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"Once I'd done it once it was like writing your name": Lived experience of take-home naloxone administration by people who inject drugs.

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Abstract

Background

The supply of naloxone, the opioid antagonist, for peer administration (‘take-home naloxone’ (THN)) has been promoted as a means of preventing opioid-related deaths for over 20 years. Despite this, little is known about PWID experiences of take-home naloxone administration. The aim of this study was to advance the evidence base on THN by producing one of the first examinations of the lived-experience of THN use among PWID.

Methods

Qualitative, face to face, semi-structured interviews were undertaken at a harm reduction service with individuals known to have used take-home naloxone in an overdose situation in a large urban area in Scotland. Interpretative Phenomenological Analysis (IPA) was then applied to the data from these in-depth accounts.

Results

The primary analysis involved a total of 8 PWID (seven male, one female) known to have used take-home naloxone. This paper focuses on the two main themes concerning naloxone administration: psychological impacts of peer administration and role perceptions. In the

former, the feelings participants encounter at different stages of their naloxone experience, including before, during and after use, are explored. In the latter, the concepts of role legitimacy, role adequacy, role responsibility and role support are considered.

Conclusion

This study demonstrates that responding to an overdose using take-home naloxone is complex, both practically and emotionally, for those involved. Although protocols exist, a multitude of individual, social and environmental factors shape responses in the short and longer terms. Despite these challenges, participants generally conveyed a strong sense of therapeutic commitment to using take-home naloxone in their communities.

Introduction

The supply of naloxone, the opioid antagonist, for peer administration (henceforth 'take-home naloxone' or THN) has been promoted as a means of preventing opioid-related deaths for over 20 years (Strang et al, 1996; Strang et al, 2006; Strang et al, 2014).

In Scotland, a national naloxone programme is in place where those at risk of opioid overdose are typically supplied with THN via community addiction and harm reduction services (including community pharmacy) following successful completion of a brief 5-10 minute training session (McAuley et al, 2012; Bird et al, 2016; McAuley et al, 2016; Bird et al, 2017). THN is also offered to all prisoners on release who are deemed to be at risk of opioid overdose. Core elements of the training individuals undertake prior to naloxone supply include signs and symptoms of opioid overdose, basic life support, naloxone administration, and calling an ambulance.

The bulk of research on THN to date has focussed on quantitative measures that have examined the impact of training and supply of THN on knowledge, confidence and overdose responses, before and after training, and at short term follow up intervals (Clark et al, 2014; Mueller et al, 2015; McAuley et al, 2015). Collectively, these studies highlight that people who inject drugs (PWID) internationally can successfully be trained to identify and respond to overdose events using basic life support and naloxone administration techniques.

Far fewer studies have been conducted that have focussed more on PWID's views and experiences of administering THN and the impact this has on them. To date, those which have been published mainly originate from North America (Worthington et al, 2006; Shermann et al 2008, 2009; Wagner et al, 2014; Lankenau et al, 2014; Koester et al, 2017;

Heavey, 2018), and one from China (Bartlett et al, 2011). Collectively, these studies provide valuable early insights into the barriers and enablers to participating in THN programmes, but also to the attitudes of the individuals involved and the effects naloxone can have on them and their relationships with their peers. Related themes of security, trust and comfort emerged from different studies, and how this new naloxone role within their community had given many a sense of dignity and purpose in their life.

To our knowledge, only one such study has been published from the UK, which explored hypothetical scenarios with homeless drug users who had yet to be prescribed THN (Wright et al, 2006). For example, participants reported a willingness to take responsibility and 'save' a fellow drug user if required to do so, but it is unclear if this motivation would have translated into action with naloxone at an actual opioid-related overdose event.

Neale and Strang (2015) argue that "better understanding of opiate users' views and experience of emergency naloxone is needed to support medical care and decision-making and to inform the wider pre-supply of naloxone". This is particularly relevant to the UK where national naloxone programmes have been pioneered. The aim of this study was to advance the evidence base on THN by producing one of the first examinations of the lived-experience of THN among PWID in the UK.

Theoretical approach

This study adopted Interpretative Phenomenological Analysis (IPA) as its guiding methodological framework. In keeping with IPA principles, no theory is applied until the analysis is concluded (Smith et al, 2009). The roots of IPA lie in three major areas of philosophy: phenomenology, hermeneutics and idiography (Smith, 2004).

IPA owes much to Husserl's phenomenological principles, in particular its focus on detailed exploration of lived experience (Smith, 2004; Wagstaff et al, 2014). The aim of IPA is to explore in detail an object/event of importance to an individual, in this case administration of THN by PWID.

In terms of hermeneutics and theories of interpretation, IPA acknowledges the difficulties in accessing an individual's perception of their personal world and outlines an empathic but critical interpretative process which actively involves the researcher to overcome these difficulties (Smith, 2004; Wagstaff et al, 2014). Access to perception is reliant on, but also complicated by, the researcher's own theoretical beliefs which are necessary to understand the personal world being described by the participant (Smith & Osborn, 2008). This involves both the participant and the researcher in a two-stage interpretative process: participants trying to make sense of their own world; researcher trying to make sense of the participants trying to make sense of their own world: often referred to as the 'double hermeneutic' (Smith & Osborn, 2008).

