

ORIGINAL

Attitudes associated with risky injection practices in people who inject drugs in Palma de Mallorca

Actitudes asociadas a las prácticas de inyección de riesgo en personas que se inyectan drogas en Palma de Mallorca

JUAN M. ÁLVAREZ RODRÍGUEZ*,**, DAVID LOIS GARCÍA**, MERCEDES LÓPEZ SÁEZ**.

* Médicos del Mundo Illes Balears.

** Universidad Nacional de Educación a Distancia (UNED).

Abstract

The goal of this study was to explore the attitudes of people who inject drugs (PWID) and carry out risky practices, identifying underlying factors in their speech that sustain those attitudes. We proposed a qualitative research design with PWID focus groups (n = 34) and interviews with experts (n = 3). The interviews were recorded, transcribed, and analyzed following the principles of grounded theory and thematic analysis methodology. A total of 17 risk categories were identified and grouped into six dimensions: Drug Consumption, Knowledge, Trust In Other People, Access To Unused Syringes, Personal Situation, and Random. These dimensions would modulate the magnitude of the attitudes towards the different risky injection practices or act as barriers that limit the intention of PWID to inject themselves in a safe way. The analysis of the narratives suggests that many PWID have developed slightly negative, neutral, or even positive attitudes towards some risky injection practices, mainly towards carrying them out in certain situations and even when knowing of their negative consequences. Characterizing the attitudes associated with risky injection practices not only contributes to understanding them more thoroughly but will also allow preventive programs to be better suited to the specific needs of PWID.

Keywords: people who inject drugs, attitudes, risky practices, qualitative research, HIV

Resumen

El objetivo de este estudio fue explorar las actitudes de las personas que se inyectan drogas (PID) y realizan prácticas de inyección de riesgo, identificando los factores subyacentes a su discurso que sustentan esas actitudes. Se planteó una investigación cualitativa con un diseño de grupos de discusión con PID (n = 34) y entrevistas a expertos(as) (n = 3). Los grupos y entrevistas fueron grabados, transcritos y analizados bajo el enfoque de la teoría fundamentada y el método del análisis temático. Se identificaron 17 categorías de riesgo, agrupadas en seis dimensiones: Consumo de drogas, Conocimiento, Confianza en otras personas, Acceso a jeringuillas nuevas, Situación personal y Azar. Estas dimensiones modularían la magnitud de las actitudes hacia las distintas prácticas de inyección de riesgo o actuarían como barreras que socavan la intención de las PID de inyectarse de manera segura. El discurso analizado sugiere que muchas PID han desarrollado actitudes poco negativas, neutras o incluso positivas hacia algunas prácticas de inyección de riesgo, principalmente hacia su realización en situaciones determinadas y aun conociendo las consecuencias negativas que estas entrañan. Proponer una descripción diferenciada de las actitudes asociadas a las prácticas de inyección de riesgo no sólo contribuye a profundizar en su explicación, sino que permitirá una mayor adecuación de los programas preventivos a las necesidades específicas de las PID.

Palabras clave: personas que se inyectan droga, actitudes, prácticas de riesgo, investigación cualitativa, VIH

■ Received: September 2021; Accepted: April 2022.

■ ISSN: 0214-4840 / E-ISSN: 2604-6334

■ Send correspondence to:

Juan M. Álvarez Rodríguez. Médicos del Mundo, C/ Ricard Ankerman, n.º 1, bajo, 07006, Palma de Mallorca. Tel.: 971 204 359.
E-mail: illesbalears@medicosdelmundo.org

The Balearic Islands are one of the regions in Spain in which the use of injected drugs is most prevalent; this is especially true of Mallorca, where this investigation was carried out. In 2020, 25.87% of heroin users and 58.33% of heroin and cocaine users starting treatment in this autonomous community stated injection to be their main route of administration (Pla d'Addiccions i Drogodependències de les Illes Balears [PADIB], 2020). Despite the preventive programs in place, the prevalence of serious infections such as HIV or hepatitis C (HCV) remains high in this population (Observatorio Español de las Drogas y las Adicciones [OEDA], 2021). The data indicates that a large percentage of injectors continues to engage in risky practices; both direct —injecting by sharing or using syringes previously used by other people— and indirect —sharing or using paraphernalia for preparing, distributing and/or cleaning previously used by other people, such as water, filters, containers and/or syringes—. While it is true that there are several behavioural interventions that have been proven effective in reducing this type of practices, further studies are needed to determine which key aspects make them more effective and to enable their adaptation to specific subgroups of the injector population (Elkbuli, Polcz, Dowd, McKenney & Prado, 2019). Understanding how people who inject drugs (PWID) perceive the risk practices associated with the injection route is essential to understanding why these continue to occur and to improving the effectiveness of the preventive programs to be developed.

Attitudes and risky injection practices

While attitudes form a critical part of some of the most widely used psychosocial theories in the field of injection behaviours (Wagner, Unger, Bluthenthal, Andreeva & Pentz, 2010), and various authors have pointed out the importance of involving them in the design of prevention programs for PWID (Gagnon & Godin, 2009; Norton et al., 2008), this construct does not seem to be taken into account in practice. It was not considered in the review by Wagner et al. (2010), the most recent to date, which extensively analyzed the influence of different cognitive-behavioural variables in the field of health psychology on risk injection practices. There are no recent studies, in Western populations, with a main focus on attitudes towards risky injection practices, that of Norton et al. (2008) remaining the most relevant. There are more studies focussing on related variables, whether specific beliefs, attitudes towards other attitude objects or other psychological constructs such as: the perceived consequences of avoiding risky injection practices (Wagner et al., 2011); the perceived benefits and/or barriers of performing safe injection practices (Bonar & Rosenberg, 2014; Cox et al., 2008; Harris & Rhodes, 2012); the risk of infection, vulnerability to and/or perceived severity of

