Motivational interviewing for substance abuse

Protocol information

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Citation example: Smedslund G, Berg RC, Hammerstrøm KT, Steiro A, Leiknes KA, Dahl MH, Karlsen K. Motivational interviewing for substance abuse [Protocol]. Campbell Systematic Reviews 2009.

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Dates

Assessed as Up-to-date:	05 February 2009
Date of Search:	
Next Stage Expected:	05 August 2009
Protocol First Published:	Not specified
Review First Published:	Not specified
Last Citation Issue:	Not specified

What's new

Date / Event	Description

History

Date / Event	Description

Abstract

Background

Objectives

Search methods

Selection criteria

[Summary title]

[Summary text]

Background

Motivational interviewing (MI) developed by Miller and Rollnick (Miller 1991) is a client-centred, semi-directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence. MI integrates the relationship-building principles of Carl Rogers (Rogers 1951) with more active cognitive-behavioural strategies. The intervention has four basic principles (described below). It is also guided by the six core elements of effective brief interventions called FRAMES. The acronym stands for (a) feedback, (b) responsibility, (c) advice, (d) menu of options, (e) empathy, and (f) self-efficacy. A brief variant of MI is called Motivational Enhancement Therapy (MET). MET is manual-based, and was developed as part of Project MATCH (Project MATCH 1997) . Project MATCH was a large multisite trial comparing MI with cognitive behavioral therapy (CBT) and twelve-step facilitation therapy. MI counselling does not require professional training as nurse, psychologist, etc. Hence, MI may be incorporated in programmes run by health care staff as well as e. g. prison staff. There are explicit standards for practitioners regarding education and competence, and there is a quality control to ensure that the method is in fact used as intended. Promising results have been reported as to the effect of the method for alcohol dependence (Carey 2007), as well as for a number of problem areas (Burke 2004 ; Hettema 2005; Rubak 2005). MI has recently been introduced into the criminal justice system, in Europe as well as in North-America.

Description of the condition

Substance abuse refers to the overindulgence in and dependence of a drug or other chemical leading to effects that are detrimental to the individual's physical and mental health, or the welfare of others. The disorder is characterized by a pattern of continued pathological use of a medication, non-medically indicated drug or toxin, that results in repeated adverse social consequences related to drug use, such as failure to meet work, family, or school obligations, interpersonal conflicts, or legal problems. There are on-going debates as to the exact distinctions between substance abuse and substance dependence, but current practice standard distinguishes between the two by defining substance

dependence in terms of physiological and behavioral symptoms of substance use, and substance abuse in terms of the social consequences of substance use. Substance abuse may lead to addiction or substance dependence. Medically, physiologic dependence requires the development of tolerance leading to withdrawal symptoms. Both abuse and dependence are distinct from addiction which involves a compulsion to continue using the substance despite the negative consequences, and may or may not involve chemical dependency. Dependence almost always implies abuse, but abuse frequently occurs without dependence, particularly when an individual first begins to abuse a substance. Dependence involves physiological processes while substance abuse reflects a complex interaction between the individual, the abused substance and society. There is also a distinction between "misuse" and "abuse" of substances. Substance misuse is the incorrect use of medication by patients, who may use a drug for a purpose other than that for which it was prescribed; or use of a substance for unintended purposes.

Description of the intervention

Motivational interviewing or Motivational Enhancement Therapy. In practice, MI has never been studied in its pure form. The research has employed adaptions of MI (AMIs) in various forms (Burke 2003). The comparison group will receive alternative psychosocial interventions or treatment as usual.

How the intervention might work

MI is supposed to work through its four main principles: (1) express empathy, (2) support self-efficacy, (3) roll with resistance, and (4) develop discrepancy. (1) involves seeing the world through the client's eyes. (2) means that clients are held responsible for choosing and carrying out actions to change. (3) means that the counsellor does not fight client resistance, but "rolls with it." Statements demonstrating resistance are not challenged. Instead the counsellor uses the client's "momentum" to further explore the client's views. (4) Motivation for change occurs when people perceive a discrepancy between where they are and where they want to be. MI counsellors work to develop this situation through helping clients examine the discrepancies between their current behavior and future goals. When clients perceive that their current behaviours are not leading toward some important future goal, they become more motivated to make important life changes.

Why it is important to do this review

The intervention is used widely, and therefore it is important to find out whether it helps, harms or is ineffective. Several reviews and meta-analyses have been published (e.g. Andreasson 2003; Burke 2003; Burke 2004; Carey 2007; deWildt 2002; Dunn 2001; Emmelkamp 2006; Grenard 2006; Hettema 2005; Larimer 2007; Nahom 2005; Rubak 2005; Vasilaki 2006) but they all differ somewhat from our review. Some of them have studied effects of MI (AMI) on other groups in addition to substance abusers or studied only alcohol abusers. Others included other interventions than MI. Still others included other designs than randomised

trials.

