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The threat of hepatitis C as an influence on injecting amphetamine users' change towards non-injecting

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KEYWORDS. hepatitis C virus; injecting drug use; amphetamine; Transtheoretical Model of Behaviour Change; Expanded Health Belief Model

Abstract

Young injecting drug users are a particularly vulnerable group for Hepatitis C (HCV) infection. One method for minimising the risk of contraction of HCV for amphetamine users (not widely explored in the research to date) is through encouraging non-injecting routes of administration (ROA). Self-report data from 150 young injecting amphetamine users was analysed to investigate the influence of HCV threat on the decision to cease injecting and the worth of promoting the use of non-injecting ROA. Application of the Transtheoretical Model of Behaviour Change and the Expanded Health Belief Model showed that threat of HCV was not perceived as reason to cease injecting at any stage in the injecting career. Cessation was a result of personal choice, rather than response to any type of threat. This supports the promotion of harm minimisation rather than abstinence campaigns. Furthermore, the deficits in knowledge of HCV threat are worthy of campaign attention.

The threat of hepatitis C as an influence on injecting amphetamine users' change towards non-injecting

The hepatitis C virus (HCV) is a widespread, easily transmissible, blood-borne virus with serious and potentially fatal health consequences for the infected individual (Ryder & Beckingham, 2001). Furthermore, HCV positive individuals are of extremely high transmission risk to others and are likely to be so for a substantially long period of time (MacDonald et al., 2000). There is overwhelming agreement that young injecting drug users (i.e., those in their adolescent years or early twenties) are a particularly vulnerable group for HCV infection during the course of their drug using career (e.g., Carruthers & Loxley, 1995; Diax et al., 2001; Johnson, 2001; Loxley & Davidson, 1998; MacDonald et al., 2000; National Centre in HIV Epidemiology and Clinical Research, 2001). This is of particular importance given that the age of illicit drug initiation is decreasing, resulting in increasing numbers of young injecting drug users (IDU) (Degenhardt, Lynskey & Hall, 2000).

Longer duration of injecting career is widely cited as a prominent HCV risk factor for two reasons. First, there is the increased likelihood of viral exposure with more injecting occasions (Carruthers, Lowley, Phillips & Bevan, 1997; Crofts, Aitken & Kaldor, 1999; Diaz et al., 2001; Hope et al., 2001; Kwiatkowski, Corsi & Booth, 2002; Steffen, Blättler, Gutzwiller & Zwahlen, 2001). Second, there is a general consensus that young IDU are more prone to risk taking in the form of needle sharing and other unsafe injecting practices (e.g., Crosby, 1996; Loxley, 1998) regardless of whether they have adequate knowledge of what constitutes disease risk (Booth, Zhang & Kwiatkowski, 1999; Carruthers & Loxley, 1995; Crofts & Louie, 1996).

In Queensland, young IDU are typically amphetamine users. After cannabis, amphetamines are the most frequently used illicit substance by this cohort (Darke, Ross, Hando, Hall & Degenhardt, 2000). The 2001 National Drug Strategy Household Survey

indicates the number of amphetamine users is increasing (Australian Institute of Health and Welfare, 2002). Given the apparent unsafe injecting practices of young IDU (e.g., Crosby, 1996; Loxley, 1998), the nature of amphetamine use is important. Compared to heroin, amphetamine use is often recreational (Loxley, 1997) and occurs in social situations, such night clubbing (Kanieniecki, Vincent, Allsop, & Lintzeris, 1998). Thus users are more likely to be around others when they administer the drug (Darke et al., 2000) and in a context for sharing injecting equipment.

Reducing HCV risk for injecting drug users

Loxley (1998) describes the following hierarchy of recommendations for drug users, aimed at HIV/AIDS prevention: (1) avoid using drugs; (2) if you do use, avoid injection; (3) if you do inject, do not share needles; (4) if sharing is unavoidable, sterilise needles with bleach[1]. These objectives are arguably relevant to HCV risk reduction also and are widely cited in the literature as being the primary HCV prevention options (e.g., Lowe & Cotton, 1999).

