

Report

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The journey into injecting heroin use

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Summary

Drug injection carries with it many risks and it is therefore important to understand its origins. We interviewed 104 young opioid users with median age of 22 years. The median age of first opioid use was 16 years, this being heroin chasing in 91% of cases. Friends or sexual partners played an important role in both initial introduction to opiates and in the switch to injecting. Curiosity was the most important factor in first heroin use and the second most important factor, after escalating tolerance, in influencing the decision to first inject.

Key Words: Injecting heroin use.

1. Background

Ireland has the highest prevalence of heroin use in the EU with 7 users in every thousand people [18]. In Europe, two predominant routes of heroin administration prevail, with injecting and 'chasing the dragon' each passing through phases of popularity in time [47, 13]. Research has shown that young injecting drug users (IDU) are at an increased risk of contracting bloodborne infections as they are significantly more likely to share injecting equipment [6, 48]. Irish research indicates that the incidence of HCV is indeed very high, with the majority of IDU becoming infected during their first year of injecting [49]. Younger IDU also engage with drug rehabilitation services less [38].

As the route of administration is a determining factor in understanding HIV and HCV risk, charting patterns in drug transitions is seen now as an important area of study. Studies in London demonstrate that routes of heroin use do change over time, although not very frequently; that the most common transition was from chasing to injecting; and that the predominant route of administration appears robust when established [53, 24, 25]. However, transitions away from IDU have also been documented in studies from the Netherlands [55], Spain [4], the UK [23, 53] and the USA [16].

Data over time have shown a decrease in the age of first drug use, and first heroin use in Australia [34], the United States [29] as well as Ireland [47]. Lynskey and Hall [34] reported that the drop in age of heroin initiation was associated with increased poly-drug use, unintentional overdose and criminal behaviour regardless of how many years they had been using. Smyth, Barry & O'Brien [47] noted the increasing numbers of Irish heroin users opting to use via chasing rather than injecting over the 1990s, but raised a concern around the surge in numbers of people entering treatment and suggested the possibility that the

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greater acceptability of this route of administration might be drawing increased numbers of individuals into heroin use.

Two approaches understood to prevent injecting among non-injecting drug users (non-IDU) include actively seeking out non-IDU and working to keep them from advancing to injecting [5, 15] as well as understanding the gatekeeper role that injecting users hold in social networks, with a view to minimising their influence on peers who do not inject [28]. In line with these interventions, it is useful to build a profile of both injecting and non-IDU at a particular time and place in order to design interventions. In depth, qualitative interviews have shown to be useful in exploring the range of factors that influence participants' drug use trajectories as well as the social contexts in which they occur in Canada [43, 46], Sydney [8], New York [40] and London [51].

The transition towards injecting drug use is influenced by a myriad of factors involving personal, social and environmental realms. Among the individual characteristics, age and personal drug use patterns are shown to be important [22, 45], as well as personal traumatic events, such as sexual abuse [36, 37]; beliefs and attitudes about the social status of IDUs [50, 5]; awareness and fear of HIV [21, 3]; and not fearing needles [44, 4]. Some studies have highlighted a substantial role of prisons as setting in which heroin use or injecting may be initiated [3]. Research tends to show that the area with the strongest and most consistent predictors for first injection tends to lie in the social sphere, with influences from the social environment such as friends, family and sexual partners playing a large part in the initiation to intravenous drug use [8, 46]. This influence is felt more strongly by women, as they are significantly more likely to report social network pressure as the cause of initiation [20, 7]. Analyses of change in drug use behaviour over time demonstrates that drug transitions occur in the face of fluid and ever changing perceptions of what is considered dangerous by the members of a particular peer group [35, 43, 46]. In line with this model of dynamic perceptions of risk and safety, social learning theory posits that the verbal or visual modelling of a feared behaviour can increase a persons sense of self-efficacy with regards to the behaviour by desensitizing them to the associated risks [51, 2]. Broader political and cultural influences including social discrimination [41, 1, 50] as well as drug regulatory systems are thought to be important factors, particularly with regards the prevalence of injectable drugs on the market [12, 9, 52].

