	31	6	20	7		
Not homeless	202	95	293	91	510	94	514	94	276	93	0.07	0.79
Main drug												
Heroin	10	5	46	14	252	45	376	68	157	53	294	<0.001
Other opiate	30	14	25	8	25	4	8	1	8	3	48.4	<0.001
Cannabis	103	48	135	41	188	34	123	22	95	32	11.1	<0.001
Volatile inhalants	48	22	43	13	22	4	11	2	16	5	81.2	<0.001
Ecstasy	1	0.5	30	9	33	6	24	4	8	3	0.97	0.33
Other	23	11	48	15	38	7	13	2	14	5		
Frequency of use of main drug												
Daily	65	31	94	30	231	42	302	58	155	55		
Les than once/day	142	69	222	70	316	58	223	42	125	45	76.8	<0.001
Lifetime injecting												
Injected	29	14	50	16	115	22	123	23	89	31		
Never injected	173	86	270	84	419	78	413	77	198	69	25.9	<0.001
Injected in past month												
Yes	19	9	32	10	71	13	85	16	59	21	34.3	<0.001
No	183	91	288	90	463	87	453	84	227	79		

the study period, the proportion of females increased as the decade proceeded. Drug misuse, particularly heroin use, is associated with criminality, increased risk behaviours, unplanned pregnancy and poorer physical and psychological well-being [7]. Consequently, the increase in the number of young girls presenting with serious drug misuse has implications for many services in addition to addiction treatment facilities. Those who plan provision of obstetric and neonatal services, social services, education and prison services must prepare to meet the consequences of this worrying trend.

The majority of both adult and child drug users were living with their family of origin. However, in view of their younger age and earlier developmental stage, the ongoing close links with family are particularly important and relevant to the treatment of children. The principal psychological therapies offered by addiction services in Dublin fall into the categories of individual therapy or group therapy. Work with families and parents generally accounts for only a small proportion of therapeutic input with adults. By contrast, the involvement of families in the treatment of drug-addicted children is viewed as essential by international bodies such as the American Academy of Child and Adolescent Psychiatry [11]. A number of studies have demonstrated the superiority of family therapy approaches over other treatments when dealing with child and adolescent drug users [12, 13]. Consequently, services in Dublin dealing with increasing numbers of children have had to create new treatment programs for this age group, developing new skills to meet the rapidly evolving problem [6].

Although most children were living with parents, a substantial and growing minority were homeless. Children were more likely than adults to be homeless. Homeless youths are probably the subgroup of patients with the greatest range of problems, but they are the most difficult group to reach and to retain in treatment [14]. Consequently, the recent provision in Dublin of a service which is dedicated to meet the needs of this group is timely.

Table 3. Comparison of adults and children seeking treatment for heroin misuse in Dublin, 1990–1999

Variable	Children		Adults		OR	95% CI	p value
	n	%	n	%			
Total	841		5,491				
Age, years							
10–12	0	0	N/A				
13–15	112	13.3	N/A				
16–17	729	86.7	N/A				
Gender							
Male	553	64.1	4,014	73.7	1.0		
Female	298	35.9	1,431	26.3	1.57	1.34–1.83	<0.001
Accommodation							
With parents	716	87,2	3.795	72.0	2.65	2.13–3.30	<0.001
Other accomodation	65	7.9	1,389	26.4	0.24	0.18–0.31	>0.001
Homeless/temporary	40	4.9	85	1.6	3.12	2.09–4.66	<0.001
Main route of use[1]							
Injecting	275	33.2	2,889	53.5	0.43	0.37–0.50	<0.001
Smoking	553	66.8	2,506	46.5	1.0		
Frequency of use							
Daily	593	72.8	4,011	77.3	0.78	0.66–0.93	0.005
Less than daily	222	27.2	1,179	22.7	1.0		

OR = Odds ratio; CI = confidence interval.

[1] Five patients reported heroin use via sniffing/snorting.

