Flushing, rituals and needle fixation among heroin addicts

Implications for policy

John Wooldridge
MSc Social Policy (Research),
Class of 2016
London School of Economics and
Political Science

ABSTRACT

Research has found that needle fixation is a genuine problem and has an impact on achieving abstinence for a minority of heroin users. For those with these dual addictions, it is even more difficult to stop using. Previous studies have focused on defining the problem of needle fixation and attempting to measure its prevalence. This study seeks to uncover the reasons why some heroin users develop needle fixation and how needle fixation, flushing, and rituals develop over time. It also seeks to make policy suggestions on how to improve heroin addiction treatment. To answer these questions, in-depth interviews are conducted with heroin addicts in the UK, and the results are thematically analysed. It is discovered that people with needle fixation have other obsessive traits, which contribute to the development of the phenomenon. It is found that rituals develop incrementally over time, because of advice given by friends, as well as contradictory advice from professionals. Suggested policy interventions include reintroducing injectable methadone and increasing the number of available residential rehabilitation spaces, as these are rarely used in the UK. One service should be in charge of addiction treatment to ensure clarity in terms of advice and accountability. A suggested avenue for further research would be to conduct a quantitative study and attempt to assess how prevalent needle fixation is among heroin addicts.

INTRODUCTION

Needle fixation is defined as the "repetitive puncturing of the skin with or without the injection of psychoactive drugs via intravenous, subcutaneous or intramuscular routes, irrespective of the drug or drugs injected or the anticipated effects of the drugs" (Pates *et al.* 2001, 15).

Drug users with symptoms of needle fixation have been seen all over the world, but mainly in the UK, Europe, and the USA (Pates *et al.* 2005). This research is specifically focused on heroin users with needle fixation because heroin is the most common reason for seeking addiction treatment in the UK. Among those seeking treatment in the UK in the last year for drug abuse, heroin addiction was cited in 47 per cent of cases, while 32 per cent of cases involved the use of both heroin and crack (PHE 2014). Heroin is the most common injectable drug and the drug most commonly linked to needle fixation in the public health literature.

There is evidence to suggest that needle fixation is also linked to ritualistic practices and needle flushing, each of which pose additional complications for treatment and health. Previous research has found that some heroin users with needle fixation persistently 'flush' their syringe (pulling and pushing blood through the syringe after the drug had been administered) or have rituals in the preparation of their drugs (Pates and Gray 2009; Stewart 1987; Hinton *et al.* 2013).

The aim of the present study is to explore the concept of needle fixation, specifically among people that use heroin. Needle fixation is an academically recognised phenomenon, however, little acknowledgement has been seen in terms of treatment or adopted in rehabilitation programmes (Treffurth and Raj Pal 2010). Because heroin use and habitual injection represent mutually reinforcing addictions, the interruption of the combined behaviors becomes inherently more difficult.

The existing research finds that needle fixation could prevent some people from abstaining from injected drug use, however the reasons why only some people develop these fixations are unknown (McBride *et al*. 2001). Through in-depth interviews with heroin users, this paper discusses why some individuals develop needle fixation. Furthermore, this study determines how these processes develop and whether needle fixation is a problem that needs to be directly addressed within treatment programs. Through an analysis of these qualitative interviews, the research provides specific policy recommendations to improve the care mechanisms used to treat addicts with needle fixation in the UK.

LITERATURE REVIEW

Development of UK drug policy

In the 1980s, due to the significant increase in the use of heroin and the beginning of the AIDS epidemic, "harm reduction" gained prominence as a focus of drug policy both in the UK and internationally. This led to many new initiatives aimed at decreasing the spread of the disease (Advisory Council on the Misuse of Drugs 1988). Methadone maintenance treatment (MMT) was provided as a daily opioid substitute, usually taken orally to offer addicted users a legally prescribed alternative to street heroin (Gossop 2003). The aim was to stabilise users and reduce their use of illegal drugs without triggering withdrawal symptoms (Ward *et al*. 1999).