HIV/HCV (Bailey et al., 2007; Rácz, Gyarmathy, Neaigus & Ujhelyi, 2007; Wilson & Bryant, 2010); knowledge about HIV/HCV (Dunn et al., 2013; Giannou et al., 2017; Jost et al., 2019; Mah et al., 2017) or attitudes towards HIV/HCV and its treatment (Bachireddy, 2013; Dahlman & Fornvik, 2015); towards using sterile syringes (Gagnon & Godin, 2009); towards the acquisition of new syringes (Zaller et al., 2012); towards taking methadone (Zaller, Bazazi, Velazquez & Rich, 2009); towards supervised injection rooms (Butler, Chapman & Terry, 2018) or towards death (Miller, 2006, 2009). This limitation is greater in Spain, where there is little research describing the current reality of injection practices and none that seeks to understand the relationship between attitudes and injected consumption.

The present study

The objective of this study was to explore the attitudes of those PWIDs who perform risky injection practices, identifying the factors underlying their discourses that support these attitudes. For this, a qualitative methodology was proposed involving focus groups and interviews with experts in order to obtain first-hand information without prior determinants. Being of an exploratory nature, the design used did not make it necessary to establish prior hypotheses.

Method

Participants

The study participants were: (a) PWID users of a syringe exchange program, who participated in the focus groups ($n = 34$) and (b) experts, who were interviewed ($n = 3$). The participating PWIDs were 28 men and 6 women, aged between 24 and 59 years and of Spanish nationality. Their injection histories ranged from 2 to 40 years and nearly all, including the youngest, were in or had experienced stressful life events such as: loss of family support, homelessness, joblessness, and/or imprisonment. Most reported having HCV. None stated that they were HIV carriers. As for the experts, they had all worked for more than 10 years in PWID care services in management and direct care positions. In both cases, the sample size was defined following the theoretical saturation criterion (Strauss & Corbin, 2015), which establishes the need to continue data collection until new categories no longer emerge, and that those already identified are adequately developed.

Procedure

The PWID sample was selected by direct recruitment among users of a Doctors of the World needle exchange program implemented in the areas of the city of Palma most frequented by this population. All PWIDs who came to the service on selected days were informed of the study, with all those showing interest in participating

being recruited. A difficulty in obtaining the sample was that a large number of those promising to participate finally did not attend the appointment. Inclusion criteria were: regularly injecting drugs (at least once every month in the last year) and speaking and understanding sufficient Spanish. The exclusion criterion was not being in suitable physical or mental condition to participate in the groups on the scheduled day. Participants received €10 for expenses and transport. Experts were selected on the basis both of their profile and the potential ease of arranging the interviews. Verbal consent was recorded.

Data collection

Seven focus groups were held (Table 1), some of which were segmented by gender (being male) and age of the participants (being older or younger than 35 years). Additionally, and with the aim of triangulating the information collected, three interviews were conducted with experts. All groups and interviews were directed by the first author—with appropriate training and experience in qualitative research—following a previously prepared script. The data collection process ended when it was verified that no new contributions relevant to the object of study appeared.

Table 1
Characteristics of the Focus Groups (FG) by Gender and Age of participants and Segmentation carried out

FG	Sex		Age range	Segmented by	
	M	F		Sex	Age
1	7	1	25 - 59		
2	4	2	37 - 52		> 35
3	2		29 - 34	♂	≤ 35
4	4	1	42 - 51		> 35
5	4		39 - 51	♂	> 35
6	2	2	24 - 44		
7	5		27 - 34	♂	≤ 35

Data analysis

Both for narrative analysis and for categorization of variables, the procedures recommended by grounded theory (Strauss & Corbin, 2015) and the method of thematic analysis (Braun & Clarke, 2006) were followed; these recommend identifying and inductively exploring the themes, concepts and relationships that arise during narrative analysis instead of using those predetermined in the literature.

The focus groups and interviews were recorded and transcribed. Statements relevant to the object of study were grouped in 1,033 verbatim accounts. Microsoft Office Excel was used for data processing. Successive categorization

processes were carried out leading to the identification of various categories and dimensions of risk. Subsequently, it was analyzed which verbatim accounts reflected attitudes towards the different risky practices and whether they were associated with any of the identified dimensions. The accounts were reduced to minimum units of significance with the aim that all of them were mutually exclusive, that is, that each account could only be included in one risk category and reflect a single attitude. Initial categorization and analysis, carried out by the first author, were reviewed jointly by the research team, reaching a consensus in those cases in which discrepancies arose.

Results

Seventeen risk categories were identified, grouped into six dimensions (Table 2), with a variable relative frequency in each risky practice (Figure 1). These dimensions would modulate the magnitude—valence and/or intensity—of the attitudes towards the different risky injection practices or would act as barriers, undermining the intention to inject safely. Tables 4 and 5 show, respectively, the frequency and relevant examples of verbatim accounts that reflect attitudes towards the different risky practices and their association with the dimensions of risk identified.

Below, the different risky practices are characterized according to their underlying attitudes and the most relevant dimensions to which they are linked. These practices are grouped into three categories: the first two correspond respectively to so-called direct and indirect practices, based on their greater or lesser capacity to transmit HIV/HCV and in accordance with the usual classification procedure; a third category is added, frequently ignored in the literature, referring to the reuse of syringes by the users themselves.