Table 4. Temporal trends in children seeking treatment for heroin misuse in Dublin, 1990–1999

	1990–1991		1992–1993		1994–1995		1996–1997		1998–1999		χ^2	p value
	n	%	n	%	n	%	n	%	n	%		
Total	10		46		252		376		157			
Age, years												
13–15	0	0	3	7	33	13	61	16	15	10		
16–17	10	100	43	93	219	87	315	84	142	90	0.33	0.56
Gender												
Female	3	30	11	24	61	24	156	42	67	43		
Male	7	70	35	76	188	76	214	58	89	57	18.9	<0.001
Accommodation												
Homeless	0	0	1	2	11	5	15	4	13	8		
Not homeless	10	100	44	98	233	95	352	96	142	92	3.6	0.06
Route of use												
Injecting	5	56	26	59	80	32	96	26	68	43		
Smoking	4	44	18	41	168	68	274	74	89	57	0.83	0.36
Frequency of heroin use												
Daily	7	87	28	62	173	69	271	75	114	76		
Less than once/day	1	13	17	38	77	31	91	25	36	24	3.3	0.07
Age of first heroin use												
12–14	1	10	2	5	39	16	93	26	55	36		
15–17	9	90	42	95	209	84	271	74	98	64	31.3	<0.001
Duration of heroin use												
1 year	8	80	33	75	190	78	252	70	85	57		
>1 year	2	20	11	25	54	22	108	30	64	43	16.2	<0.001

This study describes drug misuse among children who attend for treatment and it emerged that heroin accounted for almost half of all presentations. The profile of drug use described in population samples of Irish schoolchildren is very different. The 1995 ESPAD survey of 15- and 16-year-olds found that 37% reported a lifetime prevalence of cannabis use compared to 2% reporting a lifetime prevalence of heroin use [2]. In 1998 over 6,000 schoolchildren, aged from 10 to 18 years, from Dublin and two neighbouring counties were included in a survey. This study found lifetime prevalences of 21% for cannabis and 1% for heroin [15]. These surveys indicate that children are about 20 times more likely to use cannabis than heroin. Of the drugs examined in these two surveys, heroin was the drug used by the lowest proportion of children. Taking an overview of the two surveys, compared to rates of heroin use, cocaine was used by 1.5 times as many children, amphetamines about twice as frequently, ecstasy and hypnotics were each used about 3 times more often and hallucinogens about 5 times more frequently. School-based surveys are particularly likely to underestimate the population prevalence of drugs such as heroin, as children who use heroin are more likely to play truant or to be excluded from schools. Within the population of children who use drugs, it is clear that heroin users are most likely to attend treatment and users of other substances are correspondingly under-represented among the treatment clinic attenders. The factors determining which child drug users attend for treatment are many and varied. These factors include the perceived (and actual) harm associated with use of various substances by the children themselves, their families, the community, doctors and the criminal justice system. Another factor is the perceived usefulness and appropriateness of the current treatment services. Kaminer [16] has argued that only a small proportion of those children who need, and who would gain benefit from, treatment actually receive it. These same factors make it impossible to draw firm conclusions about drug misuse at the population levels based on the type of treatment data reported in this study.

We observed a sustained rise in the number of children presenting for treatment of heroin misuse during the first eight years of the decade, while numbers reduced in 1998 and 1999. At the population level, there is some evidence that the pattern of escalating drug use seen in the early 1990s began to plateau at the end of the decade. The 1999 ESPAD study of 15- and 16-year-olds found a reduction in the lifetime prevalence of cannabis, LSD and ecstasy [17]. The lifetime experience of heroin and cocaine remained static, both at 2%.

Our findings demonstrate some more worrying trends, particularly in relation to heroin use. Among the child heroin users, our data indicate that the age of initiation into heroin use dropped steadily over the decade and the delay before entering treatment increased. The increase in the proportion of injectors after 1997 is also a source of concern.

Unfortunately, the level of drug use among children in Dublin is a very substantial problem. Over the last decade large, and growing, numbers of people under the age of 18 years presented to addiction services. In addition to the actual rise in numbers, the type of problem with which children presented increased in severity and complexity. Heroin use, injecting and homelessness were all encountered with greater frequency among these children. Although girls remained in the minority, the proportion of girls rose steadily. Addiction services in Dublin were established to treat adult patients. These services have responded to the challenges posed by the presentation of large numbers of children by developing some age-specific programs. However, these have been insufficient to meet the need and access to them is geographically limited. Consequently, the fact that this issue has been specifically identified as a priority in the 2000 National Children's Strategy is timely and to be welcomed. The development of services to meet the specific needs of children should greatly improve accessibility and yield better outcomes [7, 16, 18].

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