Most research on drug transitions has been qualitative. There is a need for quantitative research to better our understanding of the progression into heroin in order to better design interventions which might delay, prevent or reverse such progressions for the current and next generation of heroin smokers. Specifically this study aims to charter the journey to IV heroin use in young users, examining timelines in the different stages of addiction and identifying the most important reasons for selecting a particular route of heroin administration and for subsequent transitions. We hypothesised that sexual partners would play a greater role in drug transitions in the case of females.

2. Method

2.1 Setting

Although heroin use has slowly spread out of Dublin in the past decade, it has been well established in Dublin since the 1970s. Treatment services in Dublin underwent a period of rapid expansion during the 1990s, as the incidence in heroin use escalated rapidly, peaking in 1996-1998 [47]. The largest and oldest specialist drug treatment clinic in Dublin is the Drug Treatment Centre Board (DTCB). Most participants were recruited from that setting. Ethical approval was obtained from the Research Ethics Committee of DTCB.

2.2 Participants

We were primarily interested in relatively young heroin users. We included people who were aged between 16 years and 27 years. At DTCB we identified all patients in this age range who were on opiate substitution treatment. We also recruited people in this age range from one of two smaller addiction treatment clinics in Dublin and from a syringe exchange program in the city centre. Recruitment at these sites was opportunistic, the interviewer (DB) inviting participation from all who attended those sites on the days he visited. Across all recruitment sites, we only included participants who were either on opiate substitution treatment or were currently injecting opiates.

2.3 Measures

A structured questionnaire was designed and administered to all participants. Content of this questionnaire was influenced by an earlier study of injecting conducted in Dublin in the 1990s. We compared the group of non-IDU with a group of IDU. As many of the quantitative variables were not normally distributed we utilised the Mann Whittney U Test. For categorical variables we utilised the Pearson Chi Square test, except where an expected cell count of less than 5 occurred. In these instances we used Fisher's Exact test. In all cases we set the p value at 0.05. As this was an exploratory study, we did not conduct a Bonferoni correction.

3. Results

104 opioid users were interviewed, of whom 69 (67%) had injected. The mean age was 22 years (range 16-27 years) and 61% were male. Seventy-four were recruited from the DTCB (representing 65% of the eligible participants from that site), 11 from one of two other smaller addiction treatment centres and 19 from a syringe exchange program. There were 69 participants who had a history of opioid injecting (IDU Group) and 35 opioid users with no injecting history (non-IDU group). Socio-demographic characteristics are provided in Tables 1 and 2. The non-IDU group commenced opiate use between June 2001 and June 2009 (median March 2006). The IDU group commenced opiate use between December 1994 and March 2009 (median July 2003), and commenced injecting between April 1998 and February 2010 (median July 2006).

Table 1 outlines quantitative information per-

taining to the timing of major milestones in the journey into more serious substance misuse. Table 2 provides categorical information on this journey, outlining context of many milestones. The median age of first use of illicit drugs was 13 years and this was significantly less in the injecting group. Cannabis was the most frequently used first drug, but 5 (17%) if the non-IDU group reported heroin as their first illicit drug.

3.1 First Use of Opioid Drugs

Progression from first use of any illicit drug to opioid use occurred after a median period of 28 months and this involved chasing of heroin in 95 (91%) cases. The most common sources of introduction to opioids were friends and sexual partners. Table 3 outlines reasons provided by interviewees for progression through different stages of opioid use. Pressure and influence from peers or partner was the second most frequently cited reasons for first use of opioid drugs, and was reported more often by the non-IDU group, but curiosity was the most common reason for first use.

When physical dependence symptoms were first noticed, after a median period of just 3 months, 90 (87%) were still chasing heroin, and only 10 (10%) people had progressed to injecting prior to physical dependence.