Objectives

To measure the effects of motivational interviewing on substance abuse in substance abusers. By 'substance abusers' we mean persons for whom someone views their substance use as a problem. This includes problem drinkers. We exclude substance misuse as described above. We want to study the effects of MI as a stand-alone intervention as well as a prelude for another therapy such as CBT.

Methods

Criteria for considering studies for this review

Types of studies

We include studies where units (persons, therapists, institutions) were allocated randomly or quasi-randomly to motivational interviewing or other conditions. Both efficacy studies (in which the treatment is studied under ideal conditions) and effectiveness studies (in which treatment is studied under real-world conditions) are included. Included studied must be published in or after 1983, which was the year that MI was introduced. We include studies where MI or MET is used alone, as a prelude to other therapy or integrated with other therapy. The comparator could be no intervention, waiting list control, placebo psychotherapy or other active therapy. Studies must include audio- or videotaping of sessions in order to assess fidelity of treatment. We search for both published and unpublished studies in all languages. If a study is reported in a language that no one in the review team understands, we try Google translate (http://www.google.com/translate_s). If this tool is not sufficient, we will employ persons with the sufficient language skills. There is no limitation on length of study. Qualitative studies will not be included in this review.

Types of participants

Persons defined as having either substance abuse, dependency or addiction, but not misuse. There are no limitations on age or other participant characteristics. The term substance refers to a drug of abuse, a medication, a toxin or alcohol, excluding nicotine or caffeine. According to International classification of Diseases version 10 (ICD-10) (WHO 1993) this includes the following codes, F10 to F19, excluding F17 (tobacco)*. Equivalent disorders and codes in the Diagnostic and Statistical Manual of Mental Disorders, third revised edition (DSM-III-R) (APA 1987) and fourth edition, (DSM-IV) (APA 1994), chapter Substance-Related disorders, will also be included. We also include studies in which substance abuse is not formally diagnosed. Participants could be dual diagnosis clients. We include both participants who only abuse substances and participants who also have mental problems, but we analyse the two groups separately.

*[Mental and behavioural disorders due to use of - alcohol (F10 - 303.-), - opioids (F11), - cannabinoids (F12), - sedatives or hypnotics (F13), - cocaine (F14), -

other stimulants (amphetamine) (F15), - hallucinogens (F16), - volatile solvents (F18) and - multiple drug use and use of other psychoactive substances (F19).]

Types of interventions

Primarily, the interventions should be labelled motivational interviewing or motivational enhancement therapy. The intervention could basically be offered in three ways: (1) as a stand-alone therapy, (2) MI integrated with another therapy, or (3) MI as a prelude to another therapy (e.g. cognitive behavioral therapy).

Types of outcome measures

Degree of substance abuse might be measured using various scales or inventories. This could be measured as frequency of use (e. g. number of drinking days per month), or quantity of use (e.g. number of drinks per drinking days). Outcomes could be by self-report, reports by significant others, or objective measurements like blood alcohol content.

Primary outcomes

Primary outcomes: cease of substance use, reduction in substance abuse. Outcomes are described in the draft data extraction form (Appendix 1). Outcomes will typically be recorded as a posttest immediately after the interventions ended, short-term follow-ups until six months after the intervention ended, medium-term follow-ups of between six and 12 months, and long-term forllow-ups of more than 12 months. The exact follow-up durations will be recorded for each study (Appendix 1).

Secondary outcomes

Secondary outcomes: Number of repeat convictions (for convicted substance abusers). Enhance retention and engagement in treatment. Improve motivation for change.

Search methods for identification of studies

Electronic searches

We will search the following electronic databases: Medline, Embase, PsycInfo, PsychExtra, Cochrane Central, C2-SPECTR, International Bibliography of the Social Sciences (IBSS), Sociological Abstracts, Web of Science (ISI), SveMed+, CINCH, NCJRS, SpringerLink, Wiley Interscience, DrugScope Library, Electronic Library of the National Documentation Centre on Drug Use, Google Scholar, and Google. Detailed search strategies for each database are in Appendix 2 . Year of publication is limited to 1983 and later.

We will search the following web sites and mailinglists: Websites: www.motivationalinterview.org http://nrepp.samhsa.gov/programfulldetails.asp?PROGRAM_ID=182

Mailinglists: MINT-listserv; a mailing list available to members of MINT

(Motivational Interviewing Network of Trainers)□Australian Criminology Listserv□Campbell Crime&justice group steering committee□Crimnet. http://www.law.usyd.edu.au/mailman/listinfo/crimnet

Searching other resources

We will make contact with MI developers, practitioners and independent researchers to identify unpublished reports and ongoing studies. References in obtained reviews and included primary studies will be scanned to identify new leads.

