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Experiences with skin and soft tissue infections among people who inject drugs in Philadelphia: A qualitative study

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ABSTRACT

Objectives: To understand how people who inject drugs (PWID) experience skin and soft tissue infections (SSTI) and make decisions to seek or delay medical treatment.
Methods: We conducted semi-structured, in-depth interviews in 2015 with 19 PWID at a syringe exchange program in Philadelphia. We analyzed the data using standard qualitative techniques.
Results: PWID described adequate knowledge about SSTI, although they could not always implement knowledge about SSTI prevention due to environmental constraints. Participants reported different experiences with incident SSTI. Some sought immediate medical care at initial presentation. Most, however, waited to seek care. Previous positive and negative healthcare experiences, both in general -including stigma and withdrawal- and specific to SSTI, influenced this decision. Among those who delayed medical care, some reported self-treatment, including increased drug use for pain control, and lancing and draining their own wounds.
Conclusion: Reducing the incidence of SSTI and promoting earlier treatment are important public health priorities. Both require ongoing attention and improvements to the environments in which PWID inject and receive care.

1. Introduction

Among the harms associated with injection drug use, few are more common, harmful, and costly than skin and soft tissue infections (SSTI). Research has documented SSTI prevalence in over one-third of active PWID (Binswanger et al., 2000; Hope et al., 2010; Smith et al., 2014). These infections are the primary cause of healthcare utilization and healthcare costs among PWID (Binswanger et al., 2008; Ebright and Pieper, 2002; Kerr et al., 2005). In observational studies, between 20% and 50% of PWID report a recent SSTI-related Emergency Department (ED) visit (Hope et al., 2008; Hope et al., 2015; Palepu et al., 2001). Though the majority of SSTIs can be successfully treated in an outpatient setting when identified early, more complicated cases involving cellulitis, necrosis, and major cutaneous abscesses can lead to limb amputation or even death when treatment is delayed (Barie and Wilson, 2015; Montravers et al., 2016; Robinowitz et al., 2014; Stevens et al., 2014). These complicated infections often require parenteral antibiotics, surgery, and prolonged hospital stays (Moran et al., 2006; Pollack et al., 2015). Inpatient costs for SSTIs average between $11,000–$18,000 per stay in the U.S (Ektare et al., 2015; Suaya et al., 2014).

Addressing SSTI among PWID requires both primary and secondary prevention. Many risk factors can be reduced or even eliminated, including injecting with unsterile equipment, not using alcohol to prepare the injection site, and injecting directly into subcutaneous tissue or muscle (“skin popping”) (Brown and Ebright, 2002; Murphy et al., 2001). But some SSTI risk is inherent in injection drug use. Foreign substances can injure tissue, limiting the flow of blood and lymphatic fluid necessary for an effective immune response (Brown and Ebright, 2002; Murphy et al., 2001). For incident cases, early treatment is essential for minimizing associated harms and costs. High rates of complex infections among PWID suggest that medical care is often delayed, which is not surprising. PWID face the same barriers to medical treatment as other marginalized persons, such as difficulty accessing and

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Table 1
Semi-structured interview guide.

I. Factors influencing PWID to inject in unsanitary conditions.
1. Where do you usually go when you want to inject?
2. Describe the place.
3. Tell me about some of the reasons you go to that place.
4. Do you pick that place over other spots?
5. Do you feel you have a choice where you inject at?
6. Have you ever been to the tracks?
7. Have you heard of safe injection facilities?
   (If the participant has not heard of safe injection facilities, describe them)
8. How often would you go to a safe injection facility?
9. What would prevent you from going to a safe injection facility?

II. Factors influencing PWID to inject with unclean equipment, or in a risky manner.
1. People have talked a lot about missing the shot because they are rushing. Tell me about a time when you were rushing to inject.
2. Do you think about getting an infection when you inject?
3. If you had the chance to teach someone how to inject so they don't get an abscess, what would you tell them?

III. Self-management of the abscess
1. Tell me about the last time you had an abscess.
2. How did the abscess affect your daily routine?
3. What did you do to take care of it?
4. Without mentioning any names, were there people that helped you deal with the abscess before you went to get medical treatment?