As well as being both phenomenological and interpretative, IPA is strongly idiographic in approach; each case is considered in isolation as well as in consideration of the implications each individual experience may have within the context of the whole sample (Smith, 1996; 2004; Smith et al, 2009; Larkin et al, 2006; Gee, 2011). It adopts a position that the participant provides an active insight into their world with no assumptions about objective reality or truth and where a theoretical rather than scientific generalisability is produced (Wagstaff et al, 2014).

Little is known about the lived experience of THN use among people who inject drugs. IPA is useful in this context as it allowed the research to examine in-depth the lived experience of people who had used naloxone by interpreting their accounts through analysis of the language used to make sense of that experience. Moreover, IPA helps to relay, as best as possible, what it is like to "walk in another's shoes" (Shaw, 2010: pg. 181).

Study Methods

Fieldwork was conducted between July and October 2013 within a large urban Health Board in Scotland, UK: an area with one of the highest prevalence rates of PWID in the country.

IPA studies require small homogenous samples to allow participants scope to relay their experience in full and the researcher to fully connect with what is being described; they thus follow a purposive sampling path, akin to a series of case studies (Smith et al, 2009). Although no definitive sampling guidance for IPA studies exists, Reid and colleagues suggest a maximum of ten participants in an IPA study (Reid et al, 2005). We therefore aimed to recruit 10 individuals who had used THN to reverse an overdose into the study. Potential participants were invited to take part in the study when attending a busy harm reduction service for routine appointments. The site was chosen due to its size and because it provided both opiate substitution therapy (OST) and injecting equipment, therefore attracting a large group of individuals with differing intensities of drug use.

The initial invitation to participate was made by a harm reduction team staff member who then directed those expressing an interest to an independent researcher (AMcA) where they were provided with a study information sheet and given the opportunity to ask questions.

Potential study participants were then asked to provide written consent prior to data collection. All individuals approached agreed to take part and consented with no exceptions.

Face to face, semi-structured, in-depth interviews using a topic guide were conducted by the lead researcher (AMcA) in a private room within the service, and were audio recorded where consent was given to do so. The topic guide covered overdose history and risk, feelings about naloxone, and experience of using naloxone at an overdose event.

Participants were assured that the interviews were anonymous and confidential and that pseudonyms would be used in place of real names and places in any publications or reports. Interviews lasted between 30 and 70 minutes and participants were given a £10 shopping voucher to compensate them for their time. Appropriate ethical and management approvals were granted from the NHS West of Scotland Research Ethics Service (WoSRES), the local NHS Research and Development department and the University of the West of Scotland.

Analysis

All interviews were digitally recorded and transcribed verbatim by the lead researcher (AMcA) with the exception of one who refused to consent to recording and only gave permission for handwritten notes to be taken. Anonymised transcriptions were entered into NVIVO (version 10) to facilitate analysis. Analysis was conducted by the lead researcher (AMcA) and reviewed by the research team (AM, AT). Differences in interpretation were discussed in detail at regular research team meetings and resolved by consensus.

The IPA analysis was conducted in four stages in accordance with Smith & Osborn (2008): (1) Identification of initial themes; (2) connecting themes; (3) tabling of themes; (4) analysing

further cases. During the initial stage, notes are taken on any points of interest or significance; these range from descriptive notes (e.g. objects, events), to linguistic comments (e.g. repetition, hesitancy, metaphor), to conceptual observations where the researcher begins to interpret and question the data (Smith et al, 2009). Ultimately, the analysis should generate an extended narrative which illustrates how the researcher thinks the participant is thinking (Smith et al, 2009). It is this interpretative narrative, introducing and analysing experiential themes, which Smith (2011) argues is the key difference between IPA and other thematic-based approaches and yields an analytical account which is not descriptive but entirely phenomenological.

Results

In total, nine interviews were completed with individuals (2 female, 7 male) who had used naloxone to reverse an overdose, but only eight of these were included in the final analysis (one participant had shown signs of intoxication as the interview progressed and the data from that interview was not deemed ethical to use). Full details of the sample characteristics are available in Table 1.

INSERT TABLE 1 HERE

The final eight participants were white, from across all age-groups (16-54 years) and included one female. Half of interviewees had been opioid users for over 10 years, and half reported that they were still injecting drugs (all were injecting at the time of their naloxone administration). All bar one were currently engaged in drug treatment, typically methadone-based OST. In addition, all had witnessed at least one overdose in the past, and five had overdosed themselves.

This paper focuses on the two main themes concerning naloxone administration: psychological impacts of peer administration and role perceptions.

Psychological impacts of peer naloxone administration

Experiences pre-naloxone use

The first time that participants had occasion to administer naloxone, prior to its use many participants described a chaotic scene, repeatedly using the word "panic" to emphasise their sense of alarm and anxiety within the context of using naloxone for the first time. The participants linked these emotions to multiple drivers: a lack of preparation for what was encountered; the desire to respond quickly; the perilous state of the victim; and the fear of being blamed whatever the outcome. Others attributed their apprehension to inexperience with overdose, naloxone or of injecting others, contributing to an expectation that they wouldn't have to ever use their kit. These stresses, alone or in combination, often contributed to overdose responses based on instinct rather on following protocol. For example, prior to using his naloxone kit for the first time (below), Dylan's emphasis is very much on speed and time rather than structure and process:

> *"Oh, I, I was panickin', eh, I was in a rush, I didn't walk through, I ran through and ran back, eh. You know, eh, I was, I was panickin', eh. As I said, I've never seen it like that bad before, eh, and you know you hear all these stories you know, eh, when somebody's OD'd [overdosed] and you get blamed and all of that. And all these things that can happen and it goes through your head in about half a second, eh. And it's like really what do we do, eh? Real panic, eh, I mean it was really scary, eh."*

Dylan, 25-34 years old

Difficulties prior to administering naloxone for the first time to his close friend were also noted by Davie. Like Dylan he also refers to a sense of panic within himself prior to using the drug, but within a different context. In Davie's example, below, his lack of confidence related to whether or not he would apply his training correctly. His shaking hands capturing his sense of panic as he steadied himself before administering the drug:

> *"Em, I was quite nervous, aye [yes], my hands started shakin' a wee bit, basically, cos [because] I was just gonna give him the naloxone first and I 'hink that's when all the panic started hittin' me in the heid [head] basically with my hands shakin' a wee bit. Sayin', 'oh, am I gonna put it in the right place here...?'"*
>
> *Davie, 35-44 years old*

Prior expectations about administering naloxone emerged from Jade and Liam's accounts, two of the youngest participants in the study. When she was first supplied with naloxone, Jade did not think she'd have to ever use it as she and her partner had never overdosed before. Liam also had an initial expectation that he would never have cause to use his naloxone kit, based on his lack of direct experience of overdose within his drug using network. This is highlighted in the extract below, with the emphasis on "really" in the final sentence perhaps a sign that Liam's is recalling his successful use of naloxone during his response:

> *"At first I thought, like…I was happy to take it [naloxone] straight away but I thought ken [you know], well in a way I was like, 'what's the point, I'm not going to need it.*

Everybody that I'm with has never like overdosed or anything like that'. So I was like, 'there's not really any point'. But I was happy to take it and I'm glad I did. [Right] I'm really, really, really glad I did."

Liam, 16-24 years old

Experiences post-naloxone use

Many participants contrasted their pre-naloxone administration feelings of alarm and anxiety with a post-administration sense of relief and pride; primarily at seeing the naloxone work and their own role as a lifesaver. Below, the quote from Jack shows how he quickly moved from the fear related to the initial physical response to elation associated with a successful outcome. It appears that his adoption of the role of lifesaver is what made Jack feel so good about his intervention. When prompted to compare it to his previous overdose intervention attempts, Jack pointed to the naloxone itself as a key component in his new found empowerment:

"R Oh, it felt great. Bringing somebody back to life, ken. It felt, it was scary but it felt good that I'd brought him back to life. Ken what I'm saying?

I Right. And did it feel, would, was that experience any difference to the ones in the past that you'd dealt with?

R I think the ones before were scarier because I never had that [naloxone] or anything. Ken what I'm saying? I just had to put them in the recovery position and hope for the best for them, ken what I'm saying?"

Jack, 35-44 years old

Davie also took positives from his naloxone experience, the juxtaposition of his shaking hand slowing down as his friends heart came back up to speed capturing the moment that he knew everything was going to be ok. Notably, Davie referred to the uniqueness of the feelings he experienced:

> *"But as soon as I said, as soon as he started to come around and that and I thought…and my hand started slowing down a wee bit more, I was quite relieved, quite proud to [] I've never felt like that before as I say, as I say that was my first, my first mate I've ever saved, ken, and hopefully my last, touch wood [laughs]."*
>
> *Davie, 35-44 years old*

Others relayed mixed feelings after administering the naloxone. In Walter's example (below), he is glad that it worked, but he also expressed disappointment that it never brought his peer completely round. This is particularly poignant for Walter as he was describing administering naloxone to his brother. He expected to see an immediate effect after administering the naloxone, but upon realising that wasn't the case he felt disappointed. Ultimately, Walter wanted to be a lifesaver, but he felt as if his intervention had not justified that title which he never assumes in the extract below:

> *"I And how did it feel to see it [naloxone] actually working?*
>
> *R I was just kinda glad. It says, like it says you can be a lifesaver. And I was like, I thought it was, just reversed the opiate straight away. But obviously it doesn't, you can still die after it. But I didn't know that. I thought you could*

be alright. But he was still going under so I didn't feel that good cos it never worked that...that well."

Walter, 45-54 years old

Negative peer reactions to naloxone administration

Some participants described negative reactions to their naloxone administration from those they were attempting to help, including both verbal and physical abuse. As well as the onset of acute withdrawal, the reasons for these negative responses from peers were wide ranging and included: resentment of being robbed of their "hit"; umbrage at interruption of a suicide attempt; perception of drug theft; and lack of awareness of fatal overdose risk.