Sharing or using syringes previously used by other people

Despite the fact that this practice has been shown to be the least prevalent and the one that has declined the most over the years, all participating PWIDs commented on how they periodically see people doing it, and nine of them (26%) reported having done it recently (five with friends and four with their partners), this being the case of four of the nine participants aged under 35 years (three with friends and one with their partner).

Although a priori, the attitude towards this practice is very negative and all PWIDs would prefer to inject themselves with their own syringes, there are situations that undermine their intentions, mainly those related to the dimensions of Drug Consumption and Access To Unused Syringes. PWIDs obtain syringes from various sources, mainly by buying them in pharmacies or on the informal market, or by getting them for free in exchange programs. Despite this, there was consensus that it can sometimes be

Table 2
Dimensions and Categories associated with risky injection practices with their respective descriptors and frequency of mention

Dimensions	Categories	Descriptors
Drug Consumption 26,94% (142) ^a (22)	Rituals (36)	Purchase, preparation, and group consumption. Invitations.
	Withdrawal syndrome (21)	Associated with heroin use.
	Craving (20)	Mostly associated with cocaine use.
	Intoxication (20)	Defined as being 'stoned', 'spaced-out' or 'high' and mostly associated with cocaine use.
	Experience (14)	Not injecting for long time.
	Frequency (9)	Increased injection frequency.
Knowledge 24,48% (129)	HIV/HCV (123)	Erroneous beliefs or inaccurate information about transmission, development, and treatment of the two infections.
	Other consequences (6)	Mistaken beliefs and inaccurate information about other infections and injuries.
Trust In Other People 21,06% (111) ^a (64)	Type of relationship (27)	Injecting with partners, friends, or acquaintances.
	Appearance (20)	Injecting with people with the same perceived or declared HIV/HCV serological status.
Access To Unused Syringes 15,75% (83)	Availability (42)	Closed needle exchange programs or pharmacies. No lending in the informal market.
	Money (33)	Lack or scarcity of money. Resource prioritization.
	Effort (8)	High investment time.
Personal Situation 10,06% (53)	Socio-relational (33)	Having financial, legal, family, or partner problems, homelessness, etc.
	Health status (20)	Being infected with HCV, HIV, or being co-infected.
Random 1,71% (9)	Mistakes (6)	Self and external mistakes and distractions.
	Unexpected (3)	Unplanned events.

Note. The percentages refer to the incidence of each risk dimension in the relevant textual corpus extracted from the focus groups (FG). In parentheses, the number of significant units coded (verbatim accounts).^a Number of verbatim accounts directly encoded in a dimension.

Figure 1
Illustration of the dimensions associated with the different risky practices shown in size proportional to their incidence in the relevant textual corpus extracted from the focus groups. Those dimensions with minimum incidence were eliminated because they are of illegible size

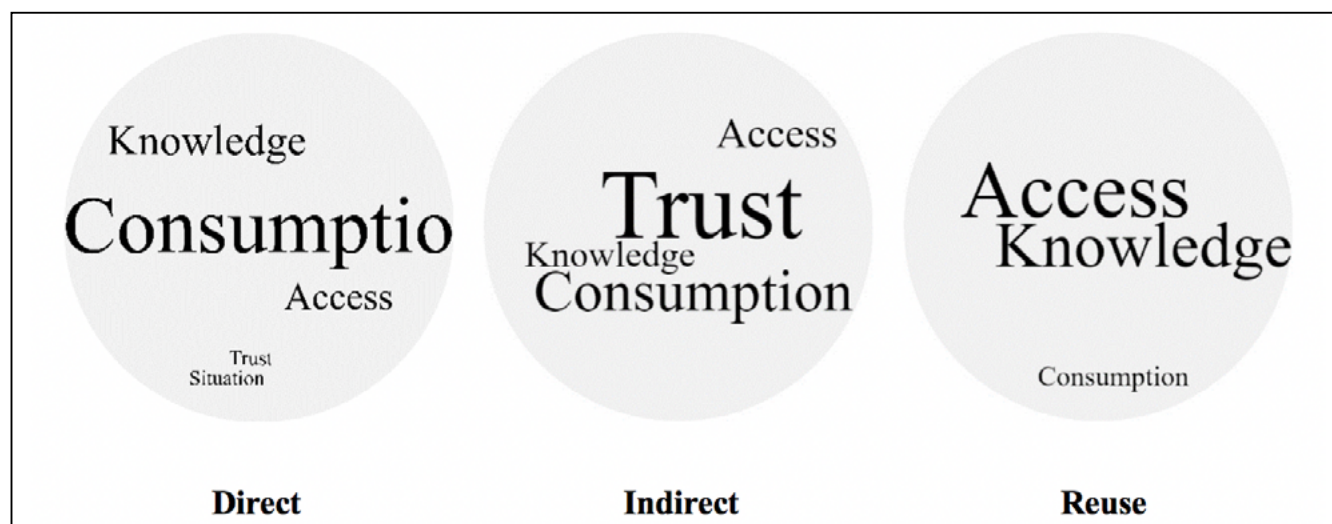


Table 3
Frequency of verbatim accounts that reflect attitudes towards the different risky injection practices classified by their Attitude Objects and by the Risk Dimensions with which they are associated

Attitude object	Risk dimension						
	Consumption	Knowledge	Trust	Access To Syringes	Personal Situation	Random	No dimension ^b
Risky practices ^a (N _t 142)	(33)	(40)	(13)	(9)	(28)	(0)	(19)
Direct practices (N _t 154)	(22)	(25)	(26)	(13)	(9)	(4)	46
Indirect practices (N _t 172)	(27)	(24)	(65)	(2)	(2)	(2)	50
Reuse (N _t 83)	(8)	(23)	(0)	(24)	(0)	(0)	28

Note. The number of significant units coded (verbatim accounts) appears in parentheses. N_t = Total number of verbatim accounts in the textual corpus. ^a Verbatim accounts reflecting general attitudes towards risky practices. ^b Verbatim accounts reflecting attitudes not associated with any dimension of risk.