Data collection and analysis

Dealing with dependent data

When there are more than one intervention group that are compared with a single control group, we will not include both comparisons in the same meta-analysis. When there are several follow-up times, we will analyse them separately. When there are more than one measure of the same outcome, we will use the standardised mean value.

Selection of studies

References from the searches will be uploaded into SRS 4.0 software for screening and data extraction. The screening will proceed in 4 levels. At Level 1, two reviewers will scan the titles of each reference. Each reviewer scores either "promote to next level", "exclude" or "can't tell". Only if both reviewers score "exclude" will the reference be excluded. If at least one reviewer scores "can't tell" or "include", the reference is promoted to Level 2. At Level 2, the titles and abstracts are read, and the same promotion rules apply. References promoted to Level 3 are ordered in full text. Two reviewers read the full texts and score "include" or "exclude". If there is disagreement, and the two reviewers cannot agree, a third reviewer decides whether to include the study.

Data extraction and management

At level 4, data from each study are extracted by two reviewers using the data extraction form (Appendix 1). The same rules for tackling disagreement as at Level 3 apply. If outcome or other vital information is missing from the original reports, we will contact the corresponding author by e-mail in an attempt to retrieve the necessary data for the analysis.

Assessment of risk of bias in included studies

We will assess components that contribute to the measured effectiveness of interventions. Two reviewers will independently assign each selected study to quality categories described below. Uncertainty or disagreement is solved by discussion with a third reviewer.

Generation of allocation sequence

MET = Resulting sequences are unpredictable (explicitly stated use of either computer-generated random numbers, table of random numbers, drawing lots or

envelopes, coin tossing, shuffling cards, or throwing dice).

UNCLEAR = Vague statement that the study was randomised but not describing the generation of the allocation sequence or statement(s) indicating that random allocation was used in some but not all cases.

NOT MET = Explicit statement that the study was not randomised OR explicit description of inadequate generation of sequence, (e.g., using case record numbers, alternation, date of admission, date of birth).

Concealment of allocation sequence

MET = Participants and investigators cannot foresee assignment, e.g. central randomisation performed at a site remote from trial location; or use of sequentially numbered, sealed, opaque envelopes).

UNCLEAR = Vague statement that the study was randomised but not describing the concealment of the allocation sequence.

NOT MET = Explicit statement that allocation was not concealed OR statement indicating that participants or investigators can foresee upcoming assignment (e. g., open allocation schedule, unsealed or non-opaque envelopes).

Control of initial difference in prognostic factors between groups

In a properly randomised study, all initial differences between groups will be caused by chance. This applies to all prognostic variables, both known and unknown. But in non-randomised designs, there may be important initial differences between groups. These differences can be systematic, and they can appear in unmeasured variables as well as in the measured ones. It is generally possible to control for the latter but not the former. Matching can be used before the intervention to make groups more similar, and regression methods can be used after the intervention to control for initial differences, but all these methods may introduce bias in the results (Deeks 2003). Studies in which both generation and concealment of allocation sequence are MET, will be coded as MET below.

MET = Control for one or more prognostic factors. Also score MET when there is no control for prognostic factors because there was no imbalance in measured variables.

UNCLEAR = Sufficient information could not be obtained.

NOT MET = Imbalance in prognostic factors and failure to control for this imbalance.

Prevention of Performance Bias

MET = Other interventions avoided or used similarly across comparison groups.

UNCLEAR = Use of other interventions not reported and cannot be verified by contacting the investigators.

NOT MET = Dissimilar use of other interventions across comparison groups, i. e.

differences in the care provided to the participants in the comparison groups other than the intervention under investigation.

Prevention of Detection Bias

MET = Assessor unaware of the assigned treatment when collecting outcome measures.

Also score as met if outcome is questionnaire data or register data.

UNCLEAR = Blinding of assessor not reported and cannot be verified by contacting investigators.

NOT MET = Assessor aware of the assigned treatment when collecting outcome measures.

Prevention of Attrition Bias

MET = Losses to follow up less than or equal to 20% and equally distributed between comparison groups (proportion of total loss to follow-up equal to or less than 60% in group with the highest loss to follow-up).

UNCLEAR = Losses to follow up not reported.

NOT MET = Losses to follow up greater than 20% or not equally distributed between comparison groups.

Intention-to-treat

MET = Intention to treat analysis performed or possible with data provided.

UNCLEAR = Intention to treat not reported, and could not be undertaken by contacting the investigators.

NOT MET = Intention to treat analyses not done and not possible for reviewers to calculate independently.

Grading of evidence

The quality of evidence will be assessed according to a systematic and explicit method (Guyatt 2008). In order to indicate the extent to which one can be condent that an estimate of effect is correct, judgments about the quality of evidence will be made for each comparison and outcome. These judgments consider study design (RCT, quasi RCT or observational study), study quality (detailed study design and execution), consistency of results (similarity of estimates of effect across studies) and directness (the extent to which people, interventions and outcome measures are similar to those of interest). The following denitions in grading the quality of evidence for each outcome will be used: High: further research is very unlikely to change our condence in the estimate of effect. Moderate: further research is likely to have an important impact on our condence in the estimate of effect and may change the estimate. Low: further research is very likely to have an important impact on our condence in the estimate of effect and may change the estimate. Very low: any estimate of

effect is very uncertain.

Measures of treatment effect

We will compare the treatment and control groups for outcomes at post-test and at different follow-up times. For dichotomous data, we will report relative risks (risk ratios). For continuous data we will report standardised mean differences. 95 percent confidence intervals will be used as measures of the amount of random errors influencing the outcome estimations. We will use the **optimal information size (OIS)** (Pogue 1997) for assessing whether there is a sufficient sample size for concluding that there is a statistically significant effect in a meta-analysis. Using a two-sided alpha of 0.01 and power of 0.95 we calculate that a total sample size of 1786 is necessary for detecting a small standardised mean difference (SMD). For SMDs of 0.5 (medium) and 0.8 (large), the OIS are 290 and 116, respectively.

Unit of analysis issues

In cluster-randomised trials, the elements are groups of individuals (e.g. prisons, geographical areas, clinics), rather than individuals themselves. In such studies, care should be taken to avoid unit-of-analysis errors. If there for instance are a total of 100 substance abusers with 25 abusers in each of four clinics, and two clinics are randomised to receive the intervention and the other two are randomised to receive the control, the correct N to use in the analysis is not 100 but smaller. The effective sample size of a single intervention group in a cluster-randomised trial is its original sample size divided by a quantity called the *design effect*. A common design effect is usually assumed across intervention groups. The design effect is 1+(m - 1)r, where m is the average cluster size and r is the *intra cluster correlation coefficient* (ICC). If we include any cluster randomised controlled trials in this review, we try to measure the intra-cluster correlation. The total variance in the outcome can be partitioned into variance between groups (VBG) and variance within groups (VWG).The intra cluster correlation is calculated as VBG/(VBG+VWG). But the ICC is seldom reported in the primary studies. The number of participants can be used in the analyses if the ICC is used as a correcting factor. For dichotomous data both the number of participants and the number experiencing the event can be divided by the same design effect (Green 2008).

Dealing with missing data

We will contact authors by email to collect missing data. Statisticians often use the terms ‘missing at random’, and ‘not missing at random’ to represent different scenarios. Data are said to be ‘missing at random’ if the fact that they are missing is unrelated to actual values of the missing data. Data are said to be ‘not missing at random’ if the fact that they are missing is related to the actual missing data. In cases where we assume that data is missing at random, we will analyse only the available data. If we assume that the data are not missing at random, we will Impute the missing data with replacement values, and treat these as if they were observed. We will do this in different ways and compare the results (e.g.

last observation carried forward, imputing an assumed outcome such as assuming all were poor outcomes, imputing the mean, imputing based on predicted values from a regression analysis).

Assessment of heterogeneity

Statistically significant heterogeneity among primary outcome studies will be assessed with Chi-squared (Q) test and I-squared (Higgins 2003). A significant Q (P<.05) and I-squared of at least 50% will be considered as statistical heterogeneity.

Assessment of reporting biases

We will use funnel plots for information about possible publication bias. But asymmetric funnel plots are not necessarily caused by publication bias (and publication bias does not necessarily cause asymmetry in a funnel plot). If asymmetry is present, likely reasons will be explored.

Data synthesis

If meta-analyses are performed, we will report both fixed-effect and random effects meta-analyses. If meta-analyses are not judged to be appropriate, we will report the results for each individual study.

Subgroup analysis and investigation of heterogeneity

We will investigate the following factors with the aim of explaining observed heterogeneity: fidelity check, type of substance, intensity or length/period of the intervention, profession of therapist, characteristics of the control condition, quality and application of measurement tools, and differences in participant characteristics. We will also compare results for studies with or without the developers of MI William R. Miller or Stephen Rollnick on the author list or mentioned as mentors or trainers. We will analyse effects separately for MI alone, MI integrated with other therapy, and MI given as a prelude to other therapy. If there are many primary studies, we classify them according to these variables in order to identify possible sources of heterogeneity. We will consider performing moderator analyses (stratification on subgroups, meta-analysis analogue to ANOVA, meta-regression) to explore how observed variables are related to heterogeneity.