While much research and public health campaign attention has addressed Loxley's (1998) first, third and fourth objectives, relatively little research and policy attention has been given to Loxley's second objective, that is, the promotion of drug consumption via routes of administration (ROA) other than injecting. This practice would seem particularly relevant to HCV prevention as it would eliminate the risk of viral contact from all injection equipment, a risk factor which injectors who do not share needles per se, may not be aware (Hagan, Thiede, Weiss & Hopkins, 2001). Furthermore, aside from disease risk, a multitude of detrimental effects of injecting drug use exist (Gossop, Marsden, Stewart & Treacy, 2000). These include increased addiction, due to higher potency of the ingested substance as well as more rapid delivery to the brain (Gossop et al., 2000); problematic behaviours (e.g., involvement in

crime); and a range of severe psychological symptoms, such as psychosis (Hall & Hando, 1996).

Lowe and Cotton (1999) reviewed Australia's response to the HCV epidemic and recommend that information on non-injecting ROA should be made available and that equipment should be provided to facilitate these (see also Carruthers et al., 1997). Despite these claims, it appears that implementing such changes may be extremely difficult and effective change is far more complex than simply promoting different practices and educating drug users about specific disease risk behaviours. Further investigation into the worth of promoting the use of alternate ROA as a harm minimisation strategy is clearly warranted by the extent of the amphetamine problem (particularly amongst youth, a high HCV risk group), the drug-specific risk factors to intravenous users and the existence of alternative means of administration[2].

Models of health behaviours and behaviour change

It is widely recommended that the planning and implementation of health strategies must be informed by theoretically developed models of behaviour. The dangers of implementing public health strategies based on assumptions rather than validated models is evident in poorly planned, early AIDS prevention campaigns (see Fishbein & Guinan, 1996). In many countries, the approach was to focus largely on the provision of information on disease transmission and avoidance. Based on an extensive review of these campaigns, Fishbein and Guinan (1996) argue that information provision does not necessarily equate with behaviour change or preventative action.

With regard to unsafe injecting of illicit drugs (such as sharing needles and syringes), research to date appears to generally focus on knowledge of AIDS/HIV risk and adherence to dangerous practice. No research (known to the authors) applies such models exclusively to

HCV prevention, or to the transition from injecting to non-injecting drug use as a means of HCV (or HIV/AIDS) exposure avoidance.

Expanded Health Belief Model. Two popular health behaviour change models are the Expanded Health Belief Model (EHBM) and the Transtheoretical Model of Behaviour Change (TMBC). The EHBM is based on the Health Belief Model (HBM: Rosenstock, 1966; Janz & Becker, 1984). The HBM states that health promoting behaviours are practiced when there is a belief that a health threat exists (Booth et al., 1999). Specifically, the model proposes that the factors that influence health behaviour include the value an individual places on their own health, their specific beliefs about vulnerability (e.g., I use needles, therefore I could get HCV) and their understanding of the severity and consequences of the health threat (Booth et al., 1999). The HBM also holds that individuals desire good health more than they desire the problem behaviour and that the individual must believe that a specific behaviour (or set of behaviours) will be effective in risk reduction (response efficacy), e.g., if I do not inject, I cannot get HCV. Finally, the EHBM includes self-efficacy. Borrowed from Bandura's social cognitive theory, self-efficacy refers to the perception that one has the ability to implement change under the circumstances that prevail (Fishbein & Guinan, 1996). The HBM, its expanded version and various combinations of these have been widely applied as explanatory models of the practicing of health behaviours, as well as the basis for development and scrutiny of health promotional campaigns (Jayanti & Burns, 1998; Mattson, 1999).