Table 4
Illustration of verbatim accounts reflecting attitudes towards the different risky injection practices classified by their Attitude Objects and the Risky Dimensions with which they are associated

Direct practices
<p>Consumption</p> <p><i>'If you are going through a tough withdrawal, your mind is set to get high, if you don't have a needle, you get it from wherever'</i> (Participant 8, male, 34 years old).</p> <p>Knowledge</p> <p><i>'If anyone asks me for the syringe, I give it because I don't have the disease; I have HCV, which basically everyone has'</i> (Participant 23, male, 44 years old).</p> <p>Trust</p> <p><i>'I don't worry about it the next day either because I did it with my wife'</i> (Participant 27, male, 30 years old).</p> <p>Access to Syringes</p> <p><i>'I do whatever I can to get a needle, waiting for the van to come and give me one, or to have money to buy it, or that someone does a favour to me and lends me one, well... that requires a time and effort that I might not have, because what I really want is to shoot up'</i> (Participant 10, male, 46 years old).</p> <p>Personal Situation</p> <p><i>'You know you have diseases and that you've lost everything, so you just don't care anymore, what's one disease more?'</i> (Participant 18, female, 42 years old).</p>
Indirect practices
<p>Consumption</p> <p><i>'If I am treating you, you don't complain where the cooker comes from or where I'm going to give it to you or anything ... that's what treating somebody means, you should be happy that I am treating you'</i> (Participant 16, male, 29 years).</p> <p>Knowledge</p> <p><i>'People only see danger if there's blood, they think that just because we've got a new needle nothing will happen to them'</i> (Participant 21, male, 49 years old).</p> <p>Trust</p> <p><i>'If you're preparing a shot and you tell me that the needle is new, I am not going to worry, but also because we trust each other'</i> (Participant 25, female, 24 years old).</p> <p>Access To Syringes</p> <p><i>'Mostly, we prepare and share with new syringes, but we don't always have a new one or not everyone keeps a new one'</i> (Participant 25, female, 24 years old).</p>
Reuse
<p>Consumption</p> <p><i>'Me, for example, I've had drugs and continued to shoot up with the same syringe until I ran out, and maybe I did that ten times ... when you've got drugs you use the same syringe until it runs out'</i> (Participant 28, male, 27 years old).</p> <p>Knowledge</p> <p><i>'Well, I've caught HCV from reusing my needles because it seems you can get it with your own same blood'</i> (Participant 28, male, 27 years old).</p> <p>Access To Syringes</p> <p><i>'If you're going to shoot up again and you have one euro, you're not going to spend it on a new syringe, you're going to buy a Pepsi and use the same one ... you buy something else before changing the syringe'</i> (Participant 16, male, 29 years old).</p>

difficult to obtain a new syringe when it is most needed. In addition, the degree of difficulty or perceived effort to obtain it may be negatively related to the commitment to do so. On the other hand, craving for cocaine and, above all, heroin withdrawal, were described as unbearable states that lead people to do anything in order to use. Injecting more frequently would not only imply a greater dependence on the substances used, but also an increase in the number of occasions in which a PWID may be involved in risky situations. This is especially relevant in the use of cocaine, which, in contrast to heroin, causes very brief euphoric effects that lead people to inject repeatedly and to binge.

Although the risk of injecting with someone else's syringe is widely known, in certain contexts, the attitude towards this practice may be less negative or even neutral, being fundamentally mediated by the dimensions of Knowledge, Trust In Other People, and Personal Situation.

It is common to consume with people with whom you have emotional ties, such as friends, partners or family members, sharing not only the drugs but also the injection materials and, sometimes, no risk is perceived in doing so. Trust may be mediated by the length of the relationship and by the fact of having already been injected together in the past. It is also common to make the decision whether or not to engage in risky practices based on the serological status of the other person, either perceived or declared. The only action taken to confirm serostatus would be to ask, on the assumption that, if infected, the person would say so. The use of different strategies to minimize risks was confirmed, such as the choice of injection partners with the same serological status or that people with HIV inject last. Regarding the personal situation of PWIDs, participants highlighted the negative emotional states in which many PWIDs are immersed—in indifference, bitterness, giving up or hopelessness—due to stressful life events which would lead them to neglect their health. There were differences in the perception of severity of HIV and HCV. While HCV infection was seen to be normalized as a result of its very high prevalence and the pharmacological advances making a cure possible, HIV continued to be a disease to be feared, with most of participating PWIDs expressing concern about the possibility of becoming infected. Thus, above all, having HIV or being coinfecting would lead some PWIDs to develop the complex emotional states mentioned above and/or to consider that certain self-care practices would no longer make sense.

The attitude towards giving used syringes to other people would be often more favourable, with the responsibility of prevention being transferred to others, although always observing the rule of first disclosing one's serological status.

Sharing or using paraphernalia for preparing, distributing and/or cleaning previously used by others

These practices were quite widespread and standardized. It was recognized that although there is a safe way to carry out these processes, it is not always implemented. Again, the dimensions Drug Consumption and Access To Unused Syringes—and other paraphernalia—limit PWID's efforts to protect themselves. Some consumption rituals take on special relevance, especially in contexts of need, as they are subject to certain norms of behaviour that make self-care difficult. This is the case of invitations or joint purchase of drugs that are only divided after the preparation process with the aim ensuring exact shares. Difficulties were reported in controlling the injection material and avoiding their own and others' mistakes when being "high" and consuming in a group.