Initially, methadone was prescribed by general practitioners (GPs). However, following the 1982 Advisory Council on the Misuse of Drugs (ACMD) report, Treatment and Rehabilitation, the government created a funding initiative to implement a non-statutory drugs service for people in most areas. This

service has been adopted across the country, but services differ from place to place. Local authorities outsource their drug treatment obligations by putting contracts out to a tendering process, so services are delivered by non-government bodies. This means that contracts are often given to the cheapest provider, which may be detrimental to the service user. Most people on MMT now receive their treatment through a specialised addictions service, but people with health problems can still be treated by their GP.

Since 2012, the government has opted for a more abstinence-based approach to treatment – abstinence meaning the complete removal of all opiates from the user (HM Government 2010; Home Office 2012). Abstinence-based treatments are far more costly than MMT as these involve the user being moved to a residential rehab centre for a complete physical detox. Annually, abstinence-based treatment methods cost approximately £8,000 per user, while prescribing a user methadone incurs a cost of £3,000-£5,000 (Laurence 2009). However, the results from abstinence-based methods are far more favourable, as they have a success rate of 28 per cent compared to 4 per cent for MMT (National Treatment Agency, 2012).

Recent increases in support for abstinence-based treatment have been fuelled in part by the argument that MMT is a way to control people, rather than help them become drug-free (Lally 2013). Another issue concerning methadone prescription is known as the "parking" problem: over the years, methadone has been over-prescribed, and giving people a daily methadone prescription does not help people "sort out other issues in their lives" (DrugScope 2009, 20). The National Treatment Agency (NTA) said that the number of people "parked" on methadone for four months or more increased by one quarter between 2010–2011 and 2012–2013, from 39,725 to 48,510 (PHE 2013). The most recent statistics show that just 7 per cent of enrolled people completed opiate addiction treatment and did not return

to the service within six months in 2014–2015 (National Drug Treatment Monitoring System 2016). Notably, in that same period, four per cent of people died while receiving treatment; the same proportion as those who completed treatment free of prescription drugs (NDTMS 2015).

Needle fixation

Estimates suggest that needle fixation is observed among a quarter of injecting heroin users (Hinton *et al*. 2013). Pates *et al*. (2001) conducted a literature review on needle fixation citing the extensive library on drugs and addiction at the Institute for the Study of Drug Dependence in London. Pates *et al*. concluded that needle fixation should be taken seriously due to concerns about blood-borne viruses among intravenous drug users and a critical need to reduce the practice of injecting. Among heroin addicts, the habitual injection of drugs makes needle fixation a conditioned response whereby users achieve a secondary form of stimulation. Ultimately, this secondary form of stimulation, triggered by the preparation of the injection and the injection itself, helps to maintain the practice of drug use (Pates *et al*. 2005). Stimulating practices can include the routine of acquiring money to buy drugs, the ritual of arranging and administering the drug, and injecting with substitutes such as water, in the absence of drugs. Pates *et al*. (2001) recommend that a greater understanding of the problems posed by fixation will help in the effective treatment of injecting drug users.

In his 2002 study, Hampl further corroborates these findings, noting that some opiate addicts, adequately dosed with methadone, still felt cravings to inject. Like Pates, he identifies fixation as a conditioned state due to the ritualistic nature of heroin injecting and thus argues that existing drug dependence treatment programs do not sufficiently acknowledge or adapt to the role of ritual in addiction.

Drug users also describe needle fixation as a barrier to change. A qualitative study by McBride *et al*. (2001) found that some users had a compulsive need to inject despite knowing there would be no psychoactive effects. For those who exhibit a seemingly compulsive need to inject, interventions need to be "tailored to address their individual reasons for doing so" (McBride *et al*., 2001, p.1057). Thus, failure to recognise and address the complex determinants that reinforce obsessive behaviour among some users may limit the effectiveness of drug treatment programs.

Pates *et al*. (2009) furthered this work by conducting qualitative interviews with drug users in Cardiff. They used this research to create NEFPRO, a framework for describing needle fixation "profiles" of users for applied clinical use. NEFPRO was developed into a 10-point scale of addiction, which can identify needle fixation among drug users and specifies the role of needle fixation for an individual's drug use pattern based upon their completion of a questionnaire. The researchers conclude that this scale may help with the treatment of injecting drug users by identifying needle fixation earlier in treatment.