Transtheoretical Model of Behaviour Change. The TMBC (Prochaska & DiClemente, 1986; DiClemente & Prochaska, 1998) identifies stages of readiness to change and proposes that treatment approaches are stage-specific in their effectiveness and must be applied as such (DiClemente, 1993; Heather & Rollnick, 1993). There are three stages of change (SOC) that are assessed as apart of an individual's readiness to change[3]. These are precontemplation (whereby there is no intention to modify the behaviour (DiClemente, 1993; Van Duyn,

Heimendinger, Russek-Cohen & DiClemente, 1998)), contemplation (where the individual may think about changing the behaviour but feels unable to take action (DiClemente, 1993; Norman, Velicer, Fava & Prochaska, 1998)), and action (where the individual is actively and effectively changing the behaviour (Van Duyn et al., 1998)).

The TMBC has been successfully applied to a wide range of health acquisition behaviours, for example good nutrition, exercise, sunscreen use and breast cancer screening (Prochaska et al., 1994). It has also been applied in the reduction of addictive behaviours such as alcoholism (Heather & Rollnick, 1993), smoking and other substance abuse (Prochaska et al., 1994) as well as HIV risk behaviours (Stevens & Estrada, 1996).

DiClemente (1999) claims that there is considerable evidence that identifying TMBC stage specific characteristics of those with addictive behaviours can provide valuable information to be used for individual interventions. With regard to illicit drug harm minimisation and HCV prevention, modification of the behaviour towards non-injecting ROA is a possible option, particularly where cessation of drug use is not yet achievable. However, no research has been found that investigates the worth of application of the TMBC in the context of SOC towards giving up injecting (but not necessarily ceasing use of the substance). The value of applying this model in this context lies in determining whether drug injectors fit the stage criteria regarding changing to non-injecting ROA. Furthermore a description of characteristics of those in each stage is warranted for intervention strategies.

Aims of the study

This study aims to identify a stage towards non-injecting (according to the TMBC) relevant to each intravenous amphetamine user from the sample. Each participant will be categorised as being in the precontemplation, contemplation or action stage in respect to change towards abstinence from injecting use. The second aim of this study is to investigate which of the EHBM constructs are influential at each SOC, that is, to identify beliefs that are,

according to this model, prerequisites to change towards non-injecting. For the purpose of this research, the six constructs of the EHBM used are as follows: general health values, beliefs about HCV vulnerability, beliefs about HCV severity, belief that ceasing injecting is an effective measure to combat HCV threat, belief that the benefits of non-injecting exceed the costs of giving up injecting and self-efficacy (belief that one is capable of giving up injecting). Finally, this study will describe potential reasons that IDU consider valid to cease injecting.

Method

Participants

One hundred and fifty IDU (86 male, 63 female and one transgender) participated in the current study. Inclusion criteria were: being aged between 16 and 25 (mean age = 21.6 years); having last injected amphetamine no longer than 6 months ago; and having first injected any drug no longer than 4 years ago. Respondents were living in or around Brisbane, the Gold Coast, Toowoomba and Caboolture.

Materials

An extensive, structured questionnaire was used to gain self-report data. This instrument targeted socio-demographic circumstances and drug use and injecting trends. Virus status items were also included, as were items to measure the influence of HCV threat on the cessation of injecting. Items examining individuals' SOC classification towards non-injecting and the influence of variables of the EHBM in the context of HCV threat were included.

SOC towards non-injecting. Heather and Rollnick's (1993) Readiness to Change Questionnaire (to classify problem drinkers' SOC towards abstinence from alcohol consumption) was adapted to categorise SOC applicable to intravenous amphetamine users' movement towards abstinence from amphetamine use or sole use of ROA other than injecting. Statements were re-worded to apply to injecting. For example, Heather and Rollnick's (1993)

item, “my drinking is a problem sometimes” was altered to “injecting causes me problems sometimes” for this study. Participants indicate their level of agreement with twelve statements on a five-point Likert scale from strongly disagree to strongly agree.

The questionnaire comprises three subscales of four items each, which form three of the SOC (i.e., precontemplation, contemplation or action). Scores are summed for each subscale. The weighting of these three totals relative to each other determine categorisation to the precontemplation, contemplation or action SOC.