In addition, the attitudes towards indirect practices were more frequently slightly negative or neutral, being mediated by the dimensions of Knowledge, Trust In Other

People, and Personal Situation. Many PWIDs would not be aware—as is the case of two of the participants under the age of 35—or would underestimate the real risk that this type of practice entails. Even being aware of the risk, the only protective measure that many PWIDs would take when consuming in a group would be to ask others if the materials being used were new, trusting in their honesty and control of the situation. Trust also guided the decisions of those PWIDs who, consuming in a group, did not have new paraphernalia to prepare and/or distribute the doses.

Reusing own needles

This practice, often ignored in the literature, not only leads to injuries or other types of serious infections but also prevents many PWIDs from prioritizing the acquisition of new syringes at all times, leading to not having them when they are most needed, especially when consuming in a group.

It is undoubtedly the most widespread and standardized practice. Again, the dimensions of Drug Consumption and Access To Unused Syringes limited self-care. A precarious financial situation can lead to not having enough money at a given time to buy a syringe, but above all to having to ration it, prioritizing other needs or interests.

Although the attitude towards using new syringes would be very favourable, so would be the attitude towards reusing one's own syringes, fundamentally mediated by the Knowledge dimension and seen mainly as a measure of protection. Paradoxically, many of the participating PWIDs believed that it was possible to contract HCV by reusing their own syringes or had doubts about it, and four reported having been infected in this way.

Discussion

The main contribution of this study is to propose a differentiated description of attitudes towards different risky injection practices; this contributes not only to a greater understanding of these attitudes but will also allow preventive programs to be better adapted to the specific needs of the PWID at whom they are directed, as argued by Elkbuli et al. (2019). In addition, the set of factors associated with risky injection practices is shown from the perspective of the PWIDs themselves, as recommended by authors such as Clua (2021).

Seventeen categories of risk were identified, grouped into six dimensions: Drug Consumption, Knowledge, Trust In Other People, Access To Unused Syringes, Personal Situation, and Random. These dimensions would modulate the magnitude—valence and/or intensity—of the attitudes towards the different risky practices or would act as barriers undermining the intention to inject safely.

The narratives analyzed suggest that many PWIDs have developed slightly negative, neutral, or even positive

attitudes towards some risky practices, mainly towards carrying them out in certain situations —the magnitude of the attitudes can vary in the different injection episodes as they are relative phenomena that can be influenced by context—. This study identified three dimensions —Knowledge, Trust In Other People, and Personal Situation— that would mediate in the formation of such attitudes of a more favourable nature, influencing the cognitive, emotional and procedural processes that support them. It is clear that the lack of basic knowledge will lead many PWIDs to develop unrealistic attitudes, assuming erroneous beliefs related to infection to be valid. Nevertheless, knowledge alone of the negative consequences entailed by some practices does not necessarily result in the development of negative attitudes towards them. As suggested by Gyarmathy et al. (2010), PWIDs may take risks selectively, that is, they may not only be evaluating the risks associated with the different injection practices per se, but also those associated with the specific individuals involved. Trust is key in this process (Cepeda et al., 2011; Seear et al., 2012) by creating a sense of security in the recipient, who transfers responsibility for control and prevention to their counterpart. The personal identity and social environment of PWIDs would also affect their perception of risk. Von Hippel, Brener and Horwitz (2018) found that risky practices were performed to a greater extent by those PWIDs who implicitly and positively identified themselves as injectors. Another example is the perceived ubiquity of HCV risk (Rhodes & Treloar, 2008), a phenomenon causing some PWIDs to accept or ignore this infection, considering it an inevitable consequence —or identity trait— of being an injector. Finally, with respect to the personal situation of PWIDs, it is known that moods and emotions can have systematic effects on the beliefs or evaluations regarding an attitude object (Ajzen & Fishbein, 2005), and that attitudes are linked together in broader cognitive systems that influence each other reciprocally (Fabrigar, MacDonald & Wegener, 2005). Following this approach, PWIDs could develop less negative or neutral attitudes influenced by their negative moods or by other interconnected attitudes. Extreme feelings of life dissatisfaction (German & Latkin, 2012), and the internalization of the social stigma of being an injector and/or having HIV (Bayat et al., 2020) are likely to entail less concern for health and self-care. Miller (2006) documented attitudes of indifference toward death in heroin users for reasons such as having no hope for the future, escaping from an unbearable situation, or the desire to relieve pain. In this sense, risk injection practices could reflect indifference to the possibility of harming oneself or even a form of passive suicidal behaviour (Pilowsky, Wu, Burchett, Blazer & Ling, 2011).

Developing negative attitudes towards different risk injection practices will not always be enough to employ safe

practices consistently, which is the real challenge for most PWIDs. Norton et al. (2008) already suggested that only the most extreme negative attitudes could sustain self-care over time. Given the frequency with which injecting drug use occurs —potentially several or many times a day, every day— proximate predictors of risk behaviours, including attitudes, may vary across injecting episodes (Wagner et al., 2010). Moreover, since there are multiple behavioural options in an injection episode, multiple attitudes may be involved. For Wagner et al. (2011), PWIDs with negative attitudes who take risks at a certain moment could be adjusting their behaviour by valuing as feasible and more imminent other negative consequences associated with not carrying out risky practices such as having withdrawal symptoms, missing an opportunity to consume or offending injection partners.