In an extension of this research, Hinton (2015) conducted an exploratory study to examine the applicability of this needle fixation measure in Australian drug treatment practice. Using the NEFPRO questionnaire, the study assessed whether users were familiar with the pleasurable secondary effects of the injection itself, in addition to the effects of the drug that have been found to be associated with needle fixation. It found that Australian drug users were aware of, and had experience of themes such as flushing, substitution, and injecting water. The authors recommended the use of the NEFPRO questionnaire to other practices in Australia as a measure of needle fixation to ensure that all avenues of harm reduction be explored.

Attachments

Although not explicitly linked to needle fixation, field research suggests a link between insecure attachments and drug use. Attachment theory is a psychological premise that describes the dynamics of relationships between parents and their children. John Bowlby (1969) stated that children with secure attachments show distress when a caregiver leaves but are able to quickly compose themselves, knowing that the caregiver will return. Children with insecure attachments also show distress when their caregiver leaves but are not able to compose themselves. Additionally, children that have secure attachments to their caregiver will have higher self-esteem and lower reports of anxiety and depression (Hogg and Vaughan 2008).

There is evidence to suggest a link between such insecure attachments in childhood and adult substance abuse. In a qualitative study of 19 participants, Borhani (2013) found that there is a positive correlation between substance abuse and types of insecure attachment. Kassel *et al.* (2006), meanwhile, found that individuals with insecure attachments may lack the necessary skills to form social relationships, which may cause distress or anxiety, which may in turn lead to drug use. In a 2006 study, Thorberg and Lyvers found that, out of a sample of alcohol, heroin, and cannabis addicts, users reported higher levels of insecure attachments than observed in non-users. In a sample of adoptees, Caspers *et al.* (2005) found higher levels of illicit substance use among insecure attachment groups compared to those with secure attachments. This is interesting as many drug addicts come from unstable family backgrounds, which may explain a driver of their addiction or gravitation towards use (Khoury *et al.* 2010).

METHODOLOGY

Data collection strategies

Data was collected through in-depth qualitative face-to-face interviews with current heroin users. Participants were recruited via their attendance at a drug treatment centre in a city in Northern England – a registered charity responsible for drug treatment in the local area. The city has a population of approximately 200,000 and a lower than estimated number of heroin and crack users per 1,000 compared with the rest of England. The proportion of injecting drug users is higher than the UK national average.

Prior to taking part in the interview, participants were given an information sheet explaining the research and an informed consent form to read and sign. As heroin users are usually poorly educated (Puigdollers *et al.* 2004; Luck *et al.* 2004), the information sheet and consent form were read out to all interviewees.

Interviews were semi-structured, using a topic guide of questions which had to be covered during the conversation. Participants were asked about their drug history, injecting history, a step-by-step description of their injecting process, awareness of needle fixation, and questions about treatment.

Conducting interviews with drug users raises a number of ethical concerns (Dixon-Swift *et al.* 2008). Firstly, the sample represents a vulnerable group. Drug users are more likely to suffer from mental health problems than non-drug users. Furthermore, drug users are also a potentially volatile group and are more likely to end up in prison than non-users due to their drug addictions (UKDPC 2008). Therefore, to help account for these concerns, interviews took place in the drug treatment centre where the participants attended and where they were recruited. To guarantee the safety of the interviewer and the

provision of emotional support to the research participant, interviews were carried out in a private room with a member of staff present.

Data analysis strategies

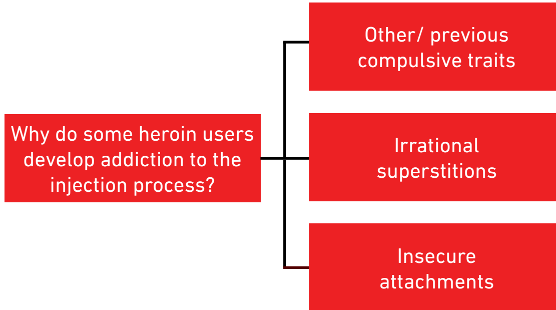
To analyse the interview data, I use the thematic coding method. Firstly, I transcribed audio recordings, then thoroughly read and re-read in order to build familiarity with the content. The research followed Miles and Hubermans' (1994) sequential list of analytic moves, progressing through a series of steps including initial coding and writing memos. Data was analysed manually because this was a small study with five participants and the data collected was manageable at this scale (Bryman 2012).[1]