Sensitivity analysis

If the number of included studies is sufficient (more than 10), we will assess the impact of differing methodological quality by sensitivity analyses. The following sensitivity analyses are planned a priori. By limiting the studies to be included to those with higher quality, we will examine if the results change, and check for the robustness of the observed findings. 1. Quasi-randomised studies versus randomised studies. 2. Excluding trials whose drop out rate is greater than 20%. 3. Performing the worst case scenario ITT (all the participants in the experimental group experience the negative outcome and all those allocated to the comparison group experience the positive outcome) and the best case scenario

ITT (all the participants in the experimental group experience the positive outcome and all those allocated to the comparison group experience the negative outcome).

Results

Description of studies

Results of the search

Included studies

Excluded studies

Risk of bias in included studies

Allocation

Blinding

Incomplete outcome data

Selective reporting

Other potential sources of bias

Effects of interventions

Discussion

Summary of main results

Overall completeness and applicability of evidence

Quality of the evidence

Potential biases in the review process

Agreements and disagreements with other studies or reviews

Authors' conclusions

Implications for practice

Implications for research

Acknowledgements

Thanks to Tom Barth, Peter Prescott, and Tore Børtveit for helpful suggestions about inclusion criteria.

Contributions of authors

Karlsen conceived of the idea. All reviewers were involved in planning the review. Smedslund wrote the methods section of the protocol. Karlsen and Smedslund wrote the background. Hammerstrøm developed the search strategy.

Declarations of interest

None.

Differences between protocol and review

Published notes

Characteristics of studies

Characteristics of included studies

Footnotes

Characteristics of excluded studies

Footnotes

Characteristics of studies awaiting classification

Footnotes

Characteristics of ongoing studies

Footnotes

Summary of findings tables

Additional tables

References to studies

Included studies

Excluded studies

Studies awaiting classification

Ongoing studies

Other references

Additional references

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Classification pending references

Data and analyses

Figures

Sources of support

Internal sources

- Norwegian Knowledge Centre for the Health Services, Not specified

External sources

- No sources of support provided

Feedback

Appendices

1 Data Extraction Form

ASSESSMENT AND DATA EXTRACTION

(January 13, 2009)

NB: IF NOT OBVIOUS, INDICATE WHERE YOU FOUND THE DATA (PAGE, TABLE NO, ETC.)

Reviewer (three letters):_____**Date of completing form:**_____

PUBLICATION/STUDY

(1 study can have several publications and 1 publication can report results from several studies)

Study identifier: (first author, year or study name, year) (e.g. 'Miller, 1999' or 'Project MATCH, 1997')_____

Publication type:

report journal article book book chapter dissertation other

Publication year (>1983):

First year of data collection: Last year of data collection:

Country or countries of where study was conducted:_____

TYPE OF DESIGN (use flow chart)

Randomised controlled trial Cluster randomised trial Quasi randomised trial

TRIAL QUALITY

Random generation of allocation

Met (**Resulting sequences are unpredictable** (explicitly stated use of either computer-generated random numbers, table of random numbers, drawing lots or envelopes, coin tossing, shuffling cards, or throwing dice)).

Unclear (Vague statement that the study was randomised but not describing

the generation of the allocation sequence.)

Not met (Explicit statement that the study was not randomised OR explicit description of inadequate generation of sequence, e. g. (e.g., using case record numbers, alternation, date of admission, date of birth).

Allocation concealment

Met (**Participants and investigators cannot foresee assignment**, e.g. central randomisation performed at site remote from trial location, sequentially numbered, sealed, opaque envelopes).

Unclear (Vague statement that the study was randomised but not describing the concealment of the allocation sequence.)

Not met (Explicit statement that allocation was not concealed OR statement indicating that participants or investigators can foresee upcoming assignment (e. g., open allocation schedule, unsealed or non-opaque envelopes)).

Performance bias

Met (Interventions other than the present one avoided or used similarly across comparison groups.)

Unclear (Use of interventions other than motivational interviewing not reported and cannot be verified by contacting the investigators.)

Not Met (Dissimilar use of interventions other than motivational interviewing across comparison groups, i. e. differences in the care provided to the participants in the comparison groups other than the intervention under investigation.)

Detection bias

Met (Assessor unaware of the assigned treatment when collecting outcome measures. Score as met if outcome is questionnaire data or register data.)