Expanded health belief model. Six constructs of the EHBM were measured, each with a single item using a Likert scale format. Negatively worded items were recoded, so for each construct, a score of five indicated strong agreement with that statement (belief). These statements were based on those used in the literature (e.g., Mirotznik, 1998; Neff & Crawford, 1998; Wdowak, Kendall, Harris, & Auld, 2001).

Procedure

A peer researcher program was used to access the sample. This method of data collection has previously been effectively employed in research involving drug users (e.g., Crofts & Louie, 1996). In addition, the reliability of self-report data may be enhanced by this method due to the absence of an authoritarian relationship between interviewer and respondent (Kosten, Rounsaville & Kleber, 1987) and through the development of trust as the interviewer is also involved in the illicit behaviour (Atkinson & Flint, 2001).

Nine interviewers were recruited from the target group via advertising at youth services in Brisbane and surrounding areas. The majority of the interviewers worked for such services or needle exchanges and all had injecting drug experience themselves. Peer researchers were paid $20 per questionnaire administered.

Advertising for project participation was distributed at needle exchanges, in street press magazines and at rave parties. A snowballing method of data collection, whereby researchers

interview people they know and ask participants to refer acquaintances to the researcher, was also encouraged. This method of data collection is readily used for accessing drug users for research (e.g., Carruthers, Loxley, Phillips & Bevan, 1996) due to the social stigma associated with illicit drug use (Atkinson & Flint, 2001). It was thought that the snowballing method would be particularly advantageous as the sample would be more likely include IDU who do not frequent needle exchanges (where participation advertising was posted) and, therefore, do not access the safe injecting information provided at these organisations[4].

Initial contact was made either by participants calling an advertised project phone number or through researchers following up information given during snowballing. Researchers met with participants at convenient locations as arranged, such as homes, youth services or cafés. Importantly, prior to questionnaire administration, matters of confidentiality and anonymity were stressed, due to the sensitive, illegal nature of the behaviour being studied and the association of paranoia with amphetamine use (Davey & Davies, 1999). Interviews were of approximately 45 minutes duration. Self-report data was obtained using a structured interview format and participants were paid $20. Researchers sealed completed questionnaires in envelopes and returned them to project organisers.

Results

Data analysis

Analyses were undertaken using the Statistical Package for Social Sciences (SPSS) version 10. All analyses were evaluated at an alpha level of .05, unless otherwise stated. Perusal of the data revealed nine participants who reported injecting for five years or longer and who therefore did not meet inclusion criteria for the study; these participants were excluded from analyses on this basis. For the purpose of determining the influence of HCV threat on drug users' decisions to stop injecting at each SOC, the data of those respondents who had stated they were HCV positive was also excluded from further analysis (n = 22)[5].

Characteristics of the sample (N = 119)

The mean age of initiation into drug injecting was 18.74 years (*SD* = 2.56 years). For 87.3% of the sample, the first drug they reported injecting was amphetamine. The majority of these users had used amphetamine some way other than injecting prior to the first injecting occasion (71.8%, *n* = 74). Heroin was the first drug injected by 10.2% of the sample and cocaine and ecstasy were each the first injecting drug of one respondent. The mean duration of injecting career was 2.69 years (*SD* = 1.28 years). For 89.9% of the sample, amphetamine was the preferred injecting drug. Heroin was the preferred injecting drug of 8.4% of the sample and two respondents preferred cocaine. Less than half of respondents considered themselves dependent on one or more types of drugs (48.7%).

SOC classification was determined using the quick method of stage allocation from Heather and Rollnick's Readiness to Change questionnaire (1993). Of the current sample, 24 were classified as precontemplation, 73 as contemplation and 21 as action.

Stage of change towards non-injecting as influenced by constructs of the EHBM

One-way ANOVAs were conducted to determine whether there were any significant differences between the three SOC groups' scores on each construct of the EHBM. Post-hoc analyses were conducted using Dunnett's C.