IV. Discrimination as a barrier to Medical care.
1. Tell me about the last time you were in the hospital.
2. What did you take away from that experience?
3. If you had the chance to speak with new nurses and doctors working at the hospital, what would you tell them about how to best take care of you, or people who use drugs in general?

paying for healthcare (Wolfe et al., 2015). Injection drug use is also heavily stigmatized, especially among people experiencing housing instability (Ahern et al., 2007; McNeil et al., 2014), and stigma is a well-established structural barrier to healthcare utilization (Lally et al., 2008; Simmonds and Coomber, 2009). Notwithstanding the harms and costs associated with SSTI among PWID, little research has explored how PWID experience SSTI, including their decision to delay or seek medical care. This study aims to expand understanding of how PWID experience SSTI and make decisions to seek or delay medical treatment in Philadelphia.

2. Methods

Nineteen PWID participated in semi-structured interviews. Participants were approached during operating hours at Prevention Point Philadelphia (PPP), a syringe exchange program (SEP) that provides clinical and social services, or were referred to the study by PPP staff. The interviews explored the lived experiences of participants with SSTI including knowledge and perceptions about the causes and prevention of SSTI, and experiences with medical and self-care (Table 1). The interviews were conducted by a trained nurse practitioner, with experience treating SSTI and working with PWID on safe injection practices (REH, first author). Age, gender, ethnicity, and number of years injecting drugs were collected. Participants were compensated $20 at the end of the interview, which ranged in length from 30 to 50 minutes. The interviews were audio-recorded and transcribed verbatim. Verbal consent was obtained from all participants. Institutional review boards at PPP and the University of Pennsylvania approved the study.

2.1. Data analysis

The study team developed a code-book based on the literature and through a stringent review of a subsample of interview transcripts. For each code, the study team provided an explicit definition and coding guidance instructions to ensure coding accuracy. Two members of the study team (JR, EDA) then redundantly coded each transcript. The full study team met to resolve coding inconsistencies and refine the coding schema. The final codes were organized into thematic categories, which were explored in the context of individual transcripts and stratified by groups (e.g., those reporting home versus public injection).

3. Results

Of the 19 study participants, just over half identified as female (n = 10). Median age at the time of interview was 39 years (range: 27–59 years). Median time injecting drugs was 14 years (range: 2.5–20 years). Access to housing was not collected with other demographic details, though emerged as an important characteristic in semi-structured discussion, with about half of the participants reporting stable housing. Four themes emerged in the analysis of the transcripts: SSTI knowledge, barriers to implement that knowledge, delaying medical care for SSTI, and resulting SSTI self-care. Below, we share summative statements about each theme supported by select participant quotations.

3.1. Knowledge about SSTI

Our participants exhibited basic knowledge about injection-related SSTI. Participants identified specific injection practices as risk factors for SSTI. These practices included injecting in unsanitary settings like abandoned houses, using "dirty works" (unsterile injection equipment), injecting cocaine by itself or with heroin ("speedballs"), and not injecting directly into a vein. Participants reported that they injected outside of a vein both intentionally and unintentionally. Intentional "skin popping" was sometimes preferred as an easier and faster administration method, despite the acknowledged risk of SSTI. Inadvertently "missing" the vein, according to some participants, would occur when injecting was too hurried. Participants described a safeguard against "missing": observing blood flow into the barrel of the syringe, a sign they are inside a vein. One participant noted:

> "*Am I more likely to get one (abscess) if, if I rush? Oh yeah, yeah. Because when I'm rushing I'm not caring that I'm all the way in… if I was taking my time, I would make sure I knew I was fully in that vein, no ifs, and or buts.*" (Participant 1)

Failing to properly prepare injection materials or clean the injection site was also identified as a risk factor for SSTI. One participant suggested while talking about the causes of SSTI:

> "*Well, if a person gets a needle and they take the top off and they mix the stuff up, what they usually do is when they take the plunger out they lay the set down and it leaves, and dirt's there. They don't take no time not to take no alcohol pads, alcohol pads and clean the needle before they stick it in… because they in a big rush.*" (Participant 19)

The primary advice from our participants about avoiding SSTI was to avoid rushing. As one participant noted, the key is:

> "*Not to rush. Make sure you got clean it. Don't run the shot unless you have the blood, what you call, unless it registers [blood visible in the syringe]. Don't run the drug unless it registers. Because if you run it and is doesn't it didn't register properly, that's when you get a missed shot, that's when you get the abscess.*" (Participant 2)

Participants reported that knowledge about the causes of SSTI came from three sources. The first was PPP, which participants consistently identified as providing valuable information about SSTI prevention. This education, according to participants, was delivered effectively, especially because it was offered along with supportive resources (e.g., sterile injection equipment, sharps containers, gauze, and other medical supplies to care for SSTI). Some participants described acquiring knowledge about SSTI through treatment experiences in other clinical settings. One participant noted that: