

Effectiveness of Motivational Interviewing on Adult Behaviour Change: An Overview Of Reviews

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What is Motivational Interviewing?

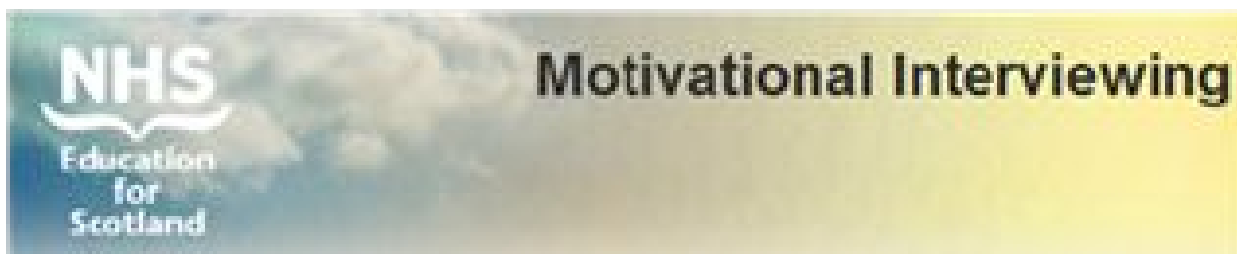
- “Motivational interviewing is a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence”

Rollnick & Miller (1995)

- **38 distinct MI techniques** (Hardcastle *et al.*, 2016)
 - 16 relational techniques (e.g. open-ended questions)
 - 22 content based techniques (e.g. Identify past successes)

Why Review of MI Reviews?

1. Large number of trials and systematic reviews
2. MI recommended in guidelines (e.g. NICE [alcohol, diabetes] or SIGN [diabetes, CVD])
3. MI training being implemented in NHS





Aim

To identify, appraise and synthesise evidence on the effectiveness of MI to change adult health behaviour

Methods

- Electronic searches: CDSR, DARE, PROSPERO, MEDLINE; CINAHL; AMED PsycINFO
- Inclusion criteria:
 - Structured reviews with clearly defined topic
 - Published between Jan 2000 to Nov 2014
 - Europe, North America or Australasia only
 - English language
 - Focused on adults

Quality Assessment

- ROBIS - Reporting bias in systematic reviews
 1. assess relevance
 2. identify concerns with the review process
 3. judge risk of bias

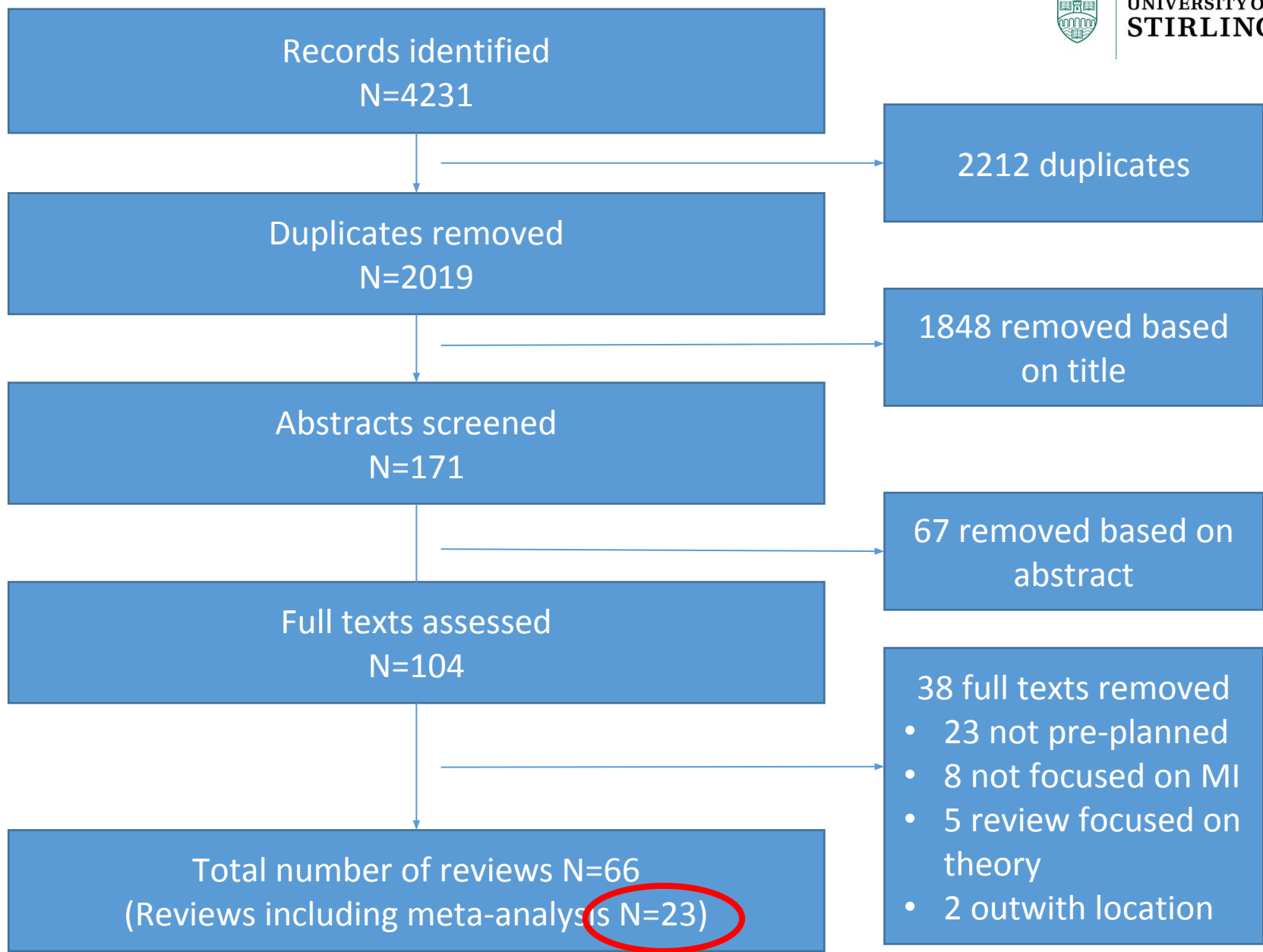
- GRADE - Grades of Recommendation, Assessment, Development, and Evaluation
 - Assess whether the quality of the evidence was high, moderate, low or very low

Whiting P, Savovic J, Higgins JP, et al. ROBIS: A new tool to assess risk of bias in systematic reviews was developed. J Clin Epidemiol 2015.

Guyatt GH, Oxman AD, Schunemann HJ, et al. GRADE guidelines: a new series of articles in the Journal of Clinical Epidemiology. J Clin Epidemiol 2011;64(4):380-2



Identification
Screening
Eligibility
Included



Review topics

1. Stopping an unhealthy behaviour (n=32)
 - E.g. Alcohol (n=12), Smoking (n=8)
2. Promoting a health behaviour (n= 21)
 - E.g. Medication adherence (n=7), Safe sex (n=3)
3. Multiple health behaviours/problems (n=8)
 - E.g. Diet, exercise, diabetes and oral health (n=1), Alcohol, drugs diet and exercise (n=1)
4. Behaviour change in specific settings (n=5)
 - E.g. Primary care (n=3), Medical care setting (n=1)

Results- Meta-analysis

- 385 comparisons within 23 reviews
- Excluded:
 - 144 subgroup analyses,
 - 23 sensitivity analyses,
 - 15 did not specify behavioural focus,
 - 6 combined MI with other interventions
 - 101 due to the availability of more up-to-date data or a higher quality review.
- 96 comparisons

Results- Meta-analysis

- 96 comparisons – GRADE rating

high quality evidence

moderate quality evidence

low quality evidence

very low quality evidence



Results- Meta-analysis

- 96 comparisons – GRADE rating

high quality evidence

moderate quality evidence

low quality evidence

very low quality evidence

17

Results- Meta-analysis

- 96 comparisons – GRADE rating

high quality evidence

moderate quality evidence

low quality evidence

51

very low quality evidence

17

Results- Meta-analysis

- 96 comparisons – GRADE rating

high quality evidence

moderate quality evidence 28

low quality evidence 51

very low quality evidence 17

Results- Meta-analysis

- 96 comparisons – GRADE rating

high quality evidence	0
moderate quality evidence	28
low quality evidence	51
very low quality evidence	17

Reasons for downgrading

- | | |
|---|----|
| • Heterogeneity moderate to high, or confidence intervals very large | 43 |
| • Concerns about the quality of the trials as judged by review authors | 38 |
| • Evidence insufficient to support a definitive conclusion | 32 |
| • Risk of bias of the review was unclear | 28 |

12 out of 28 comparisons showed effect of MI

Health behaviour	Outcome	Assessment times	Studies and Participants	Effect size	Confidence intervals
Alcohol	Reducing alcohol consumption	unclear	18 n =unclear	ES 0.43	[0.17,0.70]
Alcohol	Binge drinking	<4 months	11 n=1340	SMD -0.23	[-0.42, -0.04]
Alcohol	Frequency of alcohol consumption	<4 months	15 n=1928	SMD -0.26	[-0.44, -0.09]
Alcohol	Frequency of alcohol consumption	4+ months	16 N=4390	SMD -0.11	[-0.19, -0.03]
Alcohol	Peak BAC	<4 months	5 N=753	SMD -0.27	[-0.44, -0.11]
Alcohol	Peak BAC	4+ months	9 N= 2042	SMD -0.14	[-0.23, -0.05]
Alcohol	Quantity of alcohol consumed	<4 months	22 N= 2677	SMD -0.25	[-0.37, -0.14]
Alcohol	Quantity of alcohol consumed	4+ months follow-up	28 N=6676	SMD -0.14	[-0.20, -0.08]
Physical activity	Adherence	Immediately post-intervention	8 n= 921	SMD 0.19	[0.06, 0.32]
Smoking	Abstinence (strictest definition)	longest duration	28 N=16803	RR 1.26	[1.16, 1.36]
Substance abuse	Extent of substance use	short follow-up (0-6 months)	15 N=2327	SMD 0.17	[0.09, 0.26]
All behaviours combined	overall effectiveness	any	132 N= unclear	ES 0.22	[0.17, 0.27]

16 out of 28 comparisons showed effect of MI

Health behaviour	Outcome	Assessment times	Studies and Participants	Effect size	Confidence intervals
Alcohol	Average BAC	4+ months	4 N=798	SMD -0.08	[-0.22, 0.06]
Alcohol	Binge drinking	4+ months	16 N=4028	SMD -0.05	[-0.12, 0.01]
Alcohol	Drink driving	4+ months	4 N=1353	SMD -0.11	[-0.31, 0.09]
Alcohol	Risky behaviour	<4 months	6 N=1048	SMD -0.09	[-0.30, 0.13]
Alcohol	Risky behaviour	4+ months	7 N=1781	SMD -0.14	[-0.30, 0.02]
Physical activity	Adherence	Immediately post-intervention	2 N=115	SMD 0.22	[-0.15, 0.59]
Physical activity	Adherence	Immediately post-intervention	4 N=498	SMD 0.14	[-0.06, 0.33]
Physical activity	Functional exercise capacity	Immediately post-intervention	2 N=333	SMD 0.13	[-0.08, 0.34]
Sexual health	Sexual partners	unclear	3 N=4219	SMD 0.01	[-0.11, 0.13]
Sexual health	Unprotected anal intercourse	medium term	3 N=4191	SMD -0.04	[-0.10, 0.02]
Sexual health	Unprotected anal intercourse	long term	3 N=4021	SMD -0.02	[-0.08, 0.04]
Sexual health	Unprotected anal intercourse with non-primary partner	unclear	2 N=553	RR 1.04	[0.73, 1.47]

16 out of 28 comparisons showed effect of MI

Health behaviour	Outcome	Assessment times	Studies and Participants	Effect size	Confidence intervals
Substance abuse	Extent of substance use	short follow-up	12 N=2137	SMD 0.02	[-0.07, 0.12]
Substance abuse	Extent of substance use	medium follow up	6 N=1586	SMD -0.02	[-0.16, 0.13]
Substance abuse	Extent of substance use	post-intervention	9 N=1940	SMD 0.01	[-0.09, 0.11]
Substance abuse	Extent of substance use	short follow-up	10 N=2102	SMD 0.01	[-0.08, 0.10]

Conclusions

- No high quality evidence at review level
- Moderate quality evidence for:
 - short-term effectiveness for reducing substance abuse (alcohol and drugs)
 - short and long-term effectiveness (longest duration 6- 12 months) for smoking abstinence
 - Increasing physical activity levels for some chronic health conditions
 - No benefit for sexual health

Conclusions

Knowles et al (2013) “ *the enthusiasm for the use of motivational approaches outweighs the reality of the current evidence-base*”

BUT

High quality meta-analyses of CBT on depression:

ES = 0.22



EHPS 2016

"BEHAVIOUR CHANGE: MAKING AN IMPACT ON HEALTH AND HEALTH SERVICES"

30TH CONFERENCE OF THE EHPS/DHP

23RD - 27TH OF AUGUST, 2016

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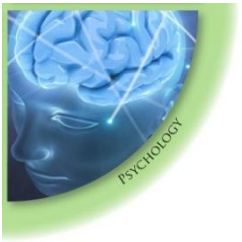
So I am asking YOU,
Is point two TWO,
The best we can DO?

Acknowledgements

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Health Psychology
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Any Questions?



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