

REVIEW PROTOCOL

TITLE: Interventions to reduce illicit drug use in drug-dependent female street-based sex workers

Background

The 2010 UK Drug Strategy signalled a change in the emphasis of drug treatment. It encouraged services to focus more on supporting individuals to achieve full recovery that is abstinent from drug use. This is in contrast to the previous approach of reducing harms associated with drug whilst maintaining drug users' engagement with services.¹ This 'raising the bar' is likely to prove particularly challenging for the more problematic drug users such as street sex workers (SSWs) who traditionally experience difficulty in consistently engaging with services or achieving good treatment outcomes.

Drug users who are addicted to heroin and cocaine (the most common drugs of dependency amongst SSWs) have the poorest outcomes from treatment.² Compared to other drug users their drug use is more prolific, they are less successful in achieving abstinence and have higher mortality.³

In the UK drug use and sex work are inextricably linked.⁴ The highest rates of injecting drug use in the sex industry relate to those women who sell sex on the street rather than in parlours.⁵ Injecting drug users have greater health risks than drug users who do not inject including abscesses at injection sites, venous thrombo-embolism and septicaemia.⁶ Compared to other problematic drug users, SSWs are consistently found to represent a higher risk group for poor health as they have worse mental and physical health, and are more likely to have a history of child and adult abuse.⁷

Indirect risks to the health of drug using SSWs also occur through increased vulnerability and risk-taking whilst working due to the effects of recent drug use or withdrawal symptoms on behaviour.⁸ For SSWs, their problematic drug use may consolidate their involvement in sex work⁹ and many sex workers report feeling trapped in a 'work-score-use' cycle driven by their drug dependence which exposes them to multiple negative influences on their health.⁸

SSWs not only experience treatment issues relating to the problematic nature of their dependency, they also experience the challenges in accessing services as female drug users. Though males are over-represented amongst problematic drug users, this does not fully explain their preponderance amongst clients of treatment services. Women do not access mainstream drug services to the same extent as their male counterparts¹⁰ and women selling sex may experience particular barriers to service use.^{11 12} A review of drug service use by UK female drug users¹³ highlighted problems for female clients, such as male staff and mixing with male service users. Also female drug users are more likely than male drug users to have experienced childhood sexual abuse (36% versus 7%).¹³ Their service engagement problems, co-morbidity and poor outcomes suggest that standard services for SSWs are insufficient.¹⁴

Description of condition ¹⁵

International comparisons of the prevalence of drug misuse are difficult due to differences in data collection and analysis. However, studies consistently show that the UK (Scotland and England in

REVIEW PROTOCOL

particular) has among the highest rates of recorded illegal drug use in the western world. In particular, the UK has comparatively high rates individuals using heroin and crack cocaine.

Drug users may have a range of health and social care problems, which may or may not be associated with drug use. Drug users, and injecting drug users especially, are particularly vulnerable to contracting and spreading blood-borne viruses and other infections. A long-term follow-up of heroin addicts showed they had a mortality risk nearly 12 times greater than the general population.¹⁶ Another study of injecting drug users showed they were 22 times more likely to die than their non-injecting drug using peers.¹⁷

Hepatitis B

Over one-third (34%) of all cases of hepatitis B in England are associated with injecting illicit drugs. A prevalence rate of 21% is thought to exist among injecting drug users in the UK¹⁵

Hepatitis C

In England, over 90% of hepatitis C diagnoses are associated with injecting drug use. The Health Protection Agency (2006) reported that the current prevalence of hepatitis C among injecting drug users (IDUs) in England is 44% and across the UK it is almost 50%. Recent research indicates that those injecting crack cocaine have a much higher prevalence of hepatitis C infection (67%) than those injecting other drugs and cohort studies indicate the incidence has recently increased.¹⁵

HIV

Injecting drugs accounted for 5.6% of HIV diagnoses reported in the UK in 2005(HPA, 2006). The overall prevalence of HIV among injecting drug users in England, Wales and Northern Ireland remains relatively low at 1.3%. Of great concern is the recent increase in HIV among IDUs outside London, which has seen an increase in three years from 0.25% in 2003 to 0.66% (11 of 1,660) in 2006 (HPA, 2007). New studies looking at HIV incidence (new cases per year) found evidence of a recent increase in transmission amongst drug injectors in London to as much as 3.4% per annum though up to 6% in those injecting crack cocaine.

Impact of drug misuse on families and communities

Drug misuse can place an enormous strain on the families of drug users, including the children of drug-using parents, and can have a serious negative impact on the long-term health and wellbeing of family members.

Drug-related crime has been estimated to inflict a major cost on local communities and the national economy. The evidence that drug treatment significantly reduces drug-related crime has been one of the main drivers behind the 1998–2008 UK Drugs Strategy and the subsequent priority accorded to expanding drug treatment.¹⁵

Description of intervention

Due to the inter-related nature of drug dependency, sex work and risk-taking, interventions with SSWs are frequently complex and seek to address more than one aspect of their lives. Risk reduction may focus on either drug or sex-related risks, or sometimes both, in order to reduce the risk of HIV and other blood borne virus infections. If the intervention has a sex work focus then levels of illicit drug use may be reported as a secondary outcome. For this review, all interventions that report levels of illicit drug use as an outcome are eligible for consideration for inclusion whether reported as primary or secondary outcomes.

How interventions might work

Drug use is an integral part of the work- score use cycle which demonstrates the interdependency of sex work, drug use and unstable social background in determining the poor health of street sex workers. Interventions directed at any point in the cycle are likely to have knock-on effects on other parts of the cycle. An intervention targeting the drug use stage of the cycle may also result in a reduction in sex work involvement and vice versa.

Substitute prescribing of opiates reduces withdrawal symptoms and therefore pressure to buy and use illicit drugs. This in turn reduces the pressure to sell sex to generate income. However, illicit drug use in addition to substitute prescribing is still common. Additional behavioural changes are still required.

Educational interventions may act across three domains; cognitive, psychomotor and attitudinal. As qualitative research suggests that sex workers are well aware of the risks of drug use, educational interventions need to effect changes in the attitudinal and psychomotor domains rather than just transferring knowledge. Educational interventions could effect changes in the attitudinal domain, resulting in increased desire to reduce illicit drug use or change their social circumstances. Alternatively, changes in the psychomotor domain may provide transferable skills to generate alternative sources of income. Use of peer educators may make the education more accessible or give it more credibility.

Why important to do this review

The multiple issues for drug dependent SSWs are neither new nor confined to the UK,¹⁸ and successful use of mainstream drug treatment services remains problematic for this group. The current UK emphasis on outreach services with follow on service links for services targeting SSWs¹⁹²⁰ highlights that outreach services do not remove the need for access to mainstream services. Access to mainstream services is increasingly supported by caseworkers and staff from charities set up to work with SSWs,²¹ though the evidence to support this model in reducing illicit drug use is lacking.²² Taking elements of the mainstream service to the outreach setting to improve service access have been tried with limited success.²³ Brief motivational interviewing with SSWs has been shown to have promise in reducing illicit drug use²⁴ and is in keeping with recent National Treatment Agency guidelines.²⁵

REVIEW PROTOCOL

In order to achieve sustained progress in drug treatment outcomes for this difficult-to-treat group it may be that a new approach is needed. There is no systematic review of the evidence to date of interventions that affect levels of drug use in SSWs. This is the logical first step in opening the debate on how best to begin to address this longstanding health problem.

Objectives

Primary objective

To assess the effects of interventions to reduce illicit drug use in drug dependent female street-sex workers

Secondary objective

To assess the effect of the interventions to reduce illicit drug use on levels of sex work and homelessness. This secondary objective has been selected due to the close connections between these factors and drug use, which in combination have a direct influence on the health of drug dependent SSWs and their ability to utilise health services.

Outcome measures

Illicit drug use, involvement in sex work, homelessness.

Methods

The methods are designed to have restrictive inclusion criteria applied to the study population but inclusive criteria for types of intervention and study design. Inclusion criteria also aim to minimise heterogeneity amongst study participants. This is to ensure that the study population is SSWs at highest risk of ill-health, as they are likely to experience greatest health gain from an intervention that reduces illicit drug use. An inclusive approach to interventions ensures that all interventions reducing drug use, whether a primary or secondary outcome, are included.

Due to the challenges of undertaking research with hard-to-reach groups²⁶ it is anticipated that the numbers of RCTs will be small, studies are likely to include small numbers of participants and have an observational methodology. In the interests of identifying all relevant interventions, methodological inclusion criteria have been made broad.

Criteria for considering studies for this review

Types of studies

All quantitative study designs that deploy an intervention and report levels of illicit drug use as an outcome are eligible for inclusion, apart from case series and case reports. These are excluded from the review due to their high risk of bias. Although non-randomised studies are at increased risk of bias compared with RCTs, they are included because we recognise the difficulties of including sex workers in randomised trials.

REVIEW PROTOCOL

Types of participants

Study inclusion criteria require the study population to be female, or greater than 90% female with a small number of transgender participants only. Participants are required to be currently using opiates and/or crack cocaine as drugs of abuse and currently involved in street-sex work as their principle sector of work. Current sex work and drug use are defined as use on more than one occasion in the last 30 days. Participants cannot not be incarcerated.

Types of interventions

Any intervention, with or without a comparator, resulting in levels of heroin or crack cocaine use being reported as an outcome, are eligible for inclusion. The primary aim of the intervention does not need to be a reduction in illicit drug use, as interventions affecting drug use could focus on HIV risk reduction or a reduction in sex work involvement as a primary outcome.

Control

Usual care or no intervention

Types of outcomes measures

Outcome measures have been selected that indicated levels of activities that impact directly on the health and health services use by SSWS. Reporting of the primary outcome is required for inclusion in the review. As explained above, the primary outcome for this review is not necessarily the primary outcome for the individual studies.

Primary outcomes

The primary outcome for this review is levels of illicit drug use (heroin and/or crack cocaine). Studies reporting objective or self-reported measures of use will be included.

Secondary outcomes

Secondary outcomes are levels of sex working and homelessness.

Timing of outcomes assessment

No restriction has been applied to timing of outcome assessment as short follow up is anticipated due to the transient nature of the study population.

Search methods for identification of studies

A combination of data sources will be searched to identify published and unpublished studies in manuscripts, theses, reports and literature available through relevant databases and organisation websites. Grey literature will also be identified and considered.

Electronic searches

Development of searches strategies will be constructed around terms for sex work and problematic drug use. Initial search will be medline and subsequent searches modified according to different database and website terms. Advice on relevant searching will be obtained from the subject librarian in order to identify all relevant databases which may or may not have a health emphasis eg educational databases

Data collection and analysis

Endnote reference management software will be used to download and manage citations identified during searches and to facilitate the initial screening of titles and abstracts.

REVIEW PROTOCOL

Selection of studies

The principal reviewer (NJ) will be responsible for initial inspection of evidence identified by the searches which appear to meet review inclusion criteria. If the paper or report cannot be confidently excluded on screening of title or abstract then it will be included for full text consideration. The final decision on inclusion in the review will be made after consideration of the full text by two individuals. Screeners will not be blinded to names of authors, institutions or journal of publication. Where disagreements on study inclusion arise, authors will be contacted for further information and input from other review authors requested.

Data extraction and management

The principal reviewer (NJ) will be responsible for the extraction of data from all included studies. Data will be extracted onto a data extraction form based on the format advised in the Cochrane Handbook for Systematic Reviews of Interventions.²⁷ Findings will be discussed with other review authors before inclusion in the review.