1. The codebook is available from the author upon request.

FINDINGS

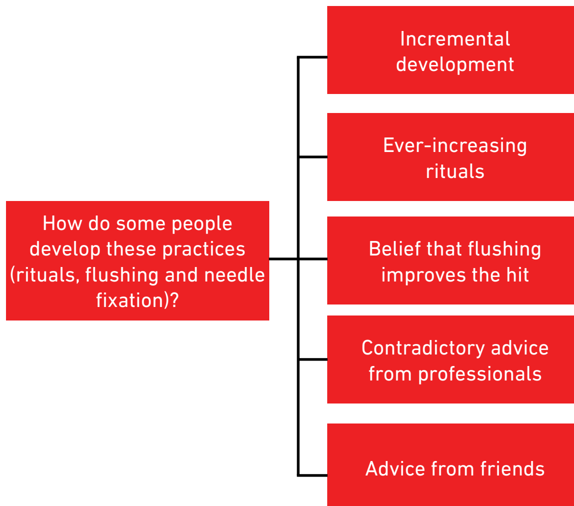
A number of themes alluded to throughout the interview process are highlighted by quotes from the interviews. Figures 1, 2, and 3 describe the themes and sub-themes identified for each question. These thematic similarities are further addressed in the discussion section that follows.

FIGURE 1



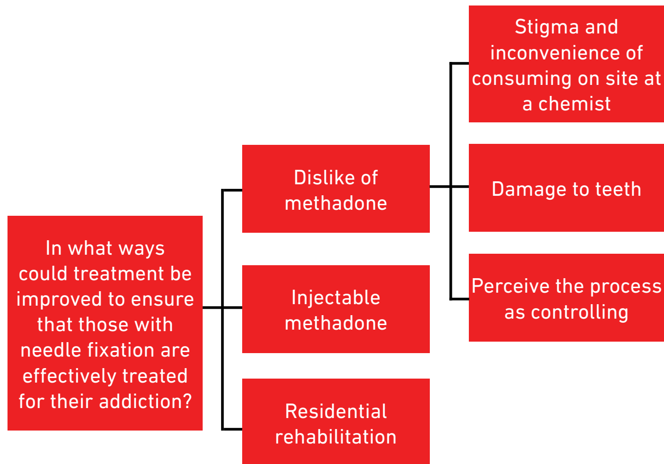
Source: Author.

FIGURE 2



Source: Author.

FIGURE 3



Source: Author.

Why do some heroin users develop addiction to the injecting process?

The following themes were discovered in response to the question of why some people develop these routines.

Other/ previous compulsive traits

All of the respondents described having other obsessive or compulsive behaviours, often related to cleaning.

> RESP1: "I'm really bad for cleaning, everyone says I'm obsessed".

> RESP5: "I always make my bed in the same way."

> RESP3: "Yeah cleaning and tidying. I've got a very tidy house. You wouldn't believe the things I do."

> RESP4: "I got annoyed with the postman when all the post just goes on the floor… Sometimes I realise how stupid it seems."

One participant went further and stated that they had obsessive-compulsive disorder.

> RESP2: "I've got OCD me. It's been diagnosed as well… It gets into everything, every aspect of my life is ordered in a specific way."

Irrational superstitions

Some interviewees also spoke about irrational superstitions that affect their daily life.

> RESP1: "I always avoid walking over three gates on the path 'cause it's bad luck".

> RESP1: "Touching wood, you know when you want or don't want something to happen."

> RESP5: "I always sleep with my head on the opposite side to the door but there is so many more I do as well."

Insecure attachments

Unprompted, three of the respondents spoke about having insecure attachments when they were children.

> RESP1: "I don't speak to my parents. I never have done really, I moved out when I was 13."

When talking about when they started using drugs one person said,

> RESP3: "When I was younger I just lived with my brother and his mates introduced me to it."

One participant mentioned that they have been in foster care as a child.

> RESP5: "I spent all my life in care so I was at different care homes really. There was never any stability."

How do some people develop these practices (rituals, flushing and needle fixation)?

All respondents were asked to describe how they inject their drugs step-by-step to try to ascertain every detail of what they did and the reasons for each step. The following themes describe the reasons why certain rituals developed in this group.

