

## Systematic and Meta-Analyses of Research on Motivational Interviewing

Updated 7/12/17

This is a cumulative resource intended as a service to help in finding topical reviews of research on motivational interviewing. Most meta-analyses yield mixed findings with average effect sizes in the small to medium range. As with clinical trials, some reviews find no effect at all; and of course later meta-analyses have the benefit of a larger number of trials to review. Summaries are quoted directly from article abstracts or conclusions. A substantial challenge is that many trials have included little or no documentation of treatment fidelity, and interventions evaluated in clinical trials can vary widely in content and quality. For a discussion of these methodological issues see Miller, W. R., & Rollnick, S. (2014). The effectiveness and ineffectiveness of complex behavioral interventions: Impact of treatment fidelity. *Contemporary Clinical Trials*, 37(2), 234-241. Additions to the bibliography are welcome: Send to [WRMILLER@UNM.EDU](mailto:WRMILLER@UNM.EDU), preferably as an article attachment.

| <b>Health Care - General</b>   |   |
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| Burke, B. L., Arkowitz, H., & Menchola, M. (2003). The efficacy of motivational interviewing: A meta-analysis of controlled clinical trials. <i>Journal of Consulting and Clinical Psychology</i> , 71(5), 843-861.  | A meta-analysis was conducted on controlled clinical trials investigating adaptations of motivational interviewing (AMIs), a promising approach to treating problem behaviors. AMIs were equivalent to other active treatments and yielded moderate effects (from .25 to .57) compared with no treatment and/or placebo for problems involving alcohol, drugs, and diet and exercise. Results did not support the efficacy of AMIs for smoking or HIV-risk behaviors. AMIs showed clinical impact, with 51% improvement rates, a 56% reduction in client drinking, and moderate effect sizes on social impact measures ( $d=0.47$ ). Potential moderators (comparative dose, AMI format, and problem area) were identified using both homogeneity analyses and exploratory multiple regression. Results are compared with other review results and suggestions for future research are offered.   |
| Burke, B. L., Dunn, C. W., Atkins, D. C., & Phelps, J. S. (2004). The emerging evidence base for motivational interviewing: A meta-analytic and qualitative inquiry. <i>Journal of Cognitive Psychotherapy: An International Quarterly</i> , 18(4), 309-322. | This article offers a meta-analytic, qualitative, and process review of the empirical literature for adaptations of motivational interviewing (AMIs), a promising approach to treating problem behaviors. AMIs are equivalent to other active treatments and yield moderate effects (from 0.35 to 0.56) compared to no-treatment/placebo for problems involving alcohol, drugs, and diet and exercise. Results do not support the efficacy of AMIs for smoking or HIV-risk behaviors. Conclusions regarding the mechanisms of action for AMIs are limited by methodological problems: confounding motivational interviewing with feedback, unclear definitions of the AMI interventions used, difficulties in therapist training, and limited use of treatment integrity rating scales. Extant research suggests that AMIs are equivalent in efficacy to and briefer than cognitive behavioral skills training (CBST) approaches. Since AMIs focus on readiness to change while CBST targets the change process, AMIs may be useful as preludes or additions to CBST. |
| Cummings, S. M., Cooper, R. L., & Cassie, K. M. (2008). Motivational interviewing to affect behavioral change in older adults. <i>Research on Social Work Practice</i> , 19(2), 195-204.   | A comprehensive literature review was conducted of intervention studies that tested the use of MI to achieve behavioral change among older adults with acute and chronic illnesses. Although limited in number, the studies revealed a significant improvement in physical activity, diet, cholesterol, blood pressure and glycemic control, and increased smoking cessation following MI. MI and its derivatives can   |

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|  | be useful in dealing with a range of health issues faced by older adults. Further research to extend findings and address methodological issues is recommended. The integration of MI into social work courses focused on practice with older adults should be considered.  |
| Hettema, J., Steele, J., & Miller, W. R. (2005). Motivational interviewing. <i>Annual Review of Clinical Psychology, 1</i> , 91-111.   | The rapidly growing evidence base for MI is summarized in a new meta-analysis of 72 clinical trials spanning a range of target problems. The average short-term between-group effect size of MI was 0.77, decreasing to 0.30 at follow-ups to one year. Observed effect sizes of MI were larger with ethnic minority populations, and when the practice of MI was not manual-guided. The highly variable effectiveness of MI across providers, populations, target problems, and settings suggests a need to understand and specify how MI exerts its effects.  |
| Knight, K. M., McGowan, L., Dickens, C., & Bundy, C. (2006). A systematic review of motivational interviewing in physical health care settings. <i>British Journal of Health Psychology, 11</i> (Pt 2), 319-332.   | Eight studies were identified in the fields of diabetes, asthma, hypertension, hyperlipidaemia, and heart disease. The majority of studies found positive results for effects of MI on psychological, physiological, and life-style change outcomes. Problems with research in this area include: small sample sizes, lack of power, use of disparate multiple outcomes, inadequate validation of questionnaires, poorly-defined therapy and training. CONCLUSIONS: While MI has high face validity across a number of domains in physical health care settings, the general quality of trials in this area is inadequate and therefore recommendations for its dissemination in this area cannot yet be made. More research into MI applied to health behaviour change is urgently required.   |
| Lundahl, B. W., Kunz, C., Brownell, C., Tollefson, D., & Burke, B. L. (2010). A meta-analysis of motivational interviewing: Twenty-five years of empirical studies. <i>Research on Social Work Practice, 20</i> (2), 137-160.  | Judged against weak comparison groups, MI produced statistically significant, durable results in the small effect range (average $g = 0.28$ ). Judged against specific treatments, MI produced nonsignificant results (average $g = 0.09$ ). MI was robust across many moderators, although feedback (Motivational Enhancement Therapy [MET]), delivery time, manualization, delivery mode (group vs. individual), and ethnicity moderated outcomes. Conclusions: MI contributes to counseling efforts, and results are influenced by participant and delivery factors.   |
| Lundahl, B., Moleni, T., Burke, B. L., Butters, R., Tollefson, D., Butler, C., & Rollnick, S. (2013). Motivational interviewing in medical care settings: a systematic review and meta-analysis of randomized controlled trials. <i>Patient Education and Counseling, 93</i> (2), 157-168. | Forty-eight studies (9618 participants) were included. The overall effect showed a statistically significant, modest advantage for MI: Odd ratio=1.55 (CI: 1.40-1.71), $z=8.67$ , $p<.001$ . MI showed particular promise in areas such as HIV viral load, dental outcomes, death rate, body weight, alcohol and tobacco use, sedentary behavior, self-monitoring, confidence in change, and approach to treatment. MI was not particularly effective with eating disorder or self-care behaviors or some medical outcomes such as heart rate. MI was robust across moderators such as delivery location and patient characteristics, and appears efficacious when delivered in brief consultations. PRACTICE IMPLICATIONS: The emerging evidence for MI in medical care settings suggests it provides a moderate advantage over comparison interventions and could be used for a wide range of behavioral issues in health care. |
| Martins, R. K., & McNeil, D. W. (2009). Review of motivational interviewing in promoting health behaviors. <i>Clinical Psychology Review, 29</i> (4), 283-293.   | Overall, 37 articles were reviewed: 24 in the areas of diet and exercise, 9 in the area of diabetes, and 4 in the oral health area. Research in these areas suggests that (MI) is effective in all these health domains, although additional research is needed, particularly in the oral health arena. Specifically, future research in the areas of diet and exercise should examine the clinical utility of MI by health care professionals (other than dietitians), studies in the area of diabetes should continue to examine long-term effects of MI on glycemic control, and research in the area of oral health should focus on developing additional trials in   |