3.2 Progression to injecting

The median age for first injecting in the IDU

| e of progression the | rough mileston | es | | |
|----------------------|---|--|--|--|
| | Injectors | Non-IDU | | |
| Total Crown | N=69 N=35 | | Developer | |
| Total Group | Median | Median | P values | |
| | (IQR) | (IQR) | | |
| 22 (19-24) | 23 (21-25) | 20(18-24) | *** | |
| 15 (13-16) | 14 (13-16) | 15 (14–16) | | |
| 13 (12-15) | 13 (12-14) | 14 (13-15) | * | |
| 16 (14-18) | 16 (14-18) | 17 (16-19) | | |
| NA | 18 (16-21) | NA | | |
| | 18 (17-22) | | | |
| 28 (12-48) | 36 (12–58) | 25 (12-41) | | |
| 3 (1-6) | 3 (1-6) | 3 (1-6) | | |
| NA | 25 (12-43) | NA | | |
| NA | 25 (12-43) | NA | | |
| NA | 7 (2-21) | NA | | |
| | Total Group 22 (19-24) 15 (13-16) 13 (12-15) 16 (14-18) NA 28 (12-48) 3 (1-6) NA NA | Total Group Injectors N=69 Median (IQR) 22 (19-24) 23 (21-25) 15 (13-16) 14 (13-16) 13 (12-15) 13 (12-14) 16 (14-18) 16 (14-18) NA 18 (16-21) 18 (17-22) 28 (12-48) 3 (1-6) 3 (1-6) NA 25 (12-43) NA 25 (12-43) | $\begin{tabular}{ c c c c c c c } \hline Total Group & N=69 & N=35 \\ \hline Median & (IQR) & (IQR) \\ \hline 22 & (19-24) & 23 & (21-25) & 20 & (18-24) \\ \hline 15 & (13-16) & 14 & (13-16) & 15 & (14-16) \\ \hline 13 & (12-15) & 13 & (12-14) & 14 & (13-15) \\ \hline 16 & (14-18) & 16 & (14-18) & 17 & (16-19) \\ \hline NA & 18 & (16-21) & NA \\ \hline 18 & (17-22) & \hline 28 & (12-48) & 36 & (12-58) & 25 & (12-41) \\ \hline 3 & (1-6) & 3 & (1-6) & 3 & (1-6) \\ \hline NA & 25 & (12-43) & NA \\ \hline NA & 25 & (12-43) & NA \\ \hline \end{tabular}$ | |

| | Total Group | Injectors N=69 Median (IQR) | Non-IDU N=35 Median (IQR) | P values |
|--|-------------|--------------------------------------|------------------------------------|----------|
| Characteristics of Interviewees | (2)((10)) | AC (C701) | 17 (40.01) | |
| Male Gender | 63 (61%) | 46 (67%) | 17 (49%) | * |
| Unemployed | 97 (94%) | 66 (97%) | 30 (86%) | * |
| Current accommodation | 44 (20 %) | 22 (12 21) | 0 (22 %) | |
| Unstable # | 41 (39%) | 33 (48%) | 8 (23%) | * |
| With Parents | 39 (38%) | 19 (28%) | 20 (57%) | ** |
| Other stable accommodation | 24 (23%) | 17 (25%) | 7 (20%) | |
| Current relationship status | | | | |
| Not in a relationship | 64 (62%) | 37 (54%) | 27 (77%) | |
| Partner is not an Opioid User | 13 (13%) | 9 (13%) | 4 (11%) | |
| Partner abuses Opioids | 27 (26%) | 23 (33%) | 4 (11%) | |
| Current Treatment | | | | |
| Opiate maintenance | | 59 (86%) | 35 (100%) | |
| Outpatient Opiate detox | | 1 (1%) | 0 | |
| None | | 9 (13%) | 0 | |
| Past Treatment | | | | |
| counselling | | 44 (64%) | | |
| Narcotics Anonymous meetings | | 31 (45%) | | |
| Opiate detoxification | | 30 (43%) | | |
| Maintenance | | 64 (93%) | | |
| Inpatient Treatment | | 15 (22%) | | |
| Residential Rehab | | 12 (17%) | | |
| Drugs injected ever | | | | |
| Heroin | | 69 (100%) | NA | |
| Cocaine | | 38 (55%) | NA | |
| Benzos | | 23 (33%) | NA | |
| Mephadrone type drugs | | 8 (12%) | NA | |
| Other drugs | | 5 (7%) | NA | |
| Injecting behaviour in the recent months | | | | |
| None in past 6 months | | 16 (23%) | NA | |
| Injected in past 6 months, but not in past | | 6 (9%) | NA | |
| month | | , <i>, ,</i> | | |
| 1 to 10 times in past month | | 14 (20%) | NA | |
| 11 to 30 times | | 9(13%) | NA | |
| More than 30 times in past month | | 24 (35%) | NA | |
| Type of first illicit drug(s) used | | | | |
| Cannabis | 67 (74%) | 43 (72%) | 24 (80%) | |
| Ecstasy | 8 (9%) | 8 (13%) | 0 (0%) | |
| Heroin | 8 (9%) | 3 (5%) | 5 (17%) | |
| Cocaine | 4 (4%) | 2 (3%) | 2 (7%) | |
| Benzos | 6 (7%) | 4 (7%) | 2 (7%) | |
| Solvents | 3 (3%) | 3 (5%) | 0 (0%) | |
| Features of first Opioid Use | | | | |
| First Opioid of use | | | | |
| Heroin | 97 (93%) | 64 (93%) | 33 (94%) | |
| Methadone | 2 (2%) | 2 (3%) | 0 (0%) | |
| DF118 | 4 (4%) | 2 (3%) | 2 (6%) | |
| Codeine | 1 (1%) | 1 (1%) | 0 (0%) | |

Table 2. Characteristics of 104 opiate users' journey through drug use milestones

| | Total Group | Injectors N=69 Median (IQR) | Non-IDU N=35 Median (IQR) | P values |
|---------------------------------------|-------------|--------------------------------------|------------------------------------|----------|
| Route of first Opioid use | | | | |
| Inject | 3 (3%) | 3 (4%) | N/A | |
| Chase | 95 (91%) | 62 (90%) | 33 (94%) | |
| Oral | 6 (6%) | 4 (6%) | 2 (6%) | |
| Location where first used Opioids | | | | |
| Own home | 12 (12%) | 9 (13%) | 3 (9%) | |
| Someone else's home | 39 (38%) | 27 (40%) | 12 (34%) | |
| Hostel | 4 (4%) | 3 (4%) | 1 (3%) | |
| Outdoor space | 32 (31%) | 22 (33%) | 10 (29%) | |
| Squat | 7 (7%) | 4 (6%) | 3 (9%) | |
| Prison | 2 (2%) | 0 | 2 (6%) | |
| Other place | 6 (6%) | 2 (3%) | 4 (11%) | |
| Person who introduced you to Opioids | | | | |
| Friend | 61 (60%) | 35 (52%) | 26 (74%) | * |
| Boyfriend or G/F | 13 (13%) | 9 (13%) | 4 (11%) | |
| Sibling | 6 (6%) | 6 (9%) | 0 | |
| Other relative | 3 (3%) | 2 (3%) | 1 (3%) | |
| Acquaintance | 5 (5%) | 5 (8%) | 0 | |
| Other person | 1 (1%) | 1 (1%) | 0 | |
| No Specific Person | 13 (13%) | 9 (13%) | 4 (11%) | |
| Features of Initial Opioid Dependence | | | | |
| Opioid used when first dependent | | | | |
| Heroin | 100 (97%) | 65 (96%) | 35 (100%) | |
| Methadone | 2 (2%) | 2 (3%) | 0 | |
| Morphine | 1 (1%) | 1 (1%) | 0 | |
| Route of use when initially dependent | | | | |
| Inject | 7 (7%) | 7 (10%) | NA | |
| Chase | 90 (87%) | 55 (81%) | 35 (100%) | |
| Oral | 2 (2%) | 2 (3%) | 0 | |
| Snort | 1 (1%) | 1 (1%) | 0 | |
| Both IV & Chase | 3 (3%) | 3 (4%) | 0 | |
| Initial Progression into injecting | | | | |
| First injection was planned | | 27 (39%) | NA | |
| Who administered the first injection | | | | |
| Self | | 8 (12%) | NA | |
| Friend | | 41 (59%) | NA | |
| Boyfriend/girlfriend | | 9 (13%) | NA | |
| Sibling | | 1 (1%) | NA | |
| Other relative | | 1 (1%) | NA | |
| Acquaintance | | 9 (13%) | NA | |
| Location of first injection | | | | |
| Own home | | 8 (12%) | NA | |
| Someone else's home | | 16 (24%) | NA | |
| Hostel | | 4 (6%) | NA | |
| Outdoor space | | 26 (38%) | NA | |
| Squat | | 7 (10%) | NA | |
| Other place | | 7 (10%) | NA | |