This study identified four dimensions —Drug Consumption, Access To Unused Syringes, Personal Situation, and Random— that could act as barriers undermining the intention of PWIDs to inject safely, inhibiting those with negative attitudes towards risky injection practices from acting in a manner consistent with their attitudes. PWIDs will take greater risks if these risks are accepted and taken in their social network of consumption (Latkin, Kuramoto, Davey-Rothwell & Tobin, 2010) and when their dependence on the substances used is more severe —the greater the dependence, the greater the impulsiveness and loss of control (Wang & Maher, 2019)—. The Personal Situation dimension was included again as it seems that certain circumstances, which Mateu-Gelabert, Friedman & Sandoval (2007) called Periods Of Involution, could hinder self-care by promoting episodes of high psychological distress (Mackesy-Amiti, Boodram & Donenberg, 2020) and resource constraint.

Regarding limitations and future lines of research, this study focused on attitudes towards risky practices related to HIV and HCV infection, without taking into account other types of injection practices related to other no less important risks such as overdose (Espelt et al., 2017) or skin infections (Valencia et al., 2021). Conversely, although the special vulnerability of women injectors has already been described (Collins, Boyd, Cooper & McNeil, 2019), female participation in the discussion groups was minimal, thereby preventing possible gender-dependent categories and attitudes from being explored. In addition, only the factors underlying the narratives of the participating PWIDs were investigated, without taking into account other variables that may influence the perception of risk, such as personality traits or psychological disorders (Mackesy-Amiti, Donenberg & Ouellet, 2014; Roy et al., 2015). Regarding the methodological limitations, it should be noted that the sample did not meet the statistical criteria of representativeness; nevertheless, this was not the intention as the information that we tried to obtain was

discursive. It is recommended that the perception of those PWIDs who do not use or cannot access syringe exchange programs, or those who are HIV-positive, be investigated more thoroughly in order to analyze their specificities. In addition, the selected method may have prompted biased responses in the participants due to aspects such as social-desirability bias or fear that confidentiality would not be respected. In order to minimize the influence of the researcher, general questions were asked about consumption and injection practices, explaining that the personal behaviour of the participants was not the focus, but rather their expert opinion. Participants addressed the topics at hand while reflecting on attitudes in their speech. Many responded by narrating their own experiences, which enriched their contributions. It should be noted that different studies have highlighted the acceptable levels of reliability and validity of self-report data in drug users (Dyal, Kral, Gonzalez, Wenger & Bluthenthal, 2015; Napper, Fisher, Johnson & Wood, 2010).

In conclusion, starting from the perspective of PWIDs themselves, our study identifies a set of factors and dimensions associated with risky injection practices, exploring their ability to influence the attitudes and self-care intentions of PWIDs. We believe that deepening our knowledge regarding the predictors of this class of practices may facilitate a greater adaptation of preventive programs to the specific needs of PWIDs.

Acknowledgments

The research team wishes to express its gratitude to the men and women who participated in the study and to the association Doctors of the World in the Balearic Islands.

This study was carried out under the umbrella of Doctors of the World's INRED project, partially subsidized by the General Directorate of Public Health of the Department of Health of the Government of the Balearic Islands.

Conflict of interests

No conflicts of interest are reported by any member of the research team.

References

- Ajzen, I. & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracín, B. T. Johnson & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173–221). Mahwah: Lawrence Erlbaum Associates.
- Bachiredy, C. (2013). *HIV risk behaviors, attitudes towards treatment, and integrated health services among HIV-infected people who inject drugs in Malaysia and Ukraine*. Doctoral dissertation on Medicine. Yale Medicine Thesis Digital Library. <https://elischolar.library.yale.edu/ymtdl/1779/>.
- Bailey, S. L., Ouellet, L. J., Mackesy-Amiti, M. E., Golub, E. T., Hagan, H., Hudson, S. M.,... Garfein, R. S. (2007). Perceived risk, peer influences, and injection partner type predict receptive syringe sharing among young adult injection drug users in five U.S. cities. *Drug and Alcohol Dependence*, 91, 18–29. doi:10.1016/j.drugalcdep.2007.02.014.
- Bayat, A. H., Mohammadi, R., Moradi-Joo, M., Bayani, A., Ahounbar, E., Higgs, P.,... Armoon, B. (2020). HIV and drug related stigma and risk-taking behaviors among people who inject drugs: A systematic review and meta-analysis. *Journal of Addictive Diseases*, 38, 71–83. doi: 10.1080/10550887.2020.1718264.
- Bonar, E. E. & Rosenberg, H. (2014). Injection drug users' perceived barriers to using self-initiated harm reduction strategies. *Addiction Research and Theory*, 22, 271–278. doi:10.3109/16066359.2013.838225.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. doi:10.1191/1478088706qp0630a.
- Butler, G., Chapman, D. & Terry, P. (2018). Attitudes of intravenous drug users in London towards the provision of drug consumption rooms. *Drugs: Education, Prevention and Policy*, 25, 31–37. doi:10.1080/09687637.2016.1252316.
- Cepeda, J. A., Odínokova, V. A., Heimer, R., Grau, L. E., Lyubimova, A., Safiullina, L.,... Niccolai, L. M. (2011). Drug network characteristics and HIV risk among injection drug users in Russia: The roles of trust, size, and stability. *AIDS and Behavior*, 15, 1003–1010. doi:10.1007/s10461-010-9816-7.
- Clua, R. (2021). Razones de las prácticas de riesgo en usuarios de droga por vía parental adscritos a programas de reducción de daños en Barcelona. *Revista Española de Drogodependencias*, 46, 75–89. https://www.aesed.com/upload/files/v46n1_rclua.pdf.
- Collins, A. B., Boyd, J., Cooper, H. L. & McNeil, R. (2019). The intersectional risk environment of people who use drugs. *Social Science & Medicine*, 234. doi:10.1016/j.socscimed.2019.112384.
- Cox, J., De, P., Morissette, C., Tremblay, C., Stephenson, R., Allard, R.,... Roy, É. (2008). Low perceived benefits and self-efficacy are associated with hepatitis C virus (HCV) infection-related risk among injection drug users. *Social Science and Medicine*, 66, 211–220. doi:10.1016/j.socscimed.2007.08.022.
- Dahlman, D. & Fornvik, M. (2015). Attitudes towards hepatitis C and treatment willingness in injection drug users: A follow-up interview study. *Journal of Alcoholism & Drug Dependence*, 03. doi:10.4172/2329-6488.1000217.
- Dunn, K. E., Saulsgiver, K. A., Patrick, M. E., Heil, S. H., Higgins, S. T. & Sigmon, S. C. (2013). Characterizing and

- improving HIV and hepatitis knowledge among primary prescription opioid abusers. *Drug and Alcohol Dependence*, *133*, 625–632. doi:10.1016/j.drugalcdep.2013.08.007.
- Dyal, S. R., Kral, A. H., Gonzalez, K. D., Wenger, L. D. & Bluthenthal, R. N. (2015). Consistency of self-reported drug use events in a mixed methods study of people who inject drugs. *American Journal of Drug and Alcohol Abuse*, *41*, 332–338. doi:10.3109/00952990.2015.1037842.
- Elkbuli, A., Polcz, V., Dowd, B., McKenney, M. & Prado, G. (2019). HIV prevention intervention for substance users: A review of the literature. *Substance Abuse Treatment, Prevention, and Policy*, *14*, 1–12. doi:10.1186/s13011-018-0189-7.
- Espelt, A., Bosque-Prous, M., Folch, C., Sarasa-Renedo, A., Majó, X., Casabona, J.,... REDAN Group (2017). Is systematic training in opioid overdose prevention effective? *PLoS ONE*, *12*. doi:10.1371/journal.pone.0186833.
- Fabrigar, L. R., MacDonald, T. K. & Wegener, D. T. (2005). The structure of attitudes. In D. Albarracín, B. T. Johnson & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 79–125). Mahwah: Lawrence Erlbaum Associates.
- Gagnon, H. & Godin, G. (2009). Psychosocial factors explaining drug users' intention to use a new syringe at each injection. *Addiction Research & Theory*, *17*, 481–492. doi:10.1080/16066350801902475.
- German, D. & Latkin, C. A. (2012). Boredom, depressive symptoms, and HIV risk behaviors among urban injection drug users. *AIDS and Behavior*, *16*, 2244–2250. doi:10.1007/S10461-012-0247-5.
- Giannou, F., Nikolopoulos, G. K., Pantavou, K., Benetou, V., Kantzanou, M., Sypsa, V.,... Hatzakis, A. (2017). Knowledge, normative beliefs and attitudes related to recent HIV infection among people who inject drugs in Athens, Greece. *Current HIV Research*, *15*, 386–395. doi:10.2174/1570162x15666171122165636.
- Gyarmathy, V. A., Li, N., Tobin, K. E., Hoffman, I. F., Sokolov, N., Levchenko, J.,... Latkin, C. A. (2010). Injecting equipment sharing in russian drug injecting dyads. *AIDS and Behavior*, *14*, 141–151. doi:10.1007/s10461-008-9518-6.
- Harris, M. & Rhodes, T. (2012). Venous access and care: Harnessing pragmatics in harm reduction for people who inject drugs. *Addiction*, *107*, 1090–1096. doi:10.1111/j.1360-0443.2011.03749.x.
- Jost, J. J., Tempalski, B., Vera, T., Akiyama, M. J., Mangalonzo, A. P. & Litwin, A. H. (2019). Gaps in HCV knowledge and risk behaviors among young suburban people who inject drugs. *International Journal of Environmental Research and Public Health*, *16*. doi:10.3390/ijerph16111958.
- Latkin, C. A., Kuramoto, S. J., Davey-Rothwell, M. A. & Tobin, K. E. (2010). Social norms, social networks, and HIV risk behavior among injection drug users. *AIDS and Behavior*, *14*, 1159–1168. doi:10.1007/s10461-009-9576-4.
- Mackesy-Amiti, M. E., Boodram, B. & Donenberg, G. (2020). Negative affect, affect-related impulsivity, and receptive syringe sharing among people who inject drugs. *Psychology of Addictive Behaviors*, *34*, 734–744. doi:10.1037/adb0000590.
- Mackesy-Amiti, M. E., Donenberg, G. R. & Ouellet, L. J. (2014). Psychiatric correlates of injection risk behavior among young people who inject drugs. *Psychology of Addictive Behaviors*, *28*, 1089–1095. doi:10.1037/a0036390.
- Mah, A., Hull, M. W., DeBeck, K., Milloy, M. J., Dobrer, S., Nosova, E.,... Hayashi, K. (2017). Knowledge of hepatitis C and treatment willingness amongst people who inject drugs in an era of direct acting antivirals. *International Journal of Drug Policy*, *47*, 137–143. doi:10.1016/j.drugpo.2017.02.006.
- Mateu-Gelabert, P., Friedman, S. & Sandoval, M. (2007). Pinchase sin infectarse: Estrategias para prevenir la infección por el VIH y el VHC entre usuarios de drogas inyectables. *Trastornos Adictivos*, *9*, 260–268. doi:10.1016/S1575-0973(07)75655-6.
- Miller, P. G. (2006). Dancing with death: The grey area between suicide related behavior, indifference and risk behaviors of heroin users. *Contemporary Drug Problems*, *33*, 427–450. doi:10.1177/009145090603300305.
- Miller, P. G. (2009). Safe using messages may not be enough to promote behaviour change amongst injecting drug users who are ambivalent or indifferent towards death. *Harm Reduction Journal*, *6*. doi:10.1186/1477-7517-6-18.
- Napper, L. E., Fisher, D. G., Johnson, M. E. & Wood, M. M. (2010). The reliability and validity of drug users' self reports of amphetamine use among primarily heroin and cocaine users. *Addictive Behaviors*, *35*, 350–354. doi:10.1016/j.addbeh.2009.12.006.
- Norton, W. E., Amico, K. R., Fisher, W., Copenhaver, M. M., Kozal, M. J., Cornman, D. H.,... Fisher, J. D. (2008). Attitudes toward needle-sharing and HIV transmission risk behavior among HIV+ injection drug users in clinical care. *AIDS Care*, *20*, 462–469. doi:10.1080/09540120701867081.
- Observatorio Español de las Drogas y las Adicciones [OEDA]. (2021). *Informe 2021. Alcohol, tabaco y drogas ilegales en España*. Madrid: Ministerio de Sanidad. Delegación del gobierno para el Plan Nacional sobre Drogas. <https://pnsd.sanidad.gob.es/profesionales/sistemasInformacion/informesEstadisticas/pdf/2021OEDA-INFORME.pdf>.
- Pilowsky, D. J., Wu, L. T., Burchett, B., Blazer, D. G. & Ling, W. (2011). Depressive symptoms, substance use, and HIV-related high-risk behaviors among opioid-dependent individuals: Results from the clinical trials Network. *Substance Use & Misuse*, *46*, 1716–1725. doi:10.3109/10826084.2011.611960.