Assessment of bias in included studies

NJ, working independently, will be responsible for assessing risk of bias as outlined in the Cochrane Handbook for Systematic Reviews of Interventions.²⁷ This encourages consideration of how the randomisation sequence was generated, how allocation was concealed, the integrity of blinding at outcome assessment, the completeness of outcome data, selective reporting and other potential sources of bias identified by the authors. The risk of bias in identified studies will be discussed with other review authors to ensure objective assessment in consideration of potential risks of bias in included studies. All eligible studies will be included irrespective of their assessed risk of bias.

Risk of bias in included studies will be assessed using statistical methods where considered appropriate.

Measures of treatment effect

All measures of effect will be accepted, both objective and self-reported.

Assessment of heterogeneity

Inclusion criteria have been chosen to minimise heterogeneity amongst study participants. Heterogeneity in interventions and outcome measures is likely. This will be assessed using statistical methods where considered appropriate.

Data synthesis

We will develop a system to categorise studies so that meaningful narrative syntheses and meta-analyses, if data are available, can be constructed to answer the following questions:

- 1) What is the direction of treatment effect,
- 2) What is the size of the effect,
- 3) Is the effect common across all studies,
- 4) What is the strength of evidence for the effect.

Meta-analyses are appropriate if it is possible to consider that the data in the different studies could be from the same population. The use of meta-analyses to describe the size of effect may not be meaningful if the implementations are so diverse that an effect estimate cannot be interpreted in

REVIEW PROTOCOL

any specific context.²⁷ Therefore care will be taken to draw up a categorization of studies for which meaningful synthesis of evidence, either narrative or meta-analysis, can be drawn. These are likely to be based on intervention type and setting as study population inclusion criteria are designed to ensure minimal variation.

The decision on the final taxonomy/hierarchy for synthesis will be undertaken by the reviewers once the studies have been identified. We have decided upon this post-hoc method of categorising studies because we are unclear what range of interventions and settings we will identify and it is important to consider them all as we develop a taxonomy.

If there are sufficient data (e.g. data on the same outcome from at least 3 studies of the same design and intervention) we will consider pooling the data in a meta-analysis to allow quantification of the direction of treatment effect and consistency of treatment effect. In those cases where suitable numerical data are not available for pooling, or if pooling considered inappropriate we will look at treatment effect direction and consistency by providing a systematic summary of the evidence narratively using a structured summary of the evidence (tables and descriptive text) from the studies.

References

1. HM Government. DRUG STRATEGY 2010 Reducing Demand, Restricting Supply, Building Recovery : Supporting People to Live a Drug Free Life.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/118336/drug-strategy-2010.pdf.
2. National Treatment Agency. A long-term study of the outcomes of drug users leaving treatment: National Treatment Agency
http://www.nta.nhs.uk/uploads/outcomes_of_drug_users_leaving_treatment2010.pdf, 2010.
3. Burnette M LE, Ilgen M, Frayne S, Mayo J, Weitlauf J. Prevalence and health correlates of prostitution among patients entering treatment for substance use disorders. Archives of General Psychiatry 2008;**65**(3):337 - 44.
4. May T, Edmunds M, Hough M, et al. Street Business: The links between sex and drug markets. Police research series paper 118. London: Home Office, 1999.
5. Jeal N, Salisbury C. Health needs and service use of parlour-based prostitutes compared with street-based prostitutes: a cross sectional survey. BJOG 2007;**114**:875-81.
6. Jeal N, Salisbury C. A health needs assessment of street-based prostitutes: a cross sectional survey. Journal of Public Health 2004;**26**(2):147-51.
7. Gilchrist G, Gruer L, Atkinson J. Comparison of drug use and psychiatric morbidity between prostitute and non-prostitute female drug users in Glasgow, Scotland. Addictive Behaviours 2005;**30**:1019-23.
8. Jeal N, Salisbury C, Turner K. The multiplicity and interdependency of factors influencing the health of street-based sex workers: a qualitative study. Sexually Transmitted Infections 2008;**84**:381-85.
9. Cusick L HM. 'Trapping' in drug use and sex work careers. Drugs: education, prevention and policy 2005;**12**(5):369 - 79.
10. Davis T CK, Malte C, Carney M, Chambers S, Saxon A. Women in addictions treatment: comparing VA and community samples. Journal of Substance Abuse Treatment 2002;**23**:41 - 8.
11. Jeal N, Salisbury C. Self-reported experiences of health services among female street-based prostitutes: a cross sectional survey. . British Journal General Practice 2004:515-19.