Incremental development

All respondents described how their injecting practices and rituals had developed incrementally.

> RESP1: "I never used to do that until recently. Now I do it all the time"

> RESP2: "My routine was really quick years ago but over time you start doing different things."

> RESP4: "When I first started I didn't have a routine like now."

When talking about developing a long ritual,

> RESP5: "It just happened. I haven't really thought about it but it used to be real quick. I don't know how it got this long."

Ever-increasing rituals

Participants described how their injecting rituals are always increasing.

> RESP1: "I'm definitely adding more things to it [the injecting routine]."

> RESP2: "I used to just do it [the injection] but now I run it under the tap for a while too to cool it down."

> RESP4: "It takes a long time to do it, 'cause I like to do so many things. But that's because I need to make sure I'm doing it right."

The interviewer asked if there was anything that they no longer do as a part of their routine.

> RESP1: "There's nothing I don't do now that I used to."

> RESP4: "It is a bit annoying. It's like, if you find something that works, you don't stop doing it."

> RESP3: "The only thing I don't do now is lick the pin 'cause of the germs."

Belief that flushing improves the hit

Most interviewees stated that the reason they flushed was because it improved the hit and meant the drugs had a greater effect.

> RESP2: "It gives you a better knock if you flush it."

> RESP1: "It definitely makes a difference. I feel way more smashed if I flush it a few times."

> RESP3: "Of course it does [improve the effect], your making sure everything is out of the pin."

> RESP4: "I do like the feeling but I do it because it gets me more wiped out."

Contradictory advice by professionals

Contradictory advice by professionals was given as a reason for a number of practices. This issue arises where messages from service providers are inconsistent, either over time or between individuals; these inconsistencies are rarely explained or justified, which is disempowering in addition to being confusing for users.

> RESP1: "So I started using the wipes before I did it [the injection] but then they stopped giving them out and said it's not advised. Apparently the alcohol isn't good for wounds. But now I'm still using the wipes 'cause I got used to it."

> RESP3: "They say boil a kettle and use that water, but what do you put it in? It doesn't make sense… If everything in the house is dirty, should I boil a kettle and put it in a dirty cup?"

> RESP4: "They used to give out water vials but they stopped 'cause it cost them too much money. I think 50p each or something. It's only homeless that get them now."

Despite being harmful, two participants spoke about behaviours that would not be professionally advised.

> RESP5: "I always lick the end of the pin before I do it".

Advice from friends

Most participants increased and changed their injecting routine after taking advice from friends.

> RESP2: "If you change the filter you can share a spoon."

> RESP1: "It's better to go in your neck over your groin."

> RESP5: "You can't get water from old buildings because of [the] lead pipes."

> RESP3: "Always inject towards your heart."

> RESP4: "Blow on the pin when [you are] putting it in."

In what ways could treatment be improved to ensure that those with needle fixation can effectively be treated for their addiction?

In response to this question, a number of themes and sub-themes were found.

Dislike of methadone

When talking about treatment for heroin addiction, all respondents spoke about a dislike of methadone. These findings were responsible for the allocation of three sub-themes.

Stigma and inconvenience of consuming on site at a chemist

Participants described the stigmatisation of having to wait to collect and consume their prescriptions in a busy chemist.

> RESP2: "This chemist I used to go to, they made me wait until all the other customers had gone before they gave me my methadone. Even though I collect it every day and it's ready to pick up."

> RESP3: "The other day I asked to go into the private room and the chemist just said 'no they're too busy'. So I had to drink it in front of everyone."

Three participants also talked about the inconvenience of having to go to the chemist each day to collect their prescription.

> RESP1: "It's such a pain having to go every day, like I haven't got anything else to do."

> RESP5: "It's fucking stupid right? They let me pick up for Sunday on Saturday, and if it's a bank holiday I get Monday's as well. And if it's Christmas when everyone is out drinking and partying I can pick up like 4 or 5 days' worth".

Damage to teeth

Some participants spoke about the negative consequences that taking methadone has on teeth.

> RESP1: "The worst thing about methadone – apart from getting addicted to it – is how bad my teeth have got from it."

> RESP2: "My dentist said to me that it was the methadone doing it. I've had three teeth taken out this year."