- Pla d'Addiccions i Drogodependències de les Illes Balears [PADIB]. (2020). *Admisión a tratamiento por consumo de sustancias psicoactivas*. Palma: Conselleria de Salut i Consum. Direcció General de Salut Pública i Participació. https://www.caib.es/sites/padib/es/admissions_a_tractament_per_consum_de_substancies_psicoactives.
- Rácz, J., Gyarmathy, V. A., Neaigus, A. & Ujhelyi, E. (2007). Injecting equipment sharing and perception of HIV and hepatitis risk among injecting drug users in Budapest. *AIDS Care*, *19*, 59–66. doi:10.1080/09540120600722742.
- Rhodes, T. & Treloar, C. (2008). The social production of hepatitis C risk among injecting drug users: A qualitative synthesis. *Addiction*, *103*, 1593–1603. doi:10.1111/j.1360-0443.2008.02306.x.
- Roy, É., Jutras-Aswad, D., Bertrand, K., Dufour, M., Perreault, M., Laverdière, É.,... Bruneau, J. (2015). Anxiety, mood disorders and injection risk behaviors among cocaine users: Results from the COSMO study. *American Journal on Addictions*, *24*, 654–660. doi:10.1111/AJAD.12286.
- Sear, K., Gray, R., Fraser, S., Treloar, C., Bryant, J. & Brener, L. (2012). Rethinking safety and fidelity: The role of love and intimacy in hepatitis C transmission and prevention. *Health Sociology Review*, *21*, 272–286. doi:10.5172/hesr.2012.21.3.272.
- Strauss, A. & Corbin, J. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). Thousand Oaks: Sage Publications.
- Valencia, J., Troya, J., Lazarus, J. V., Cuevas, G., Alvaro-Meca, A., Torres, J.,... Ryan, P. (2021). Recurring severe injection-related infections in people who inject drugs and the need for safe injection sites in Madrid, Spain. *Open Forum Infectious Diseases*, *8*. doi:10.1093/ofid/ofab251.
- von Hippel, C., Brener, L. & Horwitz, R. (2018). Implicit and explicit internalized stigma: Relationship with risky behaviors, psychosocial functioning and healthcare access among people who inject drugs. *Addictive Behaviors*, *76*, 305–311. doi:10.1016/j.addbeh.2017.08.036.
- Wagner, K. D., Lankenau, S. E., Palinkas, L. A., Richardson, J. L., Chou, C. P. & Unger, J. B. (2011). The influence of the perceived consequences of refusing to share injection equipment among injection drug users: Balancing competing risks. *Addictive Behaviors*, *36*, 835–842. doi:10.1016/j.addbeh.2011.03.014.
- Wagner, K. D., Unger, J. B., Bluthenthal, R. N., Andreeva, V. A. & Pentz, M. A. (2010). Cognitive behavioral theories used to explain injection risk behavior among injection drug users: A review and suggestions for the integration of cognitive and environmental models. *Health Education & Behavior*, *37*, 504–532. doi:10.1177/1090198109357319.
- Wang, S. C. & Maher, B. (2019). Substance use disorder, intravenous injection, and HIV infection: A review. *Cell Transplantation*, *28*, 1465–1471. doi:10.1177/0963689719878380.
- Wilson, H. & Bryant, J. (2010). Perception of hepatitis C risk among injecting drug users who obtain injecting equipment from pharmacies in Western Australia. *Contemporary Drug Problems*, *37*, 599–618. doi:10.1177/009145091003700405.
- Zaller, N. D., Bazazi, A. R., Velazquez, L. & Rich, J. D. (2009). Attitudes toward methadone among out-of-treatment minority injection drug users: Implications for health disparities. *International Journal of Environmental Research and Public Health*, *6*, 787–797. doi:10.3390/ijerph6020787.
- Zaller, N. D., Yokell, M. A., Nayak, S. M., Fu, J. J., Bazazi, A. R. & Rich, J. D. (2012). Syringe acquisition experiences and attitudes among injection drug users undergoing short-term opioid detoxification in Massachusetts and Rhode Island. *Journal of Urban Health*, *89*, 659–670. doi:10.1007/s11524-012-9669-7.