Negative reactions from the overdose victims often sparked parallel resentment from those administering naloxone who felt undermined in their attempts to save someone's life. For example, Andy, who had used naloxone many times, relayed his own resentment about someone he saved, the aggression in his language emphasising how aggrieved he was at this reaction:

"…The guy didn't say thanks, you know. And, eh, there was no thanks. He was like, 'great, now my stone's away, I'm bloody rattling', and all this. I was like…you know, kinda pissed me off a bit. I'll be honest, I did say, 'I should have fucking left you alone!', you know? But I didn't mean it when I said it. I meant it but I didn't actually really mean it, you know what I mean?"

Andy, 45-54 years old

Other participants described relationship breakdowns after administering naloxone to friends. For example, Liam was upset that his best friend, with whom he shared a home, had used heroin immediately after he revived him with naloxone. Indeed Liam threatened to move out of the house they shared if he did so, a threat he ultimately carried out. Liam's anger appears to be principally drawn from his ultimatum, which his friend, his housemate, ignored:

> *"I was not happy. I'd been, I told him, well in all honesty I told him if he was to go and buy another bag [of heroin] I'd move out. And he went away and bought another bag. And I ended up moving out. And now I'm in a bed and breakfast. I really, really was not happy with him doing it [using more heroin]."*
>
> *Liam, 16-24 years old*

Simon had used naloxone on a "drug friend" who now no longer spoke to him because of his intervention. Unlike Liam, he relayed no emotional attachment to the individual he saved, yet like the other participants he still felt compelled to intervene indicating his willingness to help despite the context of the overdose situation. Notably, Simon showed no resentment or sense of feeling undermined by the victim's reaction, contrasting the reactions of others:

> *"I Has your relationship with him changed since you've given the naloxone?*
>
> *R Aye, he doesn't speak to me now.*
>
> *I Right, does it bother you or…?*
>
> *R Well at the end of the day he was just a drug friend eh."*

Simon, 16-24 years

Positive peer reactions to naloxone administration

In contrast to negative reactions, there were also participants who described how their naloxone experiences had strengthened relationships between peers. For example, Davie recalled how his bond with his close friend he had saved was now stronger than before. The gratitude shown here is markedly different to some of the negative feedback experienced by others and possibly a reflection of the strength of the relationship which existed between Davie and his friend:

> *"...I mean he ended up comin' back and apologised, he's sayin' 'look I'm sorry I, the way I reacted as obviously I knew, realised that if you hadn't done that I wouldn't have been here basically to thank you'. And I was like 'well obviously I would like to think you would have done the same for me', kinda thing. He was like 'aye' he, he kinda stood by it and agreed with me on certain things basically, I 'hink he was quite happy basically as I say he's now back with his Mrs and that and his children."*
>
> *Davie, 35-44 years old*

Behaviour change since using naloxone

Behaviour changes associated with naloxone experiences were evident for some participants. These included changes in day-to-day drug taking behaviour, responses to overdose, and examples of psychological changes that were attributed to experiences with THN.

For example, since using naloxone Liam described changes in both his social norms of drug consumption and the role of peers within such norms. The experience of saving his friend appeared to have also led to him to a point of contemplation where he reflected on his own vulnerability; using comparison with Gary (the friend he saved with naloxone) to emphasise his inexperience and level of risk. He reinforced commitment to this new position by his repetition of "I willnae" [I will not]; an indication perhaps of his commitment to his new normal:

> *"It's [naloxone] made me, it's made me think more about how much I'm actually taking in the one go. Cos like normally, sometimes I like, I just put like two or three [heroin bags], ken like in the pot at the one go. See now, like I willnae [will not] put any more than one. Cos it's made me think, ken, like if Gary's been, if Gary's been pinning [injecting] for the last thirteen years and he can go over on pinning, putting two bags in the pot. If I've been putting two, three, ken, in the pot in the one go and I've only been injecting since the start of the year. How quickly can I go over? [clicks fingers]. So that's why I willnae put any more than one in the pot. And I willnae, that's just never gonna happen. I willnae put any more than one in the pot, no matter what. I couldn't care if I was with five people and they were like, 'what we'll do is we'll put the five in the pot'"*
>
> *Liam, 16-24 years old*

Walter described how naloxone had become a much bigger priority for him since using it on his brother as it had given him a sense of security. It is also interesting that he, like others,

referred to giving the whole naloxone dose. He does so to emphasise the fact that he does not want to leave anything to chance, regardless of the physical impact on the victim:

> *"Yeah I think it's [naloxone] pretty useful to have around. In fact I don't like being, not having it around. But, I didn't know you were only supposed to give the little bit. But I'll continue to give the whole lot [laughs], do you know what I mean? Cos I want them around completely. I'm not wanting to put half in and then the guy, poor guy stops breathing again. And it's like put another wee bit in. No, by the time you've finished giving him the whole lot, five injections, the poor guy's deid [dead]. Ken what I mean? So I still inject the whole lot into him."*
>
> *Walter, 45-54 years old*

Symbolically, in the extract below Liam described naloxone in ownership terms. It had changed from previously being something that he had, like a useful extra, to now being something he needs:

> *"Ken like it would, it would come in handy and it's something that I'd need. And now that I've had to use it, ken, I ken that's something that I want to, ken, carry it about with me. Whether it's for a smoker or whether it's for somebody that injects it, I'm gonna have it constantly."*
>
> *Liam, 16-24 years old*

Role perceptions: legitimacy, adequacy and responsibility

Role legitimacy

A key issue that emerged from the participant accounts in this study was a tension between perceptions of personal legitimacy and peer legitimacy in being an overdose responder using THN. So, while all the participants saw themselves as legitimate overdose responders, sometimes their peers agreed with this and sometimes they did not. For example, Liam's peers did not see the role of naloxone rescuer as relevant to him due to the fact that he was an inexperienced/infrequent injector and that his own risk of overdose was low. Therefore, it seems that, as a younger member of his peer group Liam lacked credibility, emphasised in his perception of being viewed as "daft".