> RESP5: "I've been on methadone for 15 years and… I've lost every one of my teeth apart from two because of it."

Perceive the process as controlling

Some respondents also specifically described methadone maintenance treatment as controlling.

> RESP5: "[The drug treatment centres] are the worst. The things they make you do for your script… They've made me sit in that waiting room for hours on a rattle with no money with people coming in selling it left right and centre."

> RESP3: "They know they've got you by the bollocks, so they can treat you like shit."

> RESP2: "The amount of times they cancelled appointments on me and then just expect that I can get in the next day no problem."

> RESP3: "They used to let me get my prescription through the doctors [local GP], based on the fact that I had a relationship with the doctor that had built up over many years. Now they making me and everyone else come here where I see three different people."

> RESP5: "I've been going to [drug treatment] services for 10 years and get the same dose every day and have to take it on site [at the chemist]… the service has changed… Now they make me come in once a fortnight and have told me I can't take my methadone home 'cause I've got to be clean first. I used to be trusted with a week's worth. Now I can only get one day."

Injectable methadone

When considering solutions and other ways to treat opiate addiction, two themes were found. Some respondents suggested injectable methadone as a treatment solution.

> RESP5: "When I first started I was on injectable meth and I wish I still was now."

> RESP4: "I prefer digging [injecting] stuff so injectable methadone would be best for me."

> RESP1: "I can't really think of anything that would help. [Pause]. Actually when they first started giving meth I think it was injectable. I think that'd be alright then at least you'd get a knock off it."

Residential rehabilitation

Another common theme suggested to treat opiate addiction was through residential rehabilitation.

> RESP1: "The only way to do it is to go to rehab."

> RESP5: "I don't think I've seen anyone ever stop taking meth. If you wanna get clean you've got to go to rehab."

> RESP3: "I'd like to go to rehab to get clean but to be honest I'm not ready yet."

DISCUSSION

Why do some heroin users develop an addiction to the injecting process?

Three themes were found in answer to why some people develop an addiction to the injecting process: previous obsessive traits, irrational superstitions, and insecure attachments.

Previous research by Pates and Gray (2009) found that flushing the syringe and having injecting rituals are a precursor to having needle fixation; this study concurs with those findings. All participants in this study had some level of needle fixation and all had a very particular injecting ritual. Most also regularly flushed their syringes multiple times, believing that this improved the hit.

Pates and Gray's research shows that certain types of people may be more susceptible to developing this kind of behaviour. As this is a qualitative study that only interviewed people with needle fixation, it is impossible to say whether there is a causal link between obsessive or superstitious tendencies and needle fixation. However, my findings are in line with the theory that such preexisting tendencies may increase the likelihood of developing needle fixation. All the people interviewed had both needle fixation and irrational superstitions, and most demonstrated other obsessive characteristics.

Many of the obsessive behaviours mentioned by the participants in this study were cleanliness-related. It could also be said that injecting in a ritualistic way is obsessive. Cleaning the home, hand washing, and tidying were all discussed by participants. As intravenous injecting is dangerous due in part to risks of infection and contamination, it could be the case that these rituals developed as a mechanism to ensure cleanliness during the injecting process, and then became more pervasive in the users' everyday lives. There is a common conception that heroin

addicts are unclean, but this notion was challenged within the findings of this study.

Interviews also probed superstitious behaviours, as these are often irrational and can affect people's daily lives in a similar way to obsessive traits; they are carried out more as a matter of necessity rather than choice. Most participants in this study had many superstitions; the limited data herein suggests that people who have obsessive traits and are naturally superstitious may have an increased likelihood of developing needle fixation.

Another theme discussed within the confines of this research relates to attachments. As mentioned in the literature review, some people with insecure attachments as children develop substance abuse problems in adulthood. This study furthers the theory, finding that three of the five interviewed had insecure attachments. It may be the case then, that not only do attachment issues increase the chance of substance misuse problems but also lead to an increased chance of developing needle fixation. More thorough and systematic study is warranted in this regard.

How do some people develop practices of rituals, flushing and needle fixation?

To identify how these rituals take shape, the research focused on five themes that were discussed by the research informants: (i) incremental adaptions to injection rituals, (ii) ever increasing rituals, (iii) advice from friends, (iv) contradictory advice from professionals, and (v) the belief that flushing improves the hit.