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|   | <p>this field. Further, future studies should demonstrate improved research methodology, and investigate the effects of possible outcome mediators, such as client change talk, on behavior change.</p>  |
| <p>McKenzie, K. J., Pierce, D., &amp; Gunn, J. M. (2015). A systematic review of motivational interviewing in healthcare: The potential of motivational interviewing to address the lifestyle factors relevant to multimorbidity. <i>Journal of Comorbidity</i>, 5(1), 162-174.</p>                                   | <p>A systematic review was conducted to assess the effectiveness of MI in healthcare settings and to consider its relevance for multimorbidity. Twelve meta-analyses pertinent to multimorbidity lifestyle factors were identified. As an intervention, MI has been found to have a small-to-medium statistically significant effect across a wide variety of single diseases and for a range of behavioural outcomes. This review highlights the need for specific research into the application of MI to determine if the benefits of MI seen with single diseases are also present in the context of multimorbidity.</p>  |
| <p>Miller, W. R., &amp; Wilbourne, P. L. (2002). Mesa Grande: A methodological analysis of clinical trials of treatment for alcohol use disorders. <i>Addiction</i>, 97(3), 265-277.</p>  | <p>As in our prior reviews, brief interventions again head the list of evidence-based treatment methods, even with brief motivational enhancement approaches removed to a separate category. The high CES values for these two categories reflect a relatively large number of studies with a high percentage of positive findings. Beyond the large volume of studies conducted, CES is further enhanced by the fact that brief interventions are often compared with a true no-treatment control, or as an add-on to standard care— designs that make it possible to assign an OLS of +2. Further, within our coding system, an OLS of +1 is assigned if a brief intervention yields outcomes similar to those for a more intensive or extensive treatment. Because brief interventions are often tested with people who were not seeking treatment for alcohol problems (e.g. identified in health-care settings as at-risk drinkers), this CES declines when only studies with treatment seeking populations are considered.</p>   |
| <p>Miller, W. R., Wilbourne, P. L., &amp; Hetttema, J. (2003). What works? A summary of alcohol treatment outcome research. In R. K. Hester &amp; W. R. Miller (Eds.), <i>Handbook of alcoholism treatment approaches: Effective alternatives</i> (3rd ed., pp. 13-63). Boston, Massachusetts: Allyn &amp; Bacon.</p> | <p>Table 2.5 summarizes 74 controlled trials for four different types of brief intervention, three of which [including motivational enhancement] rank among the five most strongly supported methods [for treating alcohol problems] in Table 2.3.</p>   |
| <p>Morton, K., Beauchamp, M., Prothero, A., Joyce, L., Saunders, L., Spencer-Bowdage, S., . . . Pedlar, C. (2015). The effectiveness of motivational interviewing for health behaviour change in primary care settings: A systematic review. <i>Health Psychology Review</i>, 9(2), 205-223.</p>                      | <p>Motivational interviewing (MI) is a patient-centred approach to behaviour change that was originally developed in the addiction field but has increasingly been applied to public health settings with a focus on health promotion. The purpose of this review was to examine the evidence base for MI interventions in primary care settings with non-clinical populations to achieve <i>behaviour change</i> for physical activity, dietary behaviours and/or alcohol intake. We also sought to explore the specific behaviour change techniques included in MI interventions within primary care. Electronic databases were searched for relevant articles and 33 papers met inclusion criteria and were included. Approximately 50% of the included studies (<math>n = 18</math>) demonstrated positive effects in relation to health <i>behaviour change</i>. The efficacy of MI approaches is unclear given the inconsistency of MI descriptions and intervention components. Furthermore, research designs that do not isolate the effects of MI make it difficult to determine the effectiveness of such approaches. We offer a number of recommendations for researchers and practitioners seeking to include MI within behaviour change interventions to help improve the quality of the research and the effectiveness of MI-based interventions within primary care settings.</p> |

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| <p>Olson, M. K. (2015). <i>Motivational interviewing in primary care and general health care settings: A meta-analysis</i>. Master of Arts Masters Thesis, University of Wisconsin-Milwaukee, Milwaukee. Retrieved from <a href="http://dc.uwm.edu/etd/827">http://dc.uwm.edu/etd/827</a>.</p> | <p>33 randomized controlled trials were located isolating the effect of motivational interviewing in general health care settings. The average effect (<math>d = .153</math>, <math>k = 33</math>, <math>N = 32,588</math>) constitutes a small effect in favor of MI and/or MET, with no substantial benefit in offering MET (<math>d = .125</math>, (95% CI [0.044, 0.206], <math>N = 21,226</math>) as opposed to MI (<math>d = .114</math>, (95% CI [0.06, 0.016], <math>N = 8689</math>). MI and/or MET produces a small benefit within primary care and is relatively comparable to other brief interventions within the same setting. Primary care providers wishing to implement MI/MET within their practice may be reasonably assured that MI/MET will be more effective in improving patient outcomes than delivering no intervention.</p>  |
| <p>Purath, J., Keck, A., &amp; Fitzgerald, C. E. (2014). Motivational interviewing for older adults in primary care: A systematic review. <i>Geriatric Nursing</i>, 35(3), 219-224.</p>  | <p>Chronic disease is now the leading cause of death and disability in United States. Many chronic illnesses experienced by older adults can be prevented or managed through behavior change, making patient counseling an essential component of disease prevention and management. Motivational Interviewing (MI), a type of conversational method, has been effective in eliciting health behavior changes in people in a variety of settings and may also be a useful tool to help older adults change. This review of the literature analyzes current research and describes potential biases of MI interventions that have been conducted in primary care settings with older adults. MI shows promise as a technique to elicit health behavior change among older adults. However, further study with this population is needed to evaluate efficacy of MI interventions in primary care settings.</p>  |
| <p>Rubak, S., Sandbaek, A., Lauritzen, T., &amp; Christensen, B. (2005). Motivational interviewing: a systematic review and meta-analysis. <i>British Journal of General Practice</i>, 55(513), 305-312.</p>   | <p>Meta-analysis showed a significant effect (95% confidence interval) for motivational interviewing for combined effect estimates for body mass index, total blood cholesterol, systolic blood pressure, blood alcohol concentration and standard ethanol content, while combined effect estimates for cigarettes per day and for HbA(1c) were not significant. Motivational interviewing had a significant and clinically relevant effect in approximately three out of four studies, with an equal effect on physiological (72%) and psychological (75%) diseases. Psychologists and physicians obtained an effect in approximately 80% of the studies, while other healthcare providers obtained an effect in 46% of the studies. When using motivational interviewing in brief encounters of 15 minutes, 64% of the studies showed an effect. More than one encounter with the patient ensures the effectiveness of motivational interviewing. Motivational interviewing in a scientific setting outperforms traditional advice giving in the treatment of a broad range of behavioural problems and diseases. Large-scale studies are now needed to prove that motivational interviewing can be implemented into daily clinical work in primary and secondary health care.</p> |
| <p>VanBuskirk, K. A., &amp; Wetherell, J. L. (2014). Motivational interviewing with primary care populations: A systematic review and meta-analysis. <i>Journal of Behavioral Medicine</i>, 37(4), 768-780.</p>  | <p>Mean effect sizes ranged from .07 to .47; significant effect sizes were found for the adherence subgroup of studies (<math>p = .04</math>) and all outcomes combined (<math>p = .02</math>). Professional credentials of intervention deliverer were found to significantly moderate the association between MI and effect size in substance use subgroup (<math>p = .0005</math>) and all outcomes combined (<math>p = .004</math>). Mean effect sizes were largest in outcomes related to weight loss, blood pressure, and substance use. MI appears to be useful in clinical settings and as few as 1 MI session may be effective in enhancing readiness to change and action directed towards reaching health behavior-change goals.</p>  |

**Alcohol / Substance Use Disorders / Addictive Behaviors**

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| <p>Bertholet, N., Daeppen, J. B., Wietlisbach, V., Fleming, M., &amp; Burnand, B. (2005). Reduction of alcohol consumption by brief alcohol intervention in primary care: systematic review and meta-analysis. <i>Archives of Internal Medicine</i>, 165(9), 986-995.</p> | <p>We assessed the validity of the studies and performed a meta-analysis of studies reporting alcohol consumption at 6 or 12 months of follow-up. RESULTS: We examined 19 trials that included 5639 individuals. Seventeen trials reported a measure of alcohol consumption, of which 8 reported a significant effect of intervention. The adjusted intention-to-treat analysis showed a mean pooled difference of -38 g of ethanol (approximately 4 drinks) per week (95% confidence interval, -51 to -24 g/wk) in favor of the brief alcohol intervention group. Evidence of other outcome measures was inconclusive. Focusing on patients in primary care, our systematic review and meta-analysis indicated that brief alcohol intervention is effective in reducing alcohol consumption at 6 and 12 months.</p>   |
| <p>Bien, T. H., Miller, W. R., &amp; Tonigan, J. S. (1993). Brief interventions for alcohol problems: A review. <i>Addiction</i>, 88, 315-336.</p>  | <p>To date, the literature includes at least a dozen randomized trials of brief referral or retention procedures, and 32 controlled studies of brief interventions targeting drinking behavior, enrolling over 6000 problem drinkers in both health care and treatment settings across 14 nations. These studies indicate that brief interventions are more effective than no counseling, and often as effective as more extensive treatment. The outcome literature is reviewed, and common motivational elements of effective brief interventions are described. There is encouraging evidence that the course of harmful alcohol use can be effectively altered by well-designed intervention strategies which are feasible within relatively brief-contact contexts such as primary health care settings and employee assistance programs. Implications for future research and practice are considered.</p>   |
| <p>Branscum, P., &amp; Sharma, M. (2010). A systematic review of motivational interviewing-based interventions targeting problematic drinking among college students. <i>Alcoholism Treatment Quarterly</i>, 28(1), 63-77.</p>  | <p>Based on this review it appears that MI interventions are consistently effective at reducing alcohol use and drinking problems among college students and high-risk subgroups.</p>  |
| <p>Cowlishaw, S., Merkouris, S., Dowling, N., Anderson, C., Jackson, A., &amp; Thomas, S. (2012). Psychological therapies for pathological and problem gambling. <i>The Cochrane database of systematic reviews</i>, 11, CD008937.</p>                                    | <p>Four studies of motivational interviewing therapy were identified and mainly considered samples demonstrating less severe gambling (relative to studies of pathological gamblers). Data suggested reduced financial loss from gambling following motivational interviewing therapy at 0 to 3 months post-treatment (SMD -0.41; 95% CI -0.75 to -0.07, n = 244), although comparisons on other outcomes were not significant. The effect approached zero when defined by gambling symptom severity (SMD -0.03; 95% CI -0.55 to 0.50, n = 163). Studies compared groups at 9 to 12 months follow-up and found a significant effect of motivational interviewing therapy in terms of frequency of gambling (SMD -0.53; 95% CI -1.04 to -0.02, n = 62), with comparisons on other outcomes that were not significant. Two studies of integrative therapies also considered samples demonstrating overall low gambling severity, and found no significant effects of therapy at 0 to 3 months post-treatment. Comparisons at 9 to 12 months follow-up suggested a medium effect from therapy in terms of gambling symptom severity, with no significant differences for other outcomes. There is preliminary evidence for some benefits from</p> |

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|   | <p>motivational interviewing therapy in terms of reduced gambling behaviour, although not necessarily other symptoms of pathological and problem gambling. However, the findings are based on few studies and additional research is needed to inform conclusions.</p>   |
| <p>Foxcroft, D. R., Coombes, L., Wood, S., Allen, D., Almeida Santimano, N. M. L., &amp; Moreira, M. T. (2016). Motivational interviewing for the prevention of alcohol misuse in young adults. <i>Cochrane Dataabse of Systematic Reviews</i>(7).</p> <p><i>For a critique of this ongoing review see:</i><br/>Mun, E.-Y., Atkins, D. C., &amp; Walters, S. T. (2015). Is motivational interviewing effective at reducing alcohol misuse in young adults? A critical review of Foxcroft et al. (2014). <i>Psychology of Addictive Behaviors</i>, 29(4), 836-846.</p> | <p>At four or more months follow-up, we found only small or borderline effects showing that MI reduced the quantity of alcohol consumed, frequency of alcohol consumption, alcohol problems and peak blood alcohol concentration (BAC). We didn't find any effects for binge drinking, average BAC, drink-driving or other alcohol-related risky behaviour. We found no relationship between the length of MI and its effectiveness. Also, there were no clear subgroup differences in effects when we examined the type of comparison group (assessment only control or alternative intervention, the setting (college/university vs other settings), or risk status (higher risk students vs all/low-risk students). None of the studies reported harms related to MI.</p> <p>Although we found some significant effects for MI, our reading of these results is that the strength of the effects was slight and therefore unlikely to confer any advantage in practice. Overall, there is only low or moderate quality evidence for the effects found in this review. Many of the studies did not adequately describe how young people were allocated to the study groups or how they concealed the group allocation to participants and personnel. Study drop-outs were also an issue in many studies. These problems with study quality could result in inflated estimates of MI effects, so we cannot rule out the possibility that any slight effects observed in this review are overstated.</p> |
| <p>Gates, P. J., Sabioni, P., Copeland, J., Le Foll, B., &amp; Gowing, L. (2016). Psychosocial interventions for cannabis use disorder. <i>Cochrane Dataabse of Systematic Reviews</i>(5).</p>  | <p>The most consistent evidence supports the use of cognitive-behavioural therapy (CBT), motivational enhancement therapy (MET) and particularly their combination for assisting with reduction of cannabis use frequency at early follow-up (MET: MD 4.45, 95% CI 1.90 to 7.00, four studies, 612 participants; CBT: MD 10.94, 95% CI 7.44 to 14.44, one study, 134 participants; MET + CBT: MD 7.38, 95% CI 3.18 to 11.57, three studies, 398 participants) and severity of dependence (MET: SMD 4.07, 95% CI 1.97 to 6.17, two studies, 316 participants; MET + CBT: SMD 7.89, 95% CI 0.93 to 14.85, three studies, 573 participants), although no particular intervention was consistently effective at nine-month follow-up or later.</p>   |
| <p>Grenard, J. L., Ames, S. L., Pentz, M. A., &amp; Sussman, S. (2006). Motivational interviewing with adolescents and young adults for drug-related problems. <i>International Journal of Adolescent Medicine and Health</i>, 18(1), 53-67.</p>  | <p>A review of 17 clinical studies revealed mixed findings for the efficacy of brief MI among these populations. However, in 29% of the studies (5 of 17), there was a clear advantage of the brief MI demonstrated compared to standard care or other programming. Components common to successful brief MI interventions included one-on-one sessions and feedback on substance use compared to norms. Interviewer empathy has been shown to be a key component in studies with adults, but this was not measured in a standardized manner across the current studies. The studies reviewed here indicate that brief MI might be effective among these populations, but the key components necessary for successful MI interventions have not been fully identified.</p>   |
| <p>Havard, A., Shakeshaft, A., &amp; Sanson-Fisher, R. (2008). Systematic review and meta-analyses of strategies targeting alcohol problems in emergency departments:</p>   | <p>Thirteen studies were identified for inclusion in the review. Methodological quality was found to be reasonable, with the exception of poor reporting of effect-size information and inconsistent selection of outcome measures. Meta-analyses revealed that interventions did not significantly reduce subsequent alcohol consumption, but were associated with approximately half the odds of experiencing an alcohol-</p>  |