> *"They thought I was, ken at first they thought I was daft. They were like, cos they were like, 'you've only just started injecting, ken, at the start o' the year. You've done, ken you've pinned like a couple o' bags at one go, you've never went over'. He's like, 'so, ken, I dinnae [don't] see the point in doing that [naloxone] cos you're never gonna go over'."*
>
> *Liam, 16-24 years old*

In contrast, Dylan hinted at the legitimacy of his role when describing how he now feels he is a credible source of help for his peers. In describing how his peers are "no longer scared to ask you for help" there is suggestion of either a culture where peers are scared to ask other peers for help, or that credible help at an overdose event is now available from peers [via THN] where it perhaps wasn't before:

> "...eh, I suppose it's good, eh, you know that folk [people] can, are not scared to ask you for help or that, or at least know there's help there."

Dylan, 25-34 years old

Role adequacy

Assessment of one's own role adequacy in relation to THN varied between participants; from those supremely confident in their abilities, to those less assured at the outset but who gained confidence after using it for the first time.

In Walter's case, role adequacy is derived from him being an experienced injector and his perception that THN is just another drug to be injected. While Andy's account (below) suggests that his positive experiences with naloxone have psychologically moved him from being incapable to capable of successful overdose response. Indeed, Andy described naloxone administration in the context of writing his name to emphasise its simplicity and how it had become easier over time:

> *"I took it as, eh, I didn't need to worry about it. Like, 'am I gonna fuck this up o' the time?' Once I'd done it once it was like writing your name, you know. It was something you know you're capable of and you're no gonna be worried about it."*
>
> *Andy, 45-54 years old*

A number of participants specifically described themselves as "lifesavers" following successful use of naloxone and spoke of how empowering an experience this was for them. This identity was often derived from praise for their naloxone intervention from both peers and, in particular, professionals. In the example, below, the ambulance personnel attending the overdose being described tell Andy on more than one occasion that he saved the

recipient's life which invoked pride in him and perhaps indicated that such praise means more to Andy coming from a professional than it does from anyone else:

> *"When they came they were like, 'you've saved that guy's life like'...If it wasn't for you, you really did, saved his life, well done'. Ken that, I got the big heid after that, you know? You know what I mean? There's him telling me I could do his job, you know that type thing."*
>
> *Andy, 45-54 years old*

The impact of professional feedback on perceived role adequacy is further alluded to in Liam's account. Indeed the appropriateness of Liam's actions are reinforced firstly by the ambulance personnel attending and confirming he had "done perfect" and "everything right" and then subsequently by the nurses at his drug treatment service (e.g. "done the right thing"). This accumulation of praise appeared to have effectively endorsed his role adequacy and proved to Liam that he was also now capable [like Andy] to intervene at future overdose events:

> *"R Aye they [paramedics] said I had done perfect. I done everything right. And they said, ken, if I'd have put him in the recovery position, that's the only thing that could, ken like I could have done any better was the recovery position. But I just lay him flat on his back and just put his heid right back so, ken, he could actually breathe and move his tongue and that was it.*
>
> *I Right. And how did you feel when the ambulance gave you that feedback?*

R *Quite chuffed, aye I was quite chuffed that, ken, I'd done something right. And ken like it's, I've actually done something that's helped somebody that's saved his life. I felt, ken, really good about myself cause sometimes lately I've been feeling pretty shit. And then with doing that and them giving me the feedback, ken saying that I've done the right thing. And then the lassies [ladies] in here are telling me, ken you've done the right thing and that, it's, it's made me feel quite good. And now I'm, ken I'm confident enough to see, like if I was to see anybody overdosing, I'm quite confident enough to go and help them like that [clicks fingers]. Without a shadow of a doubt I'd be able to do everything."*

Liam, 16-24 years old

Role responsibility

Some of the participants described in detail how they now felt obligated to intervene in future overdoses; access to naloxone for them had effectively increased their sense of responsibility toward their peers. Effective use of naloxone had invoked a realisation that they have the ability to save others where they previously might not have been able to.

For example, Dylan used the term "standard procedure" to highlight how he felt naloxone was normalised within his own routine and how it should be prioritised by everyone else. In his view everyone should take responsibility for overdose prevention through naloxone:

"Well I'm not going to plan takin' any more drugs but a keep one [naloxone kit] in my house, eh, it's standard procedure. Yeah it will always be there now, eh, just for the

simple fact the, the area that a live in it's quite bad for drugs, eh. You know a dinnae ken why it's not a standard procedure in everybody's kit nowadays, eh, a just don't see any reason why it shouldn't be, eh."