Insert Table 1 about here

Table 1 shows the mean values and standard deviations of each EHBM variable for each SOC group. For the first EHBM construct, general health values, the ANOVA was not significant $F(2,115) = .050$, $p>.05$. Examination of the descriptive statistics for this variable showed that, on average, participants held this belief (as indicated by mean scores of greater than 4).

For the second EHBM construct, beliefs about HCV vulnerability, there were no significant differences between the groups $F(2,115) = 1.937$, $p>.05$. As no group scored greater than 4 on this construct, this indicated that it was not a belief held by any SOC group.

For the third EHBM construct, beliefs about HCV severity, there were no significant differences in scores $F(2,116) = .895$, $p>.05$. The mean values for all the SOC groups on this variable indicated that this belief was held by all of the groups.

For the fourth EHBM construct, belief that ceasing injecting is effective to combat HCV threat, the ANOVA revealed no differences between the groups $F(2, 114) = .505$, $p>.05$. All groups averaged a score of less than 4 on this variable.

For the fifth EHBM construct, that the benefits of ceasing injecting outweigh costs of cessation, there were no significant differences, $F(2, 116) = .395$, $p>.05$. No group averaged more than 4 on this variable. However, there was a trend for the precontemplation group of IDU to hold this belief (mean score greater than 3), while the contemplation and action groups tended not to hold that belief (mean score less than 3).

For the sixth EHBM variable, self-efficacy, there were significant differences between SOC groups $F(2, 116) = 5.88$, $p = .004$, $\eta^2 = .092$. Post-hoc analyses revealed the action group scored significantly higher than the contemplation and precontemplation groups, which did not differ[6].

Potential reasons to cease injection

Frequencies were calculated to examine the number of participants who endorsed various potential reasons to cease injecting. Only a relatively small percent of the sample endorsed health and disease reasons to cease injection (see Table 2). The number of young IDU who endorsed disease threats, including fear of HIV (15.5%) and fear of HCV (13.8%), as potential reasons to cease injection was particularly low. Comparatively, Table 2 shows that a high percentage of respondents would potentially stop injecting for reasons other than

disease threat. Personal choice reasons for ceasing injection such as being sick of using, wanting to get their act together and starting a family were strongly endorsed. Fewer participants endorsed various social pressures from others including peer pressure, family pressure, work pressure, police harassment and fear of losing one's partner. Finally, drug availability was clearly influential; approximately one quarter of the respondents nominated injecting drugs, their source and needles becoming less available as reasons to stop injecting. In contrast, only six respondents cited that non-injecting drugs becoming more available would stop them injecting.

Insert Table 2 about here

In summary, none of the SOC groups held all six EHBM constructs (including the action group). IDU generally valued their health and perceived the severity of HCV. The EHBM constructs of perceived vulnerability, cessation of injection as effective to combat HCV threat and that the benefits outweigh the cost of cessation of injection were not adequately held by any SOC group. There were no differences in the level of agreement of each of these 5 EHBM constructs between the SOC groups. The only difference between the SOC groups was on self-efficacy, where the action group reported stronger agreement with this statement. A number of potential reasons for ceasing injection were endorsed by the participants.

Discussion

The results of this research demonstrate that young injecting amphetamine users can be classified into SOC according to the TMBC. These classifications may be useful in designing interventions to manage HCV risk. This sample of young injecting amphetamine users consisted primarily of IDU in the contemplation SOC (where they recognise that there are some positive and negative consequences of drug use). Based on this finding, perhaps broadly

administered interventions should be tailored to this SOC group to have maximum effect on the transmission of HCV throughout the amphetamine injecting community.

None of the SOC groups held all six of the EHBM constructs. This is not surprising considering that this was a sample of amphetamine users who were selected on the basis of the criterion that they had injected a drug within the last six months. Regardless, the results of this study offer some support of the use of the EHBM with IDU, that is, the action SOC group held three of the six EHBM constructs whereas the other SOC groups only held two of the six beliefs necessary for change. Self-efficacy, the sixth EHBM construct, was the only EHBM construct that distinguished the three SOC groups.