| | | Injectors | Non-IDU | |
|--|-------------|-----------|---------|----------|
| | Total Group | N=69 | N=35 | P values |
| | | Median | Median | r values |
| | | (IQR) | (IQR) | |
| "I would inject with the gift of hindsight" | | 18 (26%) | NA | |
| Interviewee had been on methadone before | | 18 (26%) | NA | |
| first injection | | 18 (20%) | INA | |
| Unsafe First Injection | | | | |
| Used syringe after someone else | | 12 (17%) | NA | |
| Used spoon or filter after someone else | | 8 (12%) | NA | |
| Time until injecting became usual route of | | | | |
| drug use | | | | |
| Immediately (i.e. from 1st day of injection) | | 22 (32%) | | |
| Within 2 to 7 days | | 13 (19%) | | |
| Within 8 to 30 days | | 12 (17%) | | |
| After more than 30 days | | 10 (14%) | | |
| Never became the usual route | | 12 (17%) | | |
| Prison and Injecting | | | | |
| Ever in prison | | 48 (70%) | DK | |
| In prison since started injecting | | 40 (58%) | NA | |
| Ever Injected in prison | | 3 (4%) | NA | |
| Shared syringe in prison | | 1 (1%) | NA | |
| Shared other injecting equipment in prison | | 1 (1%) | NA | |

| | Total Group | Injectors N=69 Median (IQR) | Non-IDU N=35 Median (IQR) | P values |
|---------------------------------------|-------------|--------------------------------------|------------------------------------|----------|
| Reason for first heroin use (n=96) | | | | |
| Curiosity/'just wanted to try it | 45 (47%) | 29 (46%) | 16 (48%) | |
| To come down off E or coke | 6 (6%) | 5 (8%) | 1 (3%) | |
| Depressed | 10 (10%) | 9 (14%) | 1 (3%) | |
| Peer/Partner pressure or influence | 25 (26%) | 11 (17%) | 14 (42%) | ** |
| Intoxicated | 3 (3%) | 3 (5%) | 0 (0%) | |
| Homeless / "on the streets" | 5 (5%) | 5 (8%) | 0 (0%) | |
| I had no common sense | 3 (3%) | 3 (5%) | 0 (0%) | |
| Didn't know it was heroin | 3 (3%) | 1 (2%) | 2 (6%) | |
| Bored | 2 (2%) | 1 (2%) | 1 (3%) | |
| To lose weight | 1 (1%) | 0 | 1 (3%) | |
| Reason for never injecting | | | | |
| Fear/hate needles | | NA | 17 (49%) | |
| Fear of Health Risks/side effects | | NA | 13 (37%) | |
| Witnessing consequences for other IDU | | NA | 5 (9%) | |

Table 3: Responses to open questions exploring reasons for first heroin use and for and against progression to injecting

group was 18 years, this occurring after a median of 25 months after first opioid use. Only 12% of the IDU group administered their own first injection, with friends being the most likely group to inject for them. After the first injecting episode, it became the dominant method of heroin consumption within one day in 35 (51%) cases. Table 4 outlines the factors associated with the first injecting episode. Curiosity

| | Total Group | Injectors N=69 Median (IQR) | Non-IDU N=35 Median (IQR) | P values |
|--|-------------|--------------------------------------|------------------------------------|----------|
| Would anything have stopped you from pro- gressing to injecting as your usual way to take the drug? (n=39) | | | | |
| More support from family | | 10 (26%) | | |
| Less depressed or absence of negative life event | | 7 (18%) | | |
| Greater awareness of health and other risks | | 14 (36%) | | |
| Has anything helped you decrease or stop injecting over your lifetime? (n=51) | | | | |
| Family support | | 6 (12%) | | |
| Opiate substitution treatment | | 26 (51%) | | |
| Personal strength/motivation | | 7 (14%) | | |
| Prison | | 4 (8%) | | |
| Becoming a parent | | 3 (6%) | | |
| Partner support | | 4 (8%) | | |
| What would help others to avoid starting in- jecting/avoid escalation of injecting? (n=86) | | | | |
| Treatment entry | 23 (26%) | 16 (29%) | 7 (21%) | |
| Better education and awareness of risks | 38 (43%) | 20 (36%) | 18 (55%) | |
| Family support | 6 (7%) | 4 (7%) | 2 (6%) | |
| Support of friends | 9 (10%) | 7 (13% | 2 (6%) | |
| Curtail access to needles | 3 (3%) | 3 (6%) | 0 (0%) | |