Dylan, 25-34 years old

Discussion

This study provides a detailed portrait of the lived experience of THN use among PWID based on in-depth accounts from eight individuals in Scotland with direct experience of THN administration. This was achieved by applying IPA to the study of THN for the first time and can therefore be viewed as complementary to the existing evidence on THN.

When administering naloxone for the first time, many of the participants in this study described a scene of panic where actions were based on instinct rather than any formal application of their training. Rome et al (2008) also found panic to be the most frequent emotional response described by witnesses at an overdose event. A range of individual-level factors were attributed to fuelling the personal stress experienced by those prior to naloxone administration and included lack of experience with both naloxone and overdose intervention, lack of preparation and the need to respond rapidly, and lack of confidence in themselves (i.e. self-efficacy) and in naloxone (i.e. drug efficacy). Worthington and colleagues (2006) reported similar issues related to overdose response where, for some of their participants, naloxone availability had actually increased their related stress at overdose incidents, not alleviated it, particularly when the participants were intoxicated themselves. It is difficult to actualise the sense of panic individuals experience at an

overdose event, but it is possible during training to provide them with coping strategies should such a situation occur.

In this study, one of the reported consequences of the panic experienced in the lead up to using naloxone for the first time was a tendency to administer the whole dose at once and not smaller titrated amounts as recommended within UK national prescribing guidelines (British National Formulary, 2017). Lower doses of naloxone are advised because they are less likely to trigger acute opiate withdrawal which can be physically unpleasant for the patient and potentially distressing for those administering the drug. Many participants referred either directly or indirectly to administering the whole naloxone dose at once which sparked a range of negative reactions from the recipient including acute withdrawal and aggressiveness. The potential for naloxone administration precipitating acute withdrawal has been noted in other studies (Neale and Strang, 2015; Worthington et al, 2006; Wright et al, 2006) and has been cited as a possible barrier to PWID using naloxone for peer administration (Sondhi et al, 2016; Sporer and Kral, 2007; Worthington et al, 2006; Wright et al, 2006). Although few participants in this study reported personal experiences of acute opiate withdrawal, their experiences of witnessing it in others to whom they had given naloxone were often distressing. However, such trauma was not a sufficient barrier to them using naloxone at future overdoses they might encounter, which the majority of them directly confirmed they would do if required.

Not all reports of THN use in the literature refer to administration of the whole dose, however. In Norway, the majority of participants evaluated in their naloxone programme reported administering a titrated dosage (Madah-Amiri et al, 2017). Lankenau and colleagues (2013) also found evidence of individuals in Los Angeles (USA) “calibrating” the

amount of naloxone to administer to avoid inducing withdrawal symptoms. Importantly, though, it was the individuals who had more experience of administering naloxone that reported calibrating their dose whilst in this study most participants were describing their experiences of using naloxone for the first time. This suggests that naloxone administration technique, for some, can improve with experience. The only comparable evidence which has emerged from the UK, to date, is a case report of an individual in recovery who administered titrated doses of naloxone to a fellow hostel resident who he knew to be overdosing (Winston et al, 2015). Naloxone trainers should be mindful of this evidence and heighten focus on dose titration and its potentially negative effects to give peers the best chance to administer naloxone as efficiently as possible. This message should be continually reinforced post-training within treatment services or needle/syringe exchange services in the same way that other harm reduction advice is provided routinely.

Many participants in this study described how their emotions changed during their naloxone administration experience; from initial feelings of alarm and anxiety at encountering the overdose event itself, to eventual feelings of relief and pride. Sherman et al (2008) discovered that any apprehensions in using naloxone for the first time were overcome on seeing the rapid, positive effect of the drug on the overdose victim that provided those administering the drug with a sense of comfort. Studies by Wagner and colleagues (2014) and Banjo et al (2014) also found that participants reported a sense of heroism and pride in their ability to save lives through naloxone. Positive experiences like these are important tools for those advocating for naloxone and should be at the heart of communications aimed at promoting greater adoption.

Although there were accounts of victims recovering quickly, not everyone in our study reported feelings of such rapid relief owing to the fact that their victims did not visibly respond rapidly to the naloxone. Only after a period of time had elapsed were they able to recognise the benefits of their actions. Participants in the study by Wagner et al (2014) reported experiencing similar outcome-related stress after naloxone administration due to the unpredictability of overdose and uncertainty whether their intervention was going to work. Again, training could be used as a mechanism to highlight the range of reactions individuals might experience and ways to deal with such situations should they arise.

The broad range of negative reactions by recipients toward naloxone administration were not unexpected given what has been reported elsewhere (Wright et al, 2006; Worthington et al, 2006; Wagner et al 2014; Neale and Strang 2015; Heavey et al, 2018). However, the parallel resentment relayed by the peers administering the naloxone detailed in this study was unexpected and an area which has received little attention in the literature to date. We identified only one prior study of individuals who have used naloxone reporting feelings of anger and disappointment toward the recipients following administration (Wagner et al, 2014). Future studies should consider the possibility of this and any other unintended consequences associated with participating in naloxone initiatives and the implications for training / support services e.g. debriefing and re-supply post-administration.