By asking participants to describe their exact injecting routine, the researchers attempted to break down each user's practices to discover the deeper significance of each step. Findings were significant in part because no previous research had attempted to interrogate how these practices develop. The quotes

cited above highlight some interesting excerpts from the interviews that attempt to describe the main components of some rituals. Ultimately, each of the study participants noted incremental changes to their injection process over time.

Similarly, this study found that for the heroin users involved, rituals are always expanding. When asked to describe the development of their routine, no participants mentioned that they had reduced their injecting ritual in any way. This is concerning because, as more extreme rituals become engrained in everyday practice, injection use becomes more difficult to roll back due to beliefs that it possesses a beneficial function.

Most participants believed repeatedly flushing the syringe after the injection improved the hit and thus this became part of their routine. If a person truly believes this to be the case, then it would be difficult for them to stop. All participants flushed because they believed it improved the hit, although this is not the case (Preston *et al*. 2009).

Some participants explained their routine by stating that it was based upon advice from addiction service and medical professionals. After further discussion, it was determined that professional advice is sometimes contradictory, with underlying effects upon a user's practices. Alcohol wipes represent a recent example of changing advice for one participant; once provided to sterilise the skin before and after the injection, their distribution has since been withdrawn and their use is no longer encouraged. This contradictory advice is possibly due to the plethora of organisations that are involved in drug treatment and the fact that professional understanding of addiction and public health changes over time. To solve this problem, one agency should administer drug treatment.

It would seem to be that there is so much contradictory advice from professionals and friends that drug users do not know how best to safely perform injections. Rituals develop from a combination of practices that have been recommended

to individuals by friends and professionals. An amalgamation of conflicting professional perspectives and changes informed by time saving, logic and convenience affect a user's rituals. As a result, beliefs surrounding the injection practice remain diverse and often inconsistent across individuals. Ultimately there is significant variation in what people think is necessary, what constitutes good practice, what constitutes bad practice, and those customs that should be avoided.

This absence of a coherent message delivered to users seeking treatment mirrors the wider state of drug treatment in the UK. There is no single agency in charge of collating the national data or standardising treatment. Furthermore, numerous organisations are involved in drug treatment: Public Health England, the Department of Health, the National Treatment Agency and the National Drug Treatment Monitoring Service. Lack of coordination seems to be an endemic problem of the drug treatment system in the UK. There is no overarching national strategy and no group accountability for failings.

In what ways could treatment be improved to ensure that those with needle fixation can effectively be treated for their addiction?

In considering opiate treatment, this study uncovers a number of themes. There is a general dislike of methadone, which must invite designers of addiction treatments to think about an array of sub-themes: stigma and inconvenience of having to consume oral methadone at a chemist's, damage to teeth, and the perception that methadone maintenance treatment is controlling. Other findings recommend the improvement of treatment through the reintroduction of injectable methadone and an increase in residential rehabilitation places.

No existing research has documented drug users' opinions on methadone. This study finds no positive comments in its regard. Participants talked about the stigma of having to go to a

pharmacist every day and stand in a busy shop while drinking methadone in front of other customers. According to qualitative accounts, this process is gravely demeaning and an inherently stigmatising practice. In one case, even though there was a free private room, the participant described the embarrassment of having to consume their methadone in the shop, as the pharmacist was too busy to see them privately.

Another negative observation made about methadone is the damage it can inflict upon the user's teeth. Methadone has a high sugar content and is known to cause tooth decay, although there are no current academic studies that identify a casual link (Ma *et al*. 2012). As some users are prescribed over 150mls of methadone every day, it is anticipated that some people will experience problems with their teeth (Reece 2007).

In agreement with Lally (2003), this study also finds that MMT is perceived as a means of instituting control over users, rather than helping them to become drug free. Many respondents spoke about their negative experiences with the drug treatment company that provided their methadone prescriptions. Informants complained about cancelled appointments and rearranged meetings, generally booked on very short notice and deemed mandatory in order for users to receive their prescription.