Table 3: Responses to open questions exploring reasons for first heroin use and for and against progression to injecting

| Sample reasons for transition | A major factor | | A minor Factor | | Not a factor | |
|---------------------------------------|----------------|------|----------------|------|--------------|------|
| | N | (%) | N | (%) | N | (%) |
| Escalating Cost | 17 | (25) | 8 | (12) | 43 | (63) |
| Issues linked to Increased Tolerance# | 36 | (53) | 25 | (37) | 7 | (10) |
| Curiosity | 34 | (50) | 24 | (35) | 10 | (15) |
| No heroin suitable for chasing | 3 | (4) | 6 | (9) | 58 | (87) |
| Peer pressure / Suggestion | 18 | (26) | 19 | (28) | 31 | (46) |
| Physical concerns/symptoms | 3 | (4) | 8 | (12) | 57 | (84) |
| There was a heroin 'Drought' | 4 | (6) | 7 | (10) | 57 | (84) |
| Depressed or angry | 20 | (29) | 7 | (10) | 41 | (60) |
| Needles available | 10 | (15) | 12 | (18) | 46 | (68) |
| Foil unavailable | 4 | (6) | 6 | (9) | 58 | (85) |

was identified as a factor by 85% of injectors, while issues linked to growing opioid tolerance were reported by 90%. The decision to inject typically involved multiple factors, with just three people stating that a single factor contributed to their decision. The median number of factors was 4 (Interquartile range [IQR] 3-5). Entry into treatment, knowledge of risks of injecting and family support were factors most frequently identified as helpful in avoiding or reducing injecting (Table 3). Negative life events and low mood were identified as unhelpful factors.

3.3 Prison and Injecting

With regard to prison, only two people, both non-IDU, commenced their opioid use while incar-

cerated. Among the IDU group, 40 people had been imprisoned after they commenced injecting. Only three of these reported injecting in prison (see Table 2). Four people spontaneously identified imprisonment as something which had helped them to curtail their drug injecting.

3.4 Gender and Progression Routes

Eight (20%) females reported that they had been introduced to opioids by a sexual partner, while 5 (8%) males reported such an introduction (p=0.09). Females were more likely than males to report that their first opioid injection was administered by a sexual partner (4% versus 30%, p=0.002, OR 9.6 [95%CI 1.8 - 51]).

4. Discussion

This study has identified different milestones along the path to injecting drug use. Results show that the majority of heroin users had commenced their drug journey by 13 years of age with marijuana being the first illicit drug in most cases. Cannabis is the most widely used illicit drug by adolescents in Ireland, with 7% of school children reporting use by the age of 13 years [27]. By 16, most of our sample had tried heroin for the first time, with chasing being the very dominant route of use. A similar age of initiation to heroin use has been documented in one Australian study [34], but our sample reports a lower age of heroin initiation than most other studies [8, 11, 20]. Median age for first injection was 18 years, with most getting a friend to do this. Day et al. [8] found a similar percentage of participants were initiated to injecting drug use by friends and they also found a similar two year delay in progressing to injecting from chasing. After injecting for the first time, the results show that over 50% will have shifted to injecting as their usual way to use the drug within a week, and only 17% of participants who had ever tried injecting had not made the shift a permanent one by the time this study was done. Although this indicates that the switch to injecting tends to occur rapidly, there may be opportunities to intervene in this process in the minority who do not quickly persist with injecting.

4.1 Friends & Gender Influences

As is consistent with other international studies, the role of friends, and to a lesser extent partners, played a central role both in introducing opioids to participants and in the progression into injecting [8, 46]. As anticipated, more women reported that they had been introduced to injecting by their sexual partner than men [20, 7]. Much research demonstrates the continuing effect of the peer group long after first use, as the group influences attitudes about drugs, provides the social contexts for drug use and forms the beliefs that become the rationales for drug use [51, 35, 43].