These collective negative experiences also illustrate the impact that naloxone can have on relationships. For close [“real”] friends, trust can be at stake, while for others [“drug friends”] more immediate issues may be at stake such as unintentionally foiling a suicide attempt. One might conclude that an unintended consequence such as relationship damage might present a threat to individuals maintaining this commitment and adopting naloxone

in the long-term. Yet, despite this and other negative experiences, none of the participants in this study indicated a lack of willingness to do so. Indeed, some of them actually relayed increased determination and commitment to use naloxone to save their peers, evidence that the experience of saving someone's life in this way is an empowering one. A shift in drug policy, from the current punitive approach adopted in the UK to one more rooted in harm reduction, could potentially influence the dynamic of drug use relationships moving forward which are often "fleeting...founded in expedience" (McLean, 2016: pg. 23).

Positive peer reactions were less common and largely influenced by how the overdose victim reacted to the intervention, either in the short or longer term. In situations where peers were able to recognise the magnitude of what their friend had done for them (i.e. saved their life), relationships became much stronger over time.

Observational studies have associated participation in THN programmes with different aspects of unanticipated behaviour change including reduced drug taking (McDonald and Strang, 2016). In contrast, Heavey et al (2018) reported on a sub-sample using more heroin to achieve a greater high in the knowledge they had naloxone available as a safety net. We found no such increases in day-to-day drug taking behaviour, the few examples that were relayed to us described reduced or less risky drug use (e.g. injecting less, smoking more). In addition, participants in our study highlighted psychological shifts that they attributed to their experiences with THN including a willingness to use it on anyone regardless of previous relationships or current injecting status. This latter point is particularly important in terms of the normalisation of naloxone in communities populated by a broad spectrum of PWID, from those actively injecting to those in recovery, and who may or may not interact with each other.

Others reflected upon how much of a priority naloxone had become for them since using it at an overdose event, a theme which also emerged in the study by Heavey and colleagues (2018). In essence, it appears that each participant shifted psychologically from a pre-naloxone position where overdose was not readily discussed or acknowledged, to a post-naloxone recognition of their own and their peers' vulnerability in relation to overdose. At the time this study was undertaken, THN was a relatively new concept within communities with the participants in this study forming part of a larger cohort of 'early adopters' (Rogers, 2003). Future studies should explore to extent to which naloxone and overdose awareness changes as the intervention reaches a critical mass which the latest epidemiology suggests it has now done in Scotland (Bird et al, 2017).

According to Shaw et al (1978), Role Adequacy relates to the degree to which practitioners view themselves as having the required knowledge and skills to be able to do their job effectively (i.e. 'can I do this?'). Feedback from those involved in other THN programmes has also reported that naloxone was "easy" to administer or that PWID felt "comfortable" when using it (Lankenau et al, 2013; Banjo et al, 2014) often without the need for additional medical support (Koester et al, 2017). In this study, role adequacy varied between individuals and insecurities were evident owing to lack of experience, preparation, and confidence in themselves and in naloxone itself. However, findings from this study suggest that competency in using naloxone can be bolstered via experience and validation from others. Perhaps the most telling sign of participants' recognition of their own capabilities in relation to THN is their reference to themselves as lifesavers which epitomised the level of adequacy participants believed they had reached and mirrors the heroic terminology used by naloxone users in Los Angeles, California (Wagner et al, 2014).

Further reference to themselves as “lifesavers”, often after validation of their actions from health professionals, is an identity adopted by peers who have administered naloxone across different countries (Banjo et al, 2014; Shorter & Bingham, 2016; Dwyer et al, 2016; Heavey et al, 2018). Indeed, service providers in the study by Dwyer et al (2016) discussed the supply of THN as an acknowledgment by professionals that PWID can provide “expert” intervention which, in turn, can enhance confidence and self-esteem. Showcasing these examples of lifesaving and the sophistication involved in successfully administering naloxone at an overdose event (Faulkner-Gurstein, 2017) can contribute to fighting the stigma attached to drug use and people who use drugs (Lloyd, 2013) and public perception of harm reduction strategies more broadly.

Role Legitimacy is used by Shaw et al (1978) to describe the extent to which practitioners view particular features of their work as being their responsibility (‘should I do this?’). A key issue that emerged in this study was a tension between personal and peer legitimacy related to personal factors concerning the responders (e.g. inexperience) and personal factors attached to the potential overdose victim (e.g. suicidal ideation). The impact of credibility of naloxone responders amongst their group has received little attention in the literature to date and merits further investigation.