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| <p>interventions reduce alcohol-related injuries. <i>Addiction</i>, 103(3), 368-376; discussion 377-368.</p>  | <p>related injury (odds ratio = 0.59, 95% confidence interval 0.42-0.84). There are few evaluations of emergency department-based interventions for alcohol problems. Future evaluations should use consistent outcome measures and report effect sizes. The existing evidence suggests that interventions are effective in reducing subsequent alcohol-related injuries.</p>  |
| <p>Huh, D., Mun, E. Y., Larimer, M. E., White, H. R., Ray, A. E., Rhew, I. C., . . . Atkins, D. C. (2015). Brief motivational interventions for college student drinking may not be as powerful as we think: an individual participant-level data meta-analysis. <i>Alcoholism, clinical and experimental research</i>, 39(5), 919-931.</p> | <p>We used Bayesian multilevel over dispersed Poisson hurdle models to estimate intervention effects on drinks per week and peak drinking, and Gaussian models for alcohol problems. Estimates of overall intervention effects were very small and not statistically significant for any of the outcomes. We further conducted post hoc comparisons of 3 intervention types (individual MI with PF, PF only, and group MI) versus control. There was a small, statistically significant reduction in alcohol problems among participants who received an individual MI with PF. Short-term and long-term results were similar. This study questions the efficacy and magnitude of effects of BMIs for college drinking prevention and intervention and suggests a need for the development of more effective intervention strategies.</p>  |
| <p>Jensen, C. D., Cushing, C. C., Aylward, B. S., Craig, J. T., Sorell, D. M., &amp; Steele, R. G. (2011). Effectiveness of motivational interviewing interventions for adolescent substance use behavior change: a meta-analytic review. <i>Journal of Consulting and Clinical Psychology</i>, 79(4), 433-440.</p>                         | <p>Small, but significant, effect sizes were observed at follow-up suggesting that MI interventions for adolescent substance use retain their effect over time. MI interventions were effective across a variety of substance use behaviors, varying session lengths, and different settings, and for interventions that used clinicians with different levels of education. The effectiveness of MI interventions for adolescent substance use behavior change is supported by this meta-analytic review. In consideration of these results, as well as the larger literature, MI should be considered as a treatment for adolescent substance use.</p>   |
| <p>Jiang, S., Wu, L., &amp; Gao, X. (2017). Beyond face-to-face individual counseling: A systematic review on alternative modes of motivational interviewing in substance abuse treatment and prevention. <i>Addictive Behaviors</i>, 73, 216-235.</p>  | <p>A total of 25 articles (on 22 RCTs) were eligible for this review. Beyond face-to-face counseling, telephone was the most frequently used medium for delivering MI (11 studies), followed by Internet communication (4 studies) and short message service (SMS) (2 studies). Mail was incorporated as a supplement in one of the studies for telephone MI. In contrast to one-to-one individual counseling, group MI was adopted in 5 studies. The effectiveness of telephone MI in treating substance abuse was supported by all of the published RCTs we located. Internet-based MI was effective in preventing and treating alcoholism, but its outcome appeared to be inconsistent for smoking cessation and poor for abstinence from illicit drugs. SMS-based MI appeared to be useful for controlling tobacco and drinking. Group MI was attempted for quitting alcohol and drugs, with mixed findings on its outcomes. Collectively, the studies reviewed indicate that telephone MI is a promising mode of intervention in treating and preventing substance abuse. The effectiveness of other alternative modes (SMS-based MI, Internet-based MI and group MI) remains inconclusive given the controversial findings and a limited number of studies. By synthesizing the currently available evidence, this systematic review suggested that telephone MI might be considered as an alternative to face-to-face MI for treating and preventing substance abuse. Further research is needed to investigate the effectiveness of SMS-based MI, Internet MI, group MI and other alternative modes. Studies with methodological rigor and incorporating MI fidelity measures have great potential to advance the understanding in this field.</p> |
| <p>Kohler, S., &amp; Hofmann, A. (2015). Can motivational interviewing in emergency care</p>  | <p>MI was never less efficacious than a control intervention. Two trials found significantly more reduction in one or more measures of alcohol consumption in the MI intervention group. One trial indicated that MI</p>   |

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| <p>reduce alcohol consumption in young people? A systematic review and meta-analysis. <i>Alcohol and Alcoholism</i>, 50(2), 107-117.</p>  | <p>may be used most effectively in young people with high-volume alcohol consumption. Separate random effects meta-analyses were performed based on the highest impact that MI added on reducing the drinking frequency and the drinking quantity at any point in time during the different study periods. Their results were expressed as standardized mean differences (SMDs). The frequency of drinking alcohol decreased significantly more after MI than after control interventions (<math>SMD \leq -0.17, P \leq 0.03</math>). In addition, MI reduced the drinking quantity further than control interventions in a meta-analysis of the subset of trials that were implemented in the USA (<math>SMD = -0.12, P = 0.04</math>). Meta-analyses of the smallest mean differences between MI and control groups detected no differences in alcohol use (<math>SMD \leq 0.02, P \geq 0.38</math>). MI appears at least as effective and may possibly be more effective than other brief interventions in emergency care to reduce alcohol consumption in young people.</p>  |
| <p>Lenz, A. S., Rosenbaum, L., &amp; Sheperis, D. (2016). Meta-analysis of randomized controlled trials of motivational enhancement therapy for reducing substance use. <i>Journal of Addictions &amp; Offender Counseling</i>, 37(2), 66-86.</p> | <p>Mean ESs for the 25 studies evaluating the treatment effect of MET for decreasing the amount of substance use resulted in a small-to-medium ES when compared with no treatment and a small ES against alternative interventions.</p>  |
| <p>Li, L., Zhu, S., Tse, N., Tse, S., &amp; Wong, P. (2016). Effectiveness of motivational interviewing to reduce illicit drug use in adolescents: A systematic review and meta-analysis. <i>Addiction</i>, 111(5), 795-805.</p>                  | <p>No statistically significant effect of MI on was found change of drug use behaviours [ <math>d = 0.05, 95\%</math> confidence interval (CI) = <math>-0.06, 0.17, P = 0.36</math>]. A significant effect was found on attitude change ( <math>d = 0.44, 95\%</math> CI = <math>0.20, 0.67, P = 0.0002</math>). The funnel plot was asymmetrical, suggesting publication bias favouring small studies with higher effect sizes. Motivational interviewing has not been found thus far to reduce adolescent use of illicit drugs. It may influence intentions to change, but evidence of publication bias weakens confidence in this conclusion.</p>   |
| <p>Lundahl, B., &amp; Burke, B. L. (2009). The effectiveness and applicability of motivational interviewing: a practice-friendly review of four meta-analyses. <i>Journal of Clinical Psychology</i>, 65(11), 1232-1245.</p>                      | <p>MI is significantly (10%-20%) more effective than no treatment and generally equal to other viable treatments for a wide variety of problems ranging from substance use (alcohol, marijuana, tobacco, and other drugs) to reducing risky behaviors and increasing client engagement in treatment.</p>   |
| <p>McQueen, J., Howe, T. E., Allan, L., Mains, D., &amp; Hardy, V. (2011). Brief interventions for heavy alcohol users admitted to general hospital wards. <i>Cochrane Dataabse of Systematic Reviews</i>(8).</p>                                 | <p>Brief interventions involve a time-limited intervention focusing on changing behaviour. They are often motivational in nature using counselling skills to encourage a reduction in alcohol consumption. Fourteen studies involving 4041 mainly male participants were included. Our results demonstrate that patients receiving brief interventions have a greater reduction in alcohol consumption compared to those in control groups at six month, MD -69.43 (95% CI -128.14 to -10.72) and nine months follow up, MD -182.88 (95% CI -360.00 to -5.76) but this is not maintained at one year. Self reports of reduction of alcohol consumption at 1 year were found in favour of brief interventions, SMD -0.26 (95% CI -0.50 to -0.03). In addition there were significantly fewer deaths in the groups receiving brief interventions than in control groups at 6 months, RR 0.42 (95% CI 0.19 to 0.94) and one year follow up, RR 0.60 (95% CI 0.40 to 0.91). Furthermore screening, asking participants about their drinking patterns, may also have a positive impact on alcohol consumption levels and changes in drinking behaviour. The main results of</p> |