REVIEW PROTOCOL

12. Kurtz S, Surrat H, Kiley M, et al. Barriers to Health and Social Services for Street-Based Sex Workers. *Journal of Health Care for the Poor and Underserved* 2005;**16**:345-61.
13. Simpson M, J M. Different needs: Women's drug use and treatment in the UK. *Int J Drug Policy* 2008;**19**:169-75.
14. Burnette M SR, Timko C, Ilgen M. Impact of substance-use disorder treatment on women involved in prostitution: substance use, mental health and prostitution one year after treatment. *Journal of Studies on Alcohol and Drugs* 2009;**70**:32-40.
15. Department of Health (England) and the devolved administrations. Drug misuse and dependence: UK guidelines on clinical management. London: Department of Health (England), the Scottish Government, Welsh Assembly Government and Northern Ireland Executive, 2007.
16. Oppenheimer E, Tobutt C, Taylor C, et al. Death and Survival in a Cohort of Heroin Addicts from London Clinics: A 22-Year Follow-Up Study. *Addiction Res* 1994;**89**:1299-308.
17. Frischer M, Goldberg D, Rahman M, et al. Mortality and Survival Amongst a Cohort of Drug Injectors in Glasgow 1982-1994. *Addiction* 1997;**92** 419-27.
18. Bergstrom M. A ten year follow up of female opiate addicts. *International Journal of Family Psychiatry* 1988;**9**(1):67-91.
19. Hester M, Westmorland N. Tackling Street Prostitution: Towards an holistic approach. Home Office Research Study 279. London: Home Office http://mesmac.co.uk/files/tackling_street_prostitution.pdf, 2004.
20. Scottish Executive. Guidance for local authorities and their community planning partners on street prostitution: The Scottish Government <http://www.scotland.gov.uk/resource/doc/1099/0052450.pdf>, 2007.
21. Bloor R CI, Moss J, Freeman S, Okolo D, Astari D. The impact of treatment on female drug-using sex workers: National treatment Agency for Substance Misuse http://www.nta.nhs.uk/publications/documents/nta_impact_treatment_female_drug_sex_workers_2006_rb14.pdf, 2006.
22. Hesse M VW, Rapp R, Broekaert E, Fridell M,. Case management for persons with substance use disorders. : *Cochrane Database of Systematic Reviews*, 2007.
23. Nuttbrock L, Rosenblum A, Magura S, et al. Linking female sex workers with substance abuse treatment. *Journal of Substance Abuse Treatment* 2004;**27**:233-39.
24. Yahne C MW, Irvin-Vitela L, Tonigan JS. Magdalena pilot project: motivational outreach to substance abusing women street sex workers. *Journal of Substance Abuse Treatment* 2002;**23**:49 - 53.
25. Pilling S, Hesketh K, Mitcheson L. Routes to recovery: Psychosocial interventions for drug misuse: National Treatment Agency, 2010.
26. Benoit C, Janssen M, Millar A, et al. Community-Academic Research on Hard-to-Reach Populations: Benefits and Challenges. *Qualitative Health Research* 2005;**15**(2):263-82.
27. Higgins J P T, Green S (editors). *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.1.0. www.cochrane-handbook.org, Updated March 2011.