Shaw and colleagues (1978) use Role Support to categorise the assistance which practitioners recognise receiving from others to help them to perform their role successfully (‘how can I do this?’). Participants mainly described administering their naloxone in isolation i.e. there were no other peers or significant others nearby who could offer immediate support to them. This largely reflects the social and environmental landscape within in the UK and many other countries where drug use is criminalised and therefore hidden. Support

was available, though, from the attending members of the emergency services and/or their key-workers. Indeed, as well as bolstering role adequacy, validation of their actions by others in the post-naloxone period was a key factor cited by many participants in boosting their personal sense of relief and pride in their actions. Other studies have reported this same phenomenon whereby validation of actions undertaken by PWID using naloxone has been received from service staff (e.g. Banjo et al, 2014; Clark et al, 2014; Deonarine et al, 2016) and peers (Wagner et al, 2014). These approvals were a source of honour for the individuals involved, reinforcing and strengthening their role as helpers in their communities. Policies such as the 'Good Samaritan Law' in the USA have been created to encourage PWID to call the emergency services without fear of prosecution, yet many still have underlying fear and mistrust of emergency service personnel owing to negative experiences which prevents them from doing so (Koester et al, 2017). Examples of positive interactions like those we found should be shared with emergency service personnel and/or key-workers at all levels, particularly within training curriculums to promote positive attitudes toward THN and peers who use it.

As well as the categories offered by Shaw et al (1978), we considered another [Role Responsibility] which explores the extent to which participants felt compelled to intervene in overdose events now that they had access to naloxone (i.e. 'I have to do this'). Prior to its availability as an overdose prevention tool, drug users typically relayed a potential willingness to use naloxone to save the life of their peers if required (Lagu et al, 2006; Strang et al, 1999). In this study, the actions of participants at the overdoses they encountered suggest that, for them, this willingness is genuine and likely to continue in future. Little is

known, however, about situations where naloxone is not used but available. Future research should explore such events and the factors associated with inaction.

This study has some limitations which we acknowledge. First, owing to the approach to participant recruitment [i.e. using gatekeepers] there is a danger of recruitment bias. However, given that participants described such diverse experiences in terms of use of THN, we are confident that we have captured a range of experiences. The potential of recall bias also exists in this study, as individuals were asked to recall stories retrospectively. However, given the relative infancy of THN an intervention when this study took place (it had only been implemented within the previous year), the significance of the event (the majority were describing their first and only naloxone administration experience to date), and the time and scope afforded by IPA to allow in-depth exploration of the phenomenon in question, it is likely that recall bias did not adversely affect the accounts relayed by participants. The limited female representation in our study sample is also a limitation and one which we hope to rectify in future work.

Additionally, the risk of misrepresentation of participant experiences and sense making must be acknowledged. This risk is arguably more acute in IPA studies due to the absence of member-checks [where participants are offered the opportunity to review and comment on the interview data and analysis to determine its validity] and the potential of over-interpretation which may be disempowering for participants. Quotations are used extensively throughout to mitigate this risk and illustrate the double hermeneutic concept which underpins IPA.

Implications for policy and practice

Primarily, the findings of this study have important implications for overdose prevention policy and practice in Scotland and the UK by providing the first detailed insights of how PWID experience this key public health policy. Such in-depth exploration is important to inform policy makers' future decision making about the adoption of THN programmes in nations where none yet exist as well as in nations where national programmes do exist, but may require future modification in order to achieve the best results in terms of overdose prevention. It is important to acknowledge, though, that THN internationally operates in different ways across different settings whether in relation to cost or legality and each "present specific affordances and impediments" (Farrugia et al, 2017: pg. 169).

In Scotland, there is considerable evidence that the national naloxone programme is increasing in reach and saving lives (Bird et al, 2016; Bird et al, 2017; McAuley et al, 2016). Evidence from this study highlights the complexities behind these 'saves' for the individuals involved and these real life accounts can be used to inform developments in national training protocols. In particular, consideration must be given as to whether a brief 5-10 minute training session is sufficient to prepare the individuals for the significant events peers face before, during and after naloxone administration.

In response to a recommendation by participants in this study, stories of successful saves described in this research could also be used to inform policymakers and practitioners when developing materials to communicate THN to a wider audience. This includes those at risk of opioid overdose, their family/friends, health professionals and the general public. Such communications are vital in normalising naloxone in communities and reducing stigma, while at the same time positioning PWID as responsible and important community public health resources (Faulkner-Gurstein, 2017).

Conclusion

Despite increasing adoption internationally, little is known about individuals' day-to-day experiences with THN; how it is managed, communicated, and used. As one of the first experiential studies of individuals who have used THN, this study highlights the complexity of peer overdose responses using naloxone, both practically and emotionally.

Before administering naloxone, individuals are faced with an initial difficulty of knowing when to intervene and the unknown intentions of the victim, in addition to the added responsibility of knowing that their intervention may make the difference between someone surviving or not. This research has illuminated an added complexity of victim reaction, which isn't always warm and can have detrimental and lasting impacts on relationships. The pre-existing nature of these relationships is undoubtedly influential, but the pattern is not linear and close connections can be broken or bolstered in the aftermath of peer naloxone administration.

Although protocols exist, a multitude of personal (e.g. overdose experience, naloxone confidence), social (relationships, network credibility, stigma) and environmental (drug policy) factors shape individual responses in the short and longer terms. It is important to acknowledge such diversity within THN training programmes and to develop ways to help those administering naloxone to prepare for the different outcomes that can occur. Additional experiential studies of this nature in different territories and across different opioid user groups (including prescription and illicit) are essential to our understanding of this life-saving intervention moving forward.

THN is not a panacea for opioid overdose. It is a last resort for those on the brink. The opioid overdose epidemics of recent times require wider individual, social and environmental change if they are to be reversed.

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