Unclear (Blinding of assessor not reported and cannot be verified by contacting investigators.)

Not met (Assessor aware of the assigned treatment when collecting outcome measures.)

Attrition bias

Met (Losses to follow up less than or equal to 20% and equally distributed between comparison groups (proportion of total loss to follow-up equal to or less than 60% in group with the highest loss to follow-up).

Unclear (Losses to follow up not reported.)

Not met (Losses to follow up greater than 20% or not equally distributed between comparison groups.

Intention-to-treat

Met (Intention to treat analysis performed or possible with data provided.)

Unclear (Intention to treat not reported, and could not be undertaken by contacting the investigators.)

Not met (Intention to treat analyses not done and not possible for reviewers to calculate independently.)

Integrity Check

Video of all sessions

Video of some of the sessions

Audio of all sessions

Audio of some of the sessions

Coding system (e.g. MISC, MITI)

Profession of clinician

Psychologist

Physician

PhD student

Other student

Nurse

Other

Clinicians' assignment

All clinicians treated both groups

Clinicians were randomised to groups

Clinicians used one type of treatment

Setting

University

School

Outpatient clinic

Hospital

Other

PARTICIPANTS (Use data for total group. If not reported, use data for intervention group).

Age Data

Age not reported (**If data are only reported for subgroups, use the Excel files "combine two groups" or "combine three groups")**

			Total group			
	Mean age					
	St. dev.					
	Median age					
	Description of age data:					

Gender

Gender not reported

Percent males total group (round to nearest whole percent)

Type of substance

Multiple substances

Education Level Data

Education not reported

			Total group	
	Percent with GED or High school diploma			
	Mean number of years of education			
	St. dev.			
	Median number of years of education			
	Describe education data:			

In-patient or outpatient

In-patient

Out-patient

INTERVENTION

Table/figure/page where interventions are described_____

Short description of intervention:_____
_____
_____

Duration of intervention (period when intervention and comparison groups face different conditions)_____
__

Number of sessions

Duration of sessions

Participation

Percent

Randomised but did not participate:

Participated in at least one session:

Participated in all sessions:

Short description of comparison group:_____

OUTCOME

Table/figure and page where results are reported_____

Sample Size at baseline

Number in intervention group 1

Number in intervention group 2

Number in intervention group 3

Number in control group 1

Number in control group 2

Number in control group 3

Type of outcome:

Questionnaire data Biological (e.g. urine sample Self-report)

Reporting of adverse outcomes? Yes No

Description of adverse outcomes:_____

Comparison _____vs_____ _

	Outcome measure		Follow up time		Group 1 Events/total number		Group Events Numbe

Comparison
_____vs_____
_

	Outcome measure		Follow up time		Group 1 Events/total number		Group Events Numbe

Comparison
_____vs_____
_

	Outcome measure		Follow up time		Group 1 Events/total number		Group Events Numbe

Comparison
_____vs_____
_

	Outcome measure		Follow up time		Group 1 Events/total number		Group Events Numbe

Comparison
_____vs_____
_

	Outcome measure		Follow up time		Group 1 Events/total number		Group Events Numbe

(1) Note if SE or other measure was used

(2) Note what summary statistics were used. Note if adjusted analysis and if adjusted, which variables.

(3) Note statistical analysis used

2 Search Strategy for Electronic Databases

Ovid MEDLINE(R)

1 Interview, Psychological/

2 Feedback, Psychological/

3 (interview$ or feedback$ or enhancement).tw.

4 or/1-3

5 Motivation/

6 motivational$.tw.

7 or/5-6

8 4 and 7

9 exp Substance-Related Disorders/

10 ((drug or substance$ or alcohol or opioid$ or amphetamine$ or cocaine or marijuana or cannabis or phencyclidine or benzodiaz$) adj2 (misuse or abuse$ or addict$ or depend$)).tw.

11 (alcoholi$ or drinker$ or drinking$).tw.

12 exp benzodiazepines/

13 or/9-12

14 8 and 13

15 clinical trial.pt.

16 randomized controlled trial.pt.

17 controlled clinical trial.pt.

18 randomized.ti,ab.

19 placebo.ti,ab.

20 dt.fs.

21 randomly.ti,ab.

22 trial.ti,ab.

23 groups.ti,ab.

24 control$.ti,ab.

25 quasi$.ti,ab.

26 cluster$.ti,ab.

27 or/15-26

28 Animals/

29 Humans/

30 28 not (28 and 29)

31 27 not 30

32 31 and 14

EMBASE

1. exp interview/

2. (interview$ or feedback$ or enhancement).tw.