User's complaints about MMT are frequently attributed to the inconvenience of having to consume methadone onsite. Users questioned the necessity of these protocols arguing that they can take home their prescriptions on the days that the chemist is closed. They see the requirement to report to the chemist's every day as an arbitrary and patronising rule, which can clearly be loosened as it is during holidays. The daily burden of visiting the chemist to take oral methadone seems to simply become part of the routine of a heroin addict. For treatment to result in a breaking of addiction, this routine must be broken as well;

what is needed may be the creating of an identifiable critical moment for transition or a final end point to treatment.

Improving opiate treatment should include injectable methadone and more residential rehabilitation spaces. Participants disliked oral methadone treatment, and enrolment in addiction treatment centres is critically low. Injectable methadone was to be expected as a point of discussion, as many users were aware that it had been prescribed in the past and it more closely mimics the experience of using heroin. Because of this closer mimicry of heroin, it seems rational that injectable methadone would be prescribed to injecting drug users, as it may attract more users towards treatment centres and professional care. It may also help to associate methadone with being a drug substitute, rather than a less desirable alternative to illicit drug use. However, injectable methadone would not help to challenge an addiction to the injecting process – needle fixation – which must also be broken in order to truly overcome the addiction.

It is interesting that residential rehabilitation was so broadly suggested, as it is a particularly difficult process for addicts. Residential rehabilitation programs can be very painful due to the harsh effects of withdrawal, and take weeks or months to complete. Thus, the suggested adoption of residential treatment mechanisms by interviewees indicates that some of those interviewed were determined to achieve abstinence from heroin. Furthermore, such recommendations serve to illuminate the severe dislike of oral methadone among heroin users.

POLICY RECOMMENDATIONS

The most common form of opiate treatment is oral methadone treatment. This study finds that the heroin users interviewed disliked this treatment method for a number of reasons.

Injectable methadone was first prescribed in the 1980s and there are a small number of people still receiving this treatment. It would seem that injectable methadone would be more satisfying for those with needle fixation, as it enables them to fulfil both cravings. Furthermore, if users are going to be injecting regardless of treatment type, it is better to supply individuals with a medically tested substance than street heroin—which poses many risks to the user. Although there are concerns from a harm minimisation perspective, the overarching aim is to reduce injection of unsafe substances.

This study suggests that those with insecure attachments are more likely to develop needle fixation. To deal with such findings, policymakers could introduce an early assessment tool to discover which service users have insecure attachments to attempt to alleviate this concern before it becomes a problem.

An increase in residential rehabilitation centres may also serve to improve treatment outcomes. Residential rehabilitation acts as a critical turning point and can enable drug users to completely change their lifestyle, in contrast to initiatives that promote daily methadone consumption (Smyth *et al*. 2012). While this time and labour intensive intervention may prove costlier when considering monetary implications, increased expenditures associated with residential rehabilitation will lead to improved results and decreased costs in the long term.

To streamline professional treatment schemes and policy recommendations, I suggest the creation of one central treatment agency to replace regional bodies operating across the UK, to govern policy pertaining to intravenous drug use. This step would enable the dissemination of a clear message directed at drug users and would help to combat current confused or counterproductive information in circulation.

CONCLUSIONS

This study has generated new, valuable information on the subject of needle fixation. Previous research indicated that needle fixation can pose a sizable challenge for many heroin addicts, but there is no existing research that discusses how some addicts develop fixation. This study finds that some people develop needle fixation because of certain personality traits. Those with obsessive personality traits, superstitions, and insecure attachments are more susceptible to developing needle fixation. All participants in this study possess obsessive traits and were superstitious in their daily life. There was also found to be a possible link with insecure attachments as a child. These potential determinants are important to consider as their analysis could help experts identify individuals at risk for needle fixation.

The way in which rituals developed was incremental and seemed to expand over time. Aspects of peoples' routines were based on contradictory advice offered by professionals, advice from friends, and the view that flushing the syringe improves the hit. The risks associated with ever-expanding rituals can be minimised by ensuring that all advice given to drug users is the same by having one central agency to deal with drug treatment.

As it stands, there are no prevalence estimates on the number of people who may have needle fixation. Evaluating the severity of this phenomenon would be an interesting area of further study. Another avenue for further study would be to conduct a participant observation study of people with needle fixation injecting to really find out about their routines and how they developed.

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