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|  | <p>this review indicate that there are benefits to delivering brief interventions to heavy alcohol users admitted to general hospital wards in terms of reduction in alcohol consumption and death rates. However, these findings are based on studies involving mainly male participants. Further research is required determine the optimal content and treatment exposure of brief interventions within general hospital settings and whether they are likely to be more successful in patients with certain characteristics.</p>   |
| <p>Moyer, A., Finney, J. W., Swearingen, C. E., &amp; Vergun, P. (2002). Brief interventions for alcohol problems: A meta-analytic review of controlled investigations in treatment-seeking and non-treatment-seeking populations. <i>Addiction</i>, 97(3), 279-292.</p>             | <p>Results show small to medium aggregate effect sizes in favor of brief interventions emerged across different follow-up points. At 3+–6-mo follow-ups the effect for brief interventions compared to control conditions was significantly larger when Ss with more severe alcohol problems were excluded. For studies compared with extended treatment, effect sizes were largely not significantly different from zero. It is concluded that brief interventions are useful in opportunistic samples and as typically delivered by health-care professionals.</p>   |
| <p>Riper, H., Andersson, G., Hunter, S. B., de Wit, J., Berking, M., &amp; Cuijpers, P. (2014). Treatment of comorbid alcohol use disorders and depression with cognitive-behavioural therapy and motivational interviewing: a meta-analysis. <i>Addiction</i>, 109(3), 394-406.</p> | <p>CBT/MI proved effective for treating subclinical and clinical AUD and MDD compared with controls, with small overall effect sizes at post-treatment [<math>g=0.17</math>, confidence interval (CI)=0.07-0.28, <math>P&lt;0.001</math> for decrease of alcohol consumption and <math>g=0.27</math>, CI: 0.13-0.41, <math>P&lt;0.001</math> for decrease of symptoms of depression, respectively]. Subgroup analyses revealed no significant differences for both AUD and MDD. However, digital interventions showed a higher effect size for depression than face-to-face interventions (<math>g= 0.73</math> and <math>g=0.23</math>, respectively, <math>P=0.030</math>). Combined cognitive-behavioural therapy and motivational interviewing for clinical or subclinical depressive and alcohol use disorders has a small but clinically significant effect in treatment outcomes compared with treatment as usual.</p>  |
| <p>Samson, J. E., &amp; Tanner-Smith, E. E. (2015). Single-session alcohol interventions for heavy drinking college students: A systematic review and meta-analysis. <i>Journal of Studies on Alcohol and Drugs</i>, 76(4), 530-543.</p>   | <p>An overall mean effect size of <math>g = 0.18</math>, 95% CI [0.12, 0.24] indicated that, on average, single-session brief alcohol interventions significantly reduced alcohol use among heavy drinking college students relative to comparison conditions. There was minimal variability in effects associated with study method and quality, general study characteristics, participant demographics, or outcome measure type. However, studies using motivational enhancement therapy/motivational interviewing (MET/MI) modalities reported larger effects than those using psychoeducational therapy (PET) interventions. Further investigation revealed that studies using MET/ MI and feedback-only interventions, but not those using cognitive-behavioral therapy or PET modalities, reported average effect sizes that differed significantly from zero. There was also evidence that long-term effects were weaker than short-term effects. Single-session brief alcohol interventions show modest effects for reducing alcohol consumption among heavy drinking college students and may be particularly effective when they incorporate MET/MI principles. More research is needed to directly compare intervention modalities, to develop more potent interventions, and to explore the persistence of long-term effects.</p> |
| <p>Sayegh, C. S., Huey, S. J., Zara, E. J., &amp; Jhaveri, K. (2017). Follow-Up Treatment Effects of Contingency Management and Motivational Interviewing on Substance Use: A Meta-Analysis. <i>Psychology of addictive behaviors : journal of the Society of</i></p>                | <p>Collapsed across all substance types, CM had a significant effect at 3-month follow-up, only. In contrast, MI had a significant effect at 6-month follow-up, only. CM had small and medium effects on multiple substances at 3-month follow-up (i.e., tobacco, marijuana, stimulants, polysubstances), but not at 6-month follow-up. MI had 1 significant medium effect at 3-month follow-up (i.e., marijuana), but several significant small effects at 6-month follow-up (i.e., alcohol, tobacco, polysubstances). This meta-analysis suggests that both CM and MI promote reductions in a range of substances, even several months after the</p>   |

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| <i>Psychologists in Addictive Behaviors.</i>   | intervention concludes. Further, these results provide some evidence that extrinsically focused CM may produce medium follow-up effects in the short run, but intrinsically focused MI may produce small but durable follow-up effects. However, this interpretation is complicated by the differences between the MI and CM studies that preclude statistical tests comparing effect sizes, and few studies assessed motivation itself. Future researchers should investigate how motivational dynamics impact lasting outcomes in substance use treatment.   |
| Smedslund, G., Berg, R. C., Hammerstrom, K. T., Steiro, A., Leiknes, K. A., Dahl, H. M., & Karlsen, K. (2011). Motivational interviewing for substance abuse. <i>The Cochrane database of systematic reviews</i> (5), CD008063.            | We included 59 studies with a total of 13,342 participants. Compared to no treatment control MI showed a significant effect on substance use which was strongest at post-intervention SMD 0.79, (95% CI 0.48 to 1.09) and weaker at short SMD 0.17 (95% CI 0.09 to 0.26], and medium follow-up SMD 0.15 (95% CI 0.04 to 0.25)]. For long follow-up, the effect was not significant SMD 0.06 (95% CI -0.16 to 0.28). There were no significant differences between MI and treatment as usual for either follow-up post-intervention, short and medium follow up. MI did better than assessment and feedback for medium follow-up SMD 0.38 (95% CI 0.10 to 0.66). For short follow-up, there was no significant effect . For other active intervention there were no significant effects for either follow-up. There was not enough data to conclude about effects of MI on the secondary outcomes. MI can reduce the extent of substance abuse compared to no intervention. The evidence is mostly of low quality, so further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. |
| Steinka-Fry, K. T., Tanner-Smith, E. E., & Hennessy, E. A. (2015). Effects of brief alcohol interventions on drinking and driving among youth: A systematic review and meta-analysis. <i>Journal of Addiction &amp; Prevention</i> , 3(1). | Compared with controls, participants in brief alcohol interventions reported reduced drinking and driving and related consequences ( $g = 0.15$ , 95% CI [0.08, 0.21]). Supplemental analyses indicated that reductions in driving while intoxicated were positively associated with the reduced post-intervention heavy use of alcohol. These findings were not attenuated by study design or implementation factors. Brief alcohol interventions under 5 hours of contact may constitute a promising preventive approach targeting drinking and driving among adolescents and young adults. Reducing heavy episodic alcohol consumption appeared to be a major factor in reducing drunk-driving instances. Interpretation of the findings must be made with caution, however, given the possibility of publication bias and the small observed effect size. Future research should focus on the exact mechanisms of behavior change leading to beneficial outcomes of brief alcohol interventions and the potential effectiveness of combined brief interventions and other preventive approaches.   |
| Tanner-Smith, E. E., & Lipsey, M. W. (2015). Brief alcohol interventions for adolescents and young adults: a systematic review and meta-analysis. <i>Journal of Substance Abuse Treatment</i> , 51, 1-18.                                  | We identified 185 eligible study samples using a comprehensive literature search and synthesized findings using random-effects meta-analyses with robust standard errors. Overall, brief alcohol interventions led to significant reductions in alcohol consumption and alcohol-related problems among adolescents ( $g = 0.27$ and $g = 0.19$ ) and young adults ( $g = 0.17$ and $g = 0.11$ ). These effects persisted for up to 1 year after intervention and did not vary across participant demographics, intervention length, or intervention format. However, certain intervention modalities (e.g., motivational interviewing) and components (e.g., decisional balance, goal-setting exercises) were associated with larger effects. We conclude that brief alcohol interventions yield beneficial effects on alcohol-related outcomes for adolescents and young adults that are modest but potentially worthwhile given their brevity and low cost.  |
| Tanner-Smith, E. E., & Risser, M. D. (2016).   | Brief alcohol interventions led to significant reductions in self-reported alcohol use among adolescents ( $g$   |

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| <p>A meta-analysis of brief alcohol interventions for adolescents and young adults: variability in effects across alcohol measures. <i>The American Journal of Drug and Alcohol Abuse</i>, 42(2), 140-151.</p>  | <p>= 0.25, 95% credible interval [CrI 0.13, 0.37]) and young adults (<math>g = 0.15</math>, 95% CrI [0.12, 0.18]). These results were consistent across outcomes with varying reference periods, but varied across outcome construct type and assessment instruments. Among adolescents, effects were larger when measured using the Timeline Followback; among young adults, effects were smaller when measured using the Alcohol Use Disorders Identification Test. CONCLUSION: The strength of the beneficial effects of brief alcohol interventions on youth's alcohol use may vary depending upon the outcome measure utilized. Nevertheless, significant effects were observed across measures. Although effects were modest in size, they were clinically significant and show promise for interrupting problematic alcohol use trajectories among youth.</p> |
| <p>Tanner-Smith, E. E., Steinka-Fry, K. T., Hennessy, E. A., Lipsey, M. W., &amp; Winters, K. C. (2015). Can brief alcohol interventions for youth also address concurrent illicit drug use? results from a meta-analysis. <i>Journal of Youth and Adolescence</i>, 44(5), 1011-1023.</p> | <p>A comprehensive literature search identified 30 eligible study samples that, on average, included participants age 17, with 57 % male participants and 56 % White youth. Three-level random-effects meta-analyses were used to estimate mean effect sizes and explore variability in effects. Overall, brief interventions targeting both alcohol and other drugs were effective in reducing both of these substances. However, the brief interventions that targeted only alcohol had no significant secondary effects on untargeted illicit drug use. The evidence from current research, therefore, shows modest beneficial effects on outcomes that are targeted by brief interventions for youth, but does not show that those effects generalize to untargeted illicit drug use outcomes.</p>   |
| <p>Vasilaki, E. I., Hosier, S. G., &amp; Cox, W. M. (2006). The efficacy of motivational interviewing as a brief intervention for excessive drinking: A meta-analytic review. <i>Alcohol &amp; Alcoholism</i>, 41(3), 328-335.</p>  | <p>Aggregate effect size of 0.43(95% C.I. 0.17, 0.70). The literature review pointed to several factors which may influence MI's long-term efficacy effectiveness of MI. Brief MI is effective. Future studies should focus on possible predictors of efficacy such as gender, age, employment status, marital status, mental health, initial expectations, readiness to change, and whether the population is drawn from treatment-seeking or non-treatment-seeking populations. Also, the components of MI should be compared to determine which are most responsible for maintaining long-term changes.</p>   |
| <p>Wilk, A. I., Jensen, N. W., &amp; Havighurst, T. C. (1997). Meta-analysis of randomized control trials addressing brief interventions in heavy alcohol drinkers. <i>Journal of General Internal Medicine</i>, 12(5), 274-283.</p>  | <p>Twelve RCTs met all inclusion criteria, with an average quality score of <math>0.49 \pm 0.17</math>. This was comparable to published average scores in other areas of research (<math>0.42 \pm 0.16</math>). Outcome data from RCTs were pooled, and a combined OR was close to 2 (1.91; 95% confidence interval 1.61–2.27) in favor of brief alcohol interventions over no intervention. This was consistent across gender, intensity of intervention, type of clinical setting, and higher-quality clinical trials. Heavy drinkers who received a brief intervention were twice as likely to moderate their drinking 6 to 12 months after an intervention when compared with heavy drinkers who received no intervention. Brief intervention is a low-cost, effective preventive measure for heavy drinkers in outpatient settings.</p>                        |
| <p>Yakovenko, I., Quigley, L., Hemmelgarn, B. R., Hodgins, D. C., &amp; Ronksley, P. (2015). The efficacy of motivational interviewing for disordered gambling: Systematic review and meta-analysis. <i>Addictive Behaviors</i>, 43, 72-82.</p>   | <p>Overall, 8 studies (N = 730) fulfilled the inclusion criteria for systematic review and 5 (N = 477) were included in the meta-analysis. Motivational interviewing was associated with significant reduction in gambling frequency up to a year after treatment delivery. For gambling expenditure, motivational interviewing yielded significant reductions in dollars spent gambling compared to non-motivational controls at post-treatment only (1–3 months). Overall, the results of this review suggest that motivational</p>  |

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|  | interviewing is an efficacious style of therapy for disordered gambling in the short term. Whether treatment effects are maintained over time remains unclear.   |
| <b>Cancer</b>  |  |
| Spencer, J. C., & Wheeler, S. B. (2016). A systematic review of motivational interviewing interventions in cancer patients and survivors. <i>Patient Education and Counseling</i> , 99(7), 1099-1105.  | We included 15 studies in our analysis. Studies addressed behaviors such as diet, exercise, smoking cessation, cancer-related stress, and fatigue management. Counseling sessions varied in frequency and method of delivery, although telephone-based interventions were common. Trained oncology nurses often delivered MI sessions, and the majority of interventions included quality assessment to verify fidelity of MI techniques. Solid evidence exists for the efficacy of MI to address lifestyle behaviors as well as the psychosocial needs of cancer patients and survivors. More research is needed on the use of MI for self-management of cancer-related symptoms. <b>PRACTICE IMPLICATIONS:</b> Motivational Interviewing is a promising technique for addressing many types of behavior change in cancer patients or survivors. Intervention design must be sensitive to cancer type, phase of care, and complexity of desired behavior. |
| <b>Cardiovascular</b>  |  |
| Cheng, D., Qu, Z., Huang, J., Xiao, Y., Luo, H., & Wang, J. (2015). Motivational interviewing for improving recovery after stroke. <i>The Cochrane database of systematic reviews</i> (6), CD011398.   | One study involving a total of 411 participants, which compared motivational interviewing with usual care, met our inclusion criteria. The results of this review did not show significant differences between groups receiving motivational interviewing or usual stroke care for participants who were not dependent on others for activities of daily living, nor on the death rate after three-month and 12-month follow-up, but participants receiving motivational interviewing were more likely to have a normal mood than those who received usual care at three-months and 12-months follow-up. There is insufficient evidence to support the use of motivational interviewing for improving activities of daily living after stroke. Further well designed RCTs are needed.  |
| Thompson, D. R., Chair, S. Y., Chan, S. W., Astin, F., M., D. P., & Ski, C. F. (2011). Motivational interviewing: A useful approach to improving cardiovascular health? <i>Journal of Clinical Nursing</i> , 20(9-10), 1236-1244.  | Four meta-analyses, one systematic review and three literature reviews of motivational interviewing and five primary studies of motivational interviewing pertaining to cardiovascular health were identified. Despite a dearth of primary studies in cardiovascular health settings, there appears to be strong evidence that motivational interviewing is an effective approach focusing on eliciting the person's intrinsic motivation for change of behaviour. Motivational interviewing is an effective approach to changing behaviour. It offers promise in improving cardiovascular health status.  |
| Windy, L., Choi, K. C., Yum, R., & Yu, D. S. F. (2016). Effectiveness of motivational interviewing on lifestyle modification and health outcomes of clients at risk or diagnosed with cardiovascular diseases: A systematic review. <i>International Journal of Nursing Studies</i> , 53(331). | After eligibility screening, 14 articles describing 9 studies satisfied the inclusion criteria and were included in the analysis. Only certain outcomes in certain studies were pooled for meta-analysis because of the large variability of the studies included, other findings were presented in narrative form. For lifestyle modification, the review showed that motivational interviewing could be more effective than usual care on altering smoking habits. For physiological outcomes, the review showed that motivational interviewing positively improved client's systolic and diastolic blood pressures but the result was not significant. For psychological outcomes, the review showed that motivational interviewing might have favorable effect on improving clients' depression. For other outcomes, the review showed that motivational interviewing did not differ from usual care or usual care was even more effective. The        |