3. or/1-2

4. motivation/

5. Motivational$.tw.

6. or/4-5

7. Substance Abuse/

8. exp drug abuse/

9. exp Alcohol Abuse/

10. exp Drug Dependence/

11. Alcoholism/

12. Addiction/

13. Withdrawal Syndrome/

14. ((drug or substance$ or alcohol or opioid$ or amphetamine$ or cocaine or marijuana or cannabis or phencyclidine or benzodiaz$) adj2 (misuse or abuse$ or addict$ or depend$)).tw.

15. (alcoholi$ or drinker$ or drinking$).tw.

16. or/7-15

17. 3 and 6 and 16

18. Clinical Trial/

19. Randomized Controlled Trial/

20. Randomization/
21. Double Blind Procedure/
22. Single Blind Procedure/
23. Crossover Procedure/
24. PLACEBO/
25. placebo$.tw.
26. randomi?ed controlled trial$.tw.
27. rct.tw.
28. random allocation.tw.
29. randomly allocated.tw.
30. allocated randomly.tw.
31. (allocated adj2 random).tw.
32. single blind$.tw.
33. double blind$.tw.
34. ((treble or triple) adj blind$).tw.
35. Prospective study/
36. or/18-35
37. Case study/
38. case report.tw.
39. Abstract report/
40. Letter/
41. Human/
42. Nonhuman/
43. ANIMAL/
44. Animal Experiment/
45. 42 or 43 or 44
46. 45 not (41 and 45)
47. or/37-40,46
48. 36 not 47
49. control$.ti,ab.

50. quasi$.ti,ab.

51. cluster$.ti,ab.

52. or/49-51

53. 36 or 52

54. 53 not 47

55. 54 and 17

PsycINFO

1 exp motivational interviewing/

2 (interview$ or feedback$ or enhancement$).tw.

3 Motivational$.tw.

4 2 and 3

5 1 or 4

6 exp drug abuse/

7 exp addiction/

8 ((drug or substance$ or alcohol or opioid$ or amphetamine$ or cocaine or marijuana or cannabis or phencyclidine or benzodiaz$) adj2 (misuse or abuse$ or addict$ or depend$)).tw.

9 (alcoholi$ or drinker$ or drinking$).tw.

10 or/6-9

11 methodology/

12 data collection/

13 empirical methods/

14 Experimental methods/

15 Quasi experimental methods/

16 experimental design/

17 between groups design/

18 followup studies/

19 exp longitudinal studies/

20 repeated measures/

21 experimental subjects/

22 experiment controls/

23 experimental replication/

24 exp "sampling (experimental)"/

25 placebo/

26 clinical trials/

27 exp treatment outcomes/

28 treatment effectiveness evaluation/

29 empirical study.md.

30 experimental replication.md.

31 followup study.md.

32 longitudinal study.md.

33 meta analysis.md.

34 prospective study.md.

35 retrospective study.md.

36 treatment outcome clinical trial.md.

37 placebo$.tw.

38 randomi?ed controlled trial$.tw.

39 rct.tw.

40 random allocation.tw.

41 (randomly adj1 allocated).tw.

42 (allocated adj2 random).tw.

43 ((singl$ or doubl$ or treb$ or tripl$) adj (blind$3 or mask$3)).tw.

44 (clinic$ adj (trial? or stud$3)).tw.

45 or/11-44

46 comment reply.dt.

47 editorial.dt.

48 letter.dt.

49 clinical case study.md.

50 nonclinical case study.md.

51 animal.po.

52 human.po.

53 51 not (51 and 52)

54 or/46-50,53

55 45 not 54

56 control$.ti,ab.

57 quasi$.ti,ab.

58 cluster$.ti,ab.

59 or/56-58

60 45 or 59

61 60 not 54

62 5 and 10 and 61

Cochrane (Wiley) Clinical Trials

#1 MeSH descriptor Interview, Psychological explode all trees

#2 MeSH descriptor Feedback, Psychological explode all trees

#3 (interview* or feedback* or enhancement):ab,ti

#4 (#1 OR #2 OR #3)

#5 MeSH descriptor Motivation explode all trees

#6 motivational*:ti,ab

#7 (#5 OR #6)

#8 (#4 AND #7)

#9 MeSH descriptor Substance-Related Disorders explode all trees

#10 MeSH descriptor Benzodiazepines explode all trees

#11 ((drug or substance* or alcohol or opioid* or amphetamine* or cocaine or marijuana or cannabis or phencyclidine or benzodiaz*) near/2 (misuse or abuse* or addict* or depend*)):ti,ab

#12 (alcoholi* or drinker* or drinking*):ti,ab

#13 (#9 OR #10 OR #11 OR #12)

#14 (#8 AND #13)

Ovid PsycExtra

1 exp CRIMINALS/

2 exp CRIME/

3 exp Correctional Institutions/

4 exp PRISONERS/

5 (prison$ or imprison$ or offender$ or offence$ or incarcerat$ or crim$ or jail$ or delinq$ or punish$ or convict$ or penitentiar$ or correctional or penal or inmate$ or captive$).tw.