More importantly, the results indicate that HCV threat is not sufficient to result in a decision to cease injecting. As mentioned, even those in the action SOC did not hold all six constructs of the EHBM that constitute change in the context of HCV threat. While similar results have been reported elsewhere (e.g., Mattson, 1999), the number of EHBM beliefs not held by this sample was unexpectedly high. One explanation for this finding is that the use of a single item for each construct (whilst used to minimise the length of the questionnaire, due to the nature of the recruitment of the participants) may not have been an adequate measure of each of the EHBM constructs. However, research investigating the EHBM in another sample of IDU is clearly necessary to further examine the usefulness of this model.

Inadequate beliefs regarding HCV threat in the context of IDU have implications for secondary prevention, harm minimisation campaigns that have been used to reduce the spread of this disease. Whilst there is no evidence that changing these beliefs will prompt IDU to cease injecting solely due to HCV threat, it is arguable that addressing these deficits can be advantageous for safe practice. For example, few injectors felt they were susceptible to HCV. Raising awareness of the ease of transmissibility of the virus may help to heighten the belief of personal virus susceptibility. Similarly, no SOC group reported that ceasing injecting was

effective to combat HCV threat. Education about other transmission paths (such as sharing toothbrushes) is important. However, it is clear that these young people have inadequate knowledge that the likelihood of contracting the virus other than through their injecting drug use is extremely remote, and therefore that their status as an IDU puts them at a disproportionately high HCV risk compared to the general population.

Secondary prevention education can be SOC specific (DiClemente, 1999). Those beliefs not held can be addressed for one group and a different set addressed for another, once a classification is established. The current results can also be interpreted as showing which beliefs are adequate across SOC groups and therefore should not be prioritised for harm minimisation campaigns. For example, all groups valued good health (the first EHBM variable) and reported understanding the severity of HCV (the third EHBM variable). Thus, education regarding these matters is of lesser importance than providing information about those areas in which IDU did not endorse the beliefs.

While it seems that cessation of injecting is unlikely to occur solely due to HCV threat, the current study also examined *potential* reasons for cessation of injection. Interestingly, 23.3% of the sample stated they may cease injecting if injecting drugs became less available, yet only 5.5% endorsed ceasing injection if non-injecting drugs became more available. It seems that the non-injecting ROA are not as appealing as injecting, once injecting has commenced. Obviously, of interest is investigating why non-injecting amphetamine users have not progressed to injecting the drug. Such information may be useful for encouraging those in the wider drug using community not to begin intravenous use. This could be explored in future research.

Giving further support to the EHBM results, the current study found that compared with other potential circumstances, HCV threat was a relatively minor influence on the decision to cease injection. Only 13.8% of respondents agreed they may cease injecting because of this

threat. It seems logical then to promote those reasons given by greater numbers of respondents in the interest of injecting dissuasion. It is important to note that the reasons for cessation that were endorsed most highly are those requiring the most subtle health campaigns (e.g., 36.2% cited being sick of using and wanting to get their act together/ go straight) as these are matters of individual decision and value change. The results demonstrate that cessation of injecting tends to be a personal choice, not a result of perceived health threat nor of another's influence (with the exception of incarceration). This finding lends considerable support to the secondary prevention, harm minimisation approach to HCV prevention (rather than promoting abstinence from injecting).