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|  | review showed that motivational interviewing might have favorable effects on changing clients' smoking habits, depression, and three SF-36 domains. For the other outcomes, most of the results were inconclusive. Further studies should be performed to identify the optimal format and frequency of motivational interviewing. Primary research on the effectiveness of motivational interviewing on increasing clients' motivation and their actual changes in healthy behavior is also recommended.  |
| <b>Chronic Pain</b>  |   |
| Alperstein, D., & Sharpe, L. (2016). The efficacy of motivational interviewing in adults with chronic pain: A meta-analysis and systematic review. <i>Journal of Pain</i> , 17(4), 393-403.                                | These results indicate that MI can probably increase short-term adherence to chronic pain treatments, although publication bias cannot be ruled out. Further, it is as yet unclear whether these effects result in improvements in patient function. Although the studies were methodologically strong, they investigated MI in relation to a number of treatments for chronic pain. Future research on the efficacy of MI on adherence to evidence-based self-management interventions for chronic pain is needed. PERSPECTIVE: MI significantly increased adherence to prescribed chronic pain treatments in the short term, however, effect sizes were small to moderate and publication bias was likely. MI showed some promise in promotion of adherence to pain treatments, but more research is required to confirm its efficacy.  |
| <b>Dentistry</b>   |   |
| Borelli, B., Tooley, E. M., & Scott-Sheldon, L. A. J. (2015). Motivational interviewing for parent-child health interventions: A systematic review and meta-analysis. <i>Pediatric Dentistry</i> , 37(3), 254-265.         | Relative to comparison groups, MI was associated with significant improvements in health behaviors (e.g., oral health, diet, physical activity, reduced screen time, smoking cessation, reduced second hand smoke) and reduction in body mass index. Results suggest that MI may also outperform comparison groups in terms of dental caries, but more studies are needed. MI interventions were more successful at improving diets for Caucasians and when the intervention included more MI components. Our findings provide support for providing motivational interviewing to parents and children to improve pediatric health behaviors.   |
| Cascaes, A. M., Bielemann, R. M., Clark, V. L., & Barros, A. J. D. (2014). Effectiveness of motivational interviewing at improving oral health: A systematic review. <i>Rev. Saúde Pública</i> 48(1), 142-153.             | Of the 78 articles found, ten met the inclusion criteria, all based on randomized controlled trials. Most studies (n = 8) assessed multiple outcomes. Five interventions assessed the impact of MI on oral health behaviors and nine on clinical outcomes (three on dental caries, six on dental plaque, four on gingivitis and three on periodontal pockets). Better quality of evidence was provided by studies that investigated dental caries, which also had the largest population samples. The evidence of the effect of MI on improving oral health outcomes is conflicting. Four studies reported positive effects of MI on oral health outcomes whereas another four showed null effect. In two interventions, the actual difference between groups was not reported or able to be recalculated. We found inconclusive effectiveness for most oral health outcomes. We need more and better designed and reported interventions to fully assess the impact of MI on oral health and understand the appropriate dosage for the counseling interventions. |
| Gao, X., Lo, E. C. Y., Kot, S. C. C., & Chan, K. C. W. (2014). Motivational interviewing in improving oral health: A systematic review of randomized controlled trials. <i>Journal of Periodontology</i> , 85(3), 426-437. | The search yielded 221 potentially relevant papers, among which 20 papers (on 16 studies) met the eligibility criteria. The quality of the studies varied from 10 to 18 out of a highest possible score of 21. Concerning periodontal health, superior effect of MI on oral hygiene was found in five trials and was absent in two trials. Two trials targeting smoking cessation in adolescents failed to generate a positive effect. MI outperformed CE in improving at least one outcome in four studies on preventing early   |

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|   | childhood caries, one study on adherence to dental appointments, and two studies on abstinence of illicit drugs and alcohol use to prevent the reoccurrence of facial injury. Reviewed randomized controlled trials showed varied success of MI in improving oral health. The potential of MI in dental health care, especially on improving periodontal health, remains controversial. Additional studies with methodologic rigor are needed for a better understanding of the roles of MI in dental practice.   |
| Kay, E. J., Vascott, D., Hocking, A., & Nield, H. (2016). Motivational interviewing in general dental practice: A review of the evidence. <i>British Dental Journal</i> , 221(12), 785-791.   | This review included eight papers all of which were considered to be of robust quality, in terms of their research methods and seven of which were considered to offer externally valid findings. Five described randomised controlled trials and all of these RCTs demonstrated that interventions including motivational interviewing had a positive effect on oral health and health behaviour. Conclusions This review shows that the motivational interviewing technique, which is based on the concept of autonomy support, has potential for helping patients with poor oral health. Training in motivational interviewing for dental personnel could be a very useful addition to the skill set of practitioners and dental teams.  |
| <b>Diabetes</b>   |   |
| Chapman, A., Liu, S., Merkouris, S., Enticott, J. C., Yang, H., Browning, C. J., & Thomas, S. A. (2015). Psychological interventions for the management of glycemic and psychological outcomes of type 2 diabetes mellitus in China: A systematic review and meta-analyses of randomized controlled trials. <i>Frontiers in Public Health</i> , 3, 252. | Cognitive behavioral therapy (CBT) and motivational interviewing (MI) were more effective than the control condition in the reduction of glycated hemoglobin [CBT: -0.97 (95% CI -1.37 to -0.57); MI: -0.71 (95% CI -1.00 to -0.43)]. CBT and client-centered therapy (CCT) were also associated with reductions in depression and blood glucose concentration, and CBT was associated with reductions in anxiety. Psychological interventions, namely, CBT, MI, and CCT are effective in improving certain T2DM-related outcomes in China. Considerable levels of heterogeneity and unclear risk of bias associated with most included RCTs suggest caution when interpreting results. In China, where the burden of T2DM is increasing significantly, psychological interventions may provide promising approaches to assist in the management of T2DM to delay the progression of T2DM related outcomes.   |
| Concert, C. M., Burke, R. E., Eusebio, A. M., Slavin, E. A., & Shorridge-Baggett, L. M. (2012). The effectiveness of motivational interviewing on glycemic control for adults with type 2 diabetes mellitus (DM2): A systematic review. <i>JBPI library of systematic reviews</i> , 10(42 Suppl), 1-17.   | Motivational interviewing has been shown to be effective in counseling patients towards behaviour change in smoking cessation, increasing exercise, and reducing alcohol consumption. While combined effect estimates including body mass index (BMI) show a significant effect for MI, combined effect estimates for cigarettes per day and glycosylated haemoglobin (HbA1c) were not significant. Isolated effects of MI on BMI and/or HbA1c have not been identified. Strong clinical evidence suggests that patients with diabetes should achieve certain clinical goals such as lowering HbA1c to reduce morbidity and mortality. Motivational interviewing is a technique that is effective in behaviour change and could potentially be effective with achieving these goals. MI may lead to improved quality of life, health status and clinical outcomes for persons with type 2 diabetes through empowerment and supporting informed decision-making, self-care behaviors, and problem-solving, with active participation and collaboration with the interdisciplinary health care team |
| Ekong, G., & Kavookjian, J. (2016). Motivational interviewing and outcomes in adults with type 2 diabetes: A systematic review. <i>Patient Education and Counseling</i> ,   | Of the initial 159 studies identified, 14 were eligible for retention. Behavior targets in the retained studies included dietary changes, physical activity, smoking cessation, and alcohol reduction. MI had significant impact on some dietary behaviors and on weight loss. MI intervention structures were heterogeneous across studies; fidelity assessment was infrequent.  |