4.2 Curiosity

Curiosity was the most common reason cited for first heroin use and the second most important reason for trying injecting. Previous research has shown that social learning theory and the modelling of injecting behaviour by IDUs around NIDUs through watching and talking about injecting with an IDU had made them curious about injecting and played a significant part in their first injection [51]. And so, it might be suggested that curiosity comes about as a result of indirect social influence.

4.3 Other Issues Associated with Progression to Injecting

The major reason cited by participants from opting to inject was the issue of opioid tolerance. As use escalates over time people find that they need more drug both to relieve withdrawal symptoms and to induce hedonic effects. Injecting is a more pharmacodynamically effective method of heroin administration and there is therefore an incentive to switch to this method. This highlights a role for early provision of opiate substitution treatment as it provides an alternative, and vastly safer, method of managing problematic withdrawal symptoms.

4.4 Addiction Treatment

Half of the participants stated that opiate substitution treatment was the main thing that helped them to decrease or stop injecting over their drug career pointing towards the importance of adequate service provision. This falls in line with much research to suggest that opioid substitution therapy with methadone is effective in reducing illicit drug use and in curtailing injecting [33].

4.5 Prison

Two percent of the interviewees commenced

heroin use in prison. Whereas there is evidence to suggest that Syringe Exchange Programs (SEPs) can be effective in reducing needle sharing and resulting HIV in prisons [30], results in this survey demonstrate that although most participants had been in prison since they started injecting, only 4% had ever injected while in prison. These findings suggest that prison does not have a significant role in initiation of heroin use and is a setting associated with reductions in injecting behaviour, contrary to concerns expressed by other researchers [3]. While methadone maintenance treatment is increasingly provided in most Irish prisons, syringe exchange is not available to date in that setting. Possible reasons for cessation of injecting while in prison include the awareness of the very high needle sharing risks in that setting, lack of availability of consistent supply of sterile injecting equipment, reduced access to heroin, change in social context resulting in absence of usual injecting cues and the availability of methadone maintenance programs. Further research is needed to replicate this finding and to clarify heroin users' motivation to avoid injecting in prison. An Australian study, examining incidence of hepatitis C among prisoners, found that longer stay in prison, with no access to needle exchange, was associated with reduced risk of infection [54]. While provision on SEPs in prison would permit safer injecting by the small minority who opt to inject in that setting, it may possibly have the unwanted effect of encouraging many more to inject, thereby increasing harm in the total population of imprisoned heroin users [47].

5. Limitations

We specifically sought to interview relatively young participants in an effort to describe the journey into opioid use in the 21st century. By using an age cut-off, we probably excluded some older people who commenced opioid use in recent years, and their journey into injecting may be different. The median age of non-IDU participants was three years younger than that for IDU group and this age difference may contribute to some of the detected differences between the groups. The validity of self reported risk behaviours could be questioned but there is a substantial body of evidence which suggests that it is reported with acceptable reliability [10]. The sample size was not large and was primarily recruited from treatment settings and consequently, the findings may not generalise to the wider cohort of heroin users.

6. Implications for treatment services

Our findings indicate that there is typically a two-year window during which one can target recent onset heroin chasers prior to their progression to injecting. Results above show that although awareness is good, more education is needed, as over one third of interviewees thought that better education and awareness of risks would help others to curtail injecting, and one third said it would have stopped their own progression to injecting as their usual way to take the drug. Furthermore, as young drug users are being socialized into injecting, prevention efforts that adopt a social approach and develop peer interventions to complement conventional educational messages, could prove to be useful. Drug workers who encounter heroin smokers should seek to find out if some of their peers are injecting and to establish if the person reports a curiosity about trying injecting themselves. Using motivational and psycho-educational approaches, it may be possible to increase the heroin chasers resistance to experimenting with injecting. There has been some development of peer interventions to complement conventional educational messages. One such brief intervention with positive results proposed by Hunt et al [28] was offered to actively injecting drug users with the overall aim of making more resistant to the idea of inducting others into injecting.

From a harm reduction perspective, participants are demonstrating an awareness of what is lower risk drug practice. Results show that people are generally not sharing equipment with friends on their first injection, that they are going to SEPs within a week of starting to inject, and that the average age of first addiction treatment contact for IDUs is quite young at eighteen years. Such early attendance to drug services provides opportunity for engagement and education, and increases the potential to prevent progression to injecting or to reverse injecting drug practices that are not too entrenched.

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