In summary, the threat of HCV on its own is not enough to deter injecting once injecting has commenced. Therefore HCV avoidance campaigns should focus on harm minimisation, rather than attempting to persuade abstinence from injecting. To reinforce this argument, it was shown that cessation of injecting is a personal choice, and is unlikely to be a decision based on persuasion. Harm minimisation campaigns should be based on research. For example, the deficits shown in HCV threat beliefs (according to the EHBM) should be addressed for those in SOC groups that show such belief deficits. Similarly, where this model shows EHBM beliefs are held, lesser priority should be given for harm minimisation. In terms of HCV prevention, the promotion of non-injecting ROA for amphetamine users is likely to only be worthwhile for certain groups. Injecting amphetamine users who have chosen to stop injecting may continue use of other ROA. It is highly unlikely that those who have not made the decision to cease injecting could be persuaded to use other ROA instead. In terms of harm minimisation efforts, the greatest priority for this type of intervention is to encourage those amphetamine users who have not yet injected the drug not to inject, because once they have, it seems unlikely they will return to using other ROA.

Table 1.

Mean score and Standard Deviations of EHBM Constructs for each SOC towards Non-injecting (N = 119)

EHBM variable	Precontemplation		Contemplation		Action	
	M	SD	M	SD	M	SD
General health values	4.29*	.75	4.27*	.82	4.33*	.48
HCV vulnerability	1.83	.98	2.26	1.24	1.86	.65
HCV severity	4.13*	.99	4.07*	1.10	4.43*	.98
Ceasing IDU effective to combat HCV threat	2.79	1.1	2.53	1.17	2.52	1.12
Benefit of ceasing IDU greater than costs	3.17	1.27	2.74	1.29	2.81	1.47
Self efficacy	3.63	1.21	3.35	1.34	4.38*	.59

Note. An asterisk (*) indicates a value greater than 4, demonstrating the belief is held and therefore it is an EHBM variable that should influence change.

Table 2.

Reasons for Current or Possible Future Decision to Cease Injecting Drug Use

Reason for IDU cessation	*n*	%	Reason for IDU cessation	*n*	%
Sick of using	42	36.2	Police harassment	17	14.8
Getting act together/ going straight	42	36.2	Family pressure	16	14.0
Went to jail	39	33.6	Fear of HCV	16	13.8
Source dried up	36	31.0	Lack of needles	15	12.9
Pregnant/start family	34	29.3	Fear of losing partner	15	12.9
Overdose	33	28.4	Work pressure	13	11.2
Drug related death of friend	33	28.4	Something happened to child	11	9.5
Other health reasons	32	27.6	Peer pressure	11	9.5
Injecting drugs became less available	27	23.3	Under no circumstances	10	8.6
Financial pressure	23	19.8	Pending court case	10	8.6
Partner wanted to stop	20	17.2	Younger sibling started injecting	8	6.9
Fear of HIV/AIDS	18	15.5	Non-injecting drugs became more available	6	5.5

Note. Total % may not equal 100, as multiple responses were possible.

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Footnotes

1. In the context of HCV risk reduction, the fourth guideline should be extended to include the non-sharing or bleaching of equipment other than needles (due to the greater transmissibility of this virus in comparison to HIV/AIDS).

2. Note that due to the variety of ROA available to amphetamine users, this is a suitable drug to encourage users to engage in ROA other than injecting.

3. The TMBC has five SOC: precontemplation, contemplation, preparation, action and maintenance. However, in order to classify all participants the quick method of stage allocation is used, which only assesses the three SOC (Heather & Rollnick, 1993).

4. This group may represent a significant proportion of the drug injecting population. In a sample of IDU, Lennings and Pritchard (1999) found that 66% obtained needles and syringes from pharmacies only, rather than needle exchanges.

5. These participants may perceive a lesser threat of HCV. Although a HCV positive drug user faces the risk of infection with more than one strand of the disease (Watson, 2000), many users are not aware of this risk. Consequently, the beliefs of this group may mask the influence of this threat on injecting behaviour.

6. Due to the nature of the sample, i.e., injecting amphetamine users who are engaging in an addictive behaviour, it was believed the sixth EHBM construct (self-efficacy) may be affected by the IDU perceived dependency on the substance. Therefore this ANOVA was re-run with perceived dependency as a covariate. Results for this ANOVA were, $F(2, 115) = 6.355$, $p = .002$, $\eta^2 = .01$.