6 or/1-5

7 Motivational Interviewing/

8 (interview$ or feedback$ or enhancement therap$).tw.

9 Motivational$.tw.

10 8 and 9

11 7 or 10

12 exp drug abuse/

13 exp addiction/

14 ((drug or substance$ or alcohol or opioid$ or amphetamine$ or cocaine or marijuana or cannabis or phencyclidine or benzodiaz$) adj2 (misuse or abuse$ or addict$ or depend$)).tw.

15 or/12-14

16 6 and 11 and 15

17 11 and 15

IBSS - International Bibliography of the Social Sciences

((((motivational*) or ((MOTIVATION in DES) or (MOTIVATION- in DES) or (MOTIVATIONAL in DES))) and ((interview*) or ((INTERVIEW in DES) or (INTERVIEWS in DES) or (INTERVIEWS- in DES) or ((FEEDBACK in DES) or (FEEDBACK- in DES)) or (feedback*)))) or (enhancement)) and ((((DRUG-ABUSE in DES) or (DRUG-ADDICTION in DES) or (DRUG-ADDICTS in DES) or (DRUG-USE in DES) or (DRUG-USERS in DES)) or ((drug or substance* or alcohol or opioid* or amphetamine* or cocaine or marijuana or cannabis or phencyclidine or benzodiaz*) near2 (misuse or abuse* or addict* or depend*)) or ((CANNABIS in DES) or (CANNABIS- in DES)) or ((MARIJUANA in DES) or (MARIJUANA- in DES)) or ((AMPHETAMINES in DES) or (AMPHETAMINES- in DES)) or ((ALCOHOL in DES) or (ALCOHOL- in DES) or (ALCOHOLICS in DES) or (ALCOHOLISM in DES) or (ALCOHOLISM- in DES)) or ((COCAINE in DES) or (COCAINE- in DES)) or ((ADDICTION in DES) or (ADDICTION- in DES) or (ADDICTS in DES) or (ADDICTS- in DES)) or ((SUBSTANCE-ABUSE in DES) or

(SUBSTANCE-USE in DES))) or (alcoholi* or drinker* or drinking*))

ISI Web of Science (Thomson)

1 Topic=((((drug or substance* or alcohol or opioid* or amphetamine* or cocaine or marijuana or cannabis or phencyclidine or benzodiaz*) same (misuse or abuse* or addict* or depend*))))

2 Topic=(alcoholi* or drinker* or drinking*)

3 #2 OR #1

4 Topic=(interview* or feedback* or enhancement)

5 Topic=(motivational*)

6 #5 AND #4

7 #6 AND #3

C2-SPECTR

Motivational and (interview or enhancement or feedback)

Sociological Abstracts

(((drug or substance* or alcohol or opioid* or amphetamine* or cocaine or marijuana or cannabis or phencyclidine or benzodiaz*) within 2 (misuse or abuse* or addict* or depend*)) or (alcoholi* or drinker* or drinking*) or (DE=("addiction" or "drug addiction" or "drug injection" or "drugs" or "narcotic drugs" or "opiates" or "heroin" or "psychedelic drugs" or "lysergic acid diethylamide" or "tranquilizing drugs")) or (DE=("substance abuse" or "alcohol abuse" or "drug abuse" or "drug addiction"))) and (((interview* or feedback* or enhancement) or (DE="feedback") or (DE="interviews")) and ((motivational*) or (DE="motivation")))

SveMed+

Search term: motivational

Bibliography of Nordic Criminology

Search term: motivational

CINCH

Search term: +motivational

NCJRS

Search term:

Subject: motivational

SpringerLink

Search terms:

Summary: motivational and (interview* or feedback* or enhancement*)

Wiley Interscience

Search terms:

motivational and (interview* or feedback* or enhancement*) in Article Titles

DrugScope Library

Search terms: Title or Subject: motivational interview* or motivational feedback* or motivational enhancement*

Electronic Library of the National Documentation Centre on DRug Use (NCD)

Search term: Motivational

Google

research OR evaluation OR evaluations OR outcome OR outcomes OR effect OR effects OR trial OR trials OR study OR studies "motivational interviewing"□First 100 hits

Google Scholar

research OR evaluation OR evaluations OR outcome OR outcomes OR effect OR effects OR trial OR trials OR study OR studies "motivational interviewing"□First 100 hits