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| 99(6), 944-952.   | The effects of MI interventions on outcomes in T2D showed promising results for dietary behaviors. Clinical change outcomes from MI-based interventions were most favorable for weight management in T2D. Behavior-specific MI interventions may positively influence study outcomes. Assessment of MI intervention fidelity will enhance treatment integrity and claims for validity.   |
| Winkley, K., Ismail, K., Landau, S., & Eisler, I. (2006). Psychological interventions to improve glycaemic control in patients with type 1 diabetes: systematic review and meta-analysis of randomised controlled trials. <i>BMJ</i> , 333(7558), 65. | 29 trials were eligible for the systematic review and 21 trials for the meta-analysis. In the 10 studies of children and adolescents included in the meta-analysis, the mean percentage of glycated haemoglobin was significantly reduced in those who had received a psychological intervention compared with those in the control group (pooled standardised mean difference -0.35 (95% confidence interval -0.66 to -0.04), equivalent to a 0.48% (0.05% to 0.91%) absolute reduction in glycated haemoglobin. In the 11 studies in adults the pooled standardised mean difference was -0.17 (-0.45 to 0.10), equivalent to 0.22% (-0.13% to 0.56%) absolute reduction in glycated haemoglobin. Psychological distress was significantly lower in the intervention groups in children and adolescents (pooled standardised effect size -0.46, -0.83 to -0.10) but not in adults (-0.25, -0.51 to 0.01). Psychological treatments can slightly improve glycaemic control in children and adolescents with diabetes but have no effect in adults. |
| <b>Eating Disorders</b>   |  |
| Macdonald, P., Hibbs, R., Corfield, F., & Treasure, J. (2012). The use of motivational interviewing in eating disorders: a systematic review. <i>Psychiatry Research</i> , 200(1), 1-11.  | Thirteen studies were finally selected for inclusion. A wide range of participants, interventions and outcomes were measured which made comparative analysis difficult. Promising results were found for interventions that included MI, particularly with regards to its use in increasing a readiness and motivation to change. Consequently, there is potential for using MI in the field of eating disorders, particularly with respect to 'readiness for change'. More homogeneity in study design and delivery of MI is needed along with some markers of treatment fidelity, including information as to how adherence to the intervention is assured.  |
| <b>Education</b>  |  |
| Snape, L., & Atkinson, C. (2016). The evidence for student-focused motivational interviewing in educational settings: A review of the literature. <i>Advances in School Mental Health Promotion</i> , 9(2), 119-139.                                  | Eleven studies met the inclusion criteria, although just eight were classified as 'best evidence' and included in the final synthesis. Seven of the included studies yielded positive findings and one study was neutral. Although there are methodological weaknesses in existing literature on student-focused SBMI, there is emerging evidence of its effectiveness for improving student outcomes in relation to academic achievement, behaviour and school-based motivation. Clear pointers for future research emerge from the review.   |
| <b>Hypertension</b>   |  |
| Conn, V. S., Ruppap, T. M., Chase, J. A., Enriquez, M., & Cooper, P. S. (2015). Interventions to improve medication adherence in hypertensive patients: Systematic review and meta-analysis. <i>Current</i>   | The most promising intervention components were those linking adherence behavior with habits, giving adherence feedback to patients, self-monitoring of blood pressure, using pill boxes and other special packaging, and motivational interviewing. The most effective interventions employed multiple components and were delivered over many days. Future research should strive for minimizing risks of bias common in this literature, especially avoiding self-report adherence measures.  |



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| <i>Hypertension Reports</i> , 17(12), 94.   |  |
| <b>Infection Control / HIV / AIDS</b>   |  |
| <p>Berg, R. C., Ross, M. W., &amp; Tikkanen, R. (2011). The effectiveness of MI4MSM: how useful is motivational interviewing as an HIV risk prevention program for men who have sex with men? A systematic review. <i>AIDS education and prevention : official publication of the International Society for AIDS Education</i>, 23(6), 533-549.</p> | <p>Among men who have sex with men (MSM), the principal risk practice for HIV infection is unprotected anal intercourse, often engaged in under the influence of alcohol and other substances. Both behaviors are targeted through the much-used counseling approach motivational interviewing (MI). We conducted a systematic review of the effectiveness of behavioral interventions adapting the principles and techniques of MI on HIV risk behaviors for MSM. Ten randomized controlled trials, which included 6,051 participants at baseline, were eligible for inclusion. Nine outcomes, of which seven were for sexual behavior outcomes, were sufficiently similar to compute meta-analyses. With the exception of one outcome, drinks per day at short-term follow-up, there were no significant differences between the groups receiving MI and the control groups. The effectiveness of MI as a prevention strategy for HIV risk behaviors among MSM is uncertain and continued work to craft more effective HIV prevention programming for this group should be done.</p>   |
| <p>Dillard, P. K., Zuniga, J. A., &amp; Holstad, M. M. (2016). An integrative review of the efficacy of motivational interviewing in HIV management. <i>Patient Education and Counseling</i>.</p>   | <p>Of 239 articles identified initially, 19 met our criteria for synthesis. These studies were conducted throughout the world, including the U.S., Thailand, and South Africa. In general, studies that used MI, either alone or in conjunction with other interventions, reported improved adherence, decreased depression, and decreased risky sexual behaviors. This review demonstrates a positive relationship between MI-based interventions and behavioral change, which may lead to improved health outcomes in PLWH. PRACTICE IMPLICATIONS: Motivational interviewing can be an effective method of therapeutic communication for PLWH, who struggle with adherence, depression, and risky sexual behaviors.</p>  |
| <p>Hill, S., &amp; Kavookjian, J. (2012). Motivational interviewing as a behavioral intervention to increase HAART adherence in patients who are HIV-positive: a systematic review of the literature. <i>AIDS care</i>, 24(5), 583-592.</p>   | <p>Researchers conducted a review of the literature to identify studies analyzing the effect of a MI intervention on HAART adherence, with the objectives of examining this relationship and identifying gaps in the literature. To draw definitive conclusions about these questions and to maintain high methodological quality in the search, researchers used the Cochrane method for systematic reviews while conducting this review. Five studies were retained for review from the search and all were RCTs. Sample sizes ranged from 141 to 326 patients. Three of the five studies showed a significant increase in adherence rates, two studies reported a significant decrease in viral load, and one study showed an increase in CD4 cell count as a result of the intervention. A lack of a universally accepted definition of adherence and large gaps in the areas of humanistic and economic outcomes in the literature creates challenges in comparing improvements in HAART adherence across studies. Despite these challenges in comparison, MI appears to be a promising intervention to improve HAART adherence in HIV-positive individuals, but further studies of rigorous methodological quality are needed to fully understand the effect of this intervention.</p> |
| <p>Mbuagbaw, L., Ye, C., &amp; Thabane, L. (2012). Motivational interviewing for improving outcomes in youth living with HIV. <i>Cochrane</i></p>   | <p>Two trials located in the United States, reported in four papers met our inclusion criteria. They enrolled a total of 237 participants and compared motivational interviewing singly to standard of care. None of these trials reported on adherence to HIV medication, mortality or quality of life. Both trials reported</p>  |



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| <p><i>Database of Systematic Reviews</i>(9).</p>  | <p>reductions in viral load (in the short term) and unprotected sexual acts. A reduction in alcohol use was identified only in one of two studies that reported on this outcome. One trial reported on retention. Retention rates were not affected by the intervention. There is moderate quality evidence, coming from two trials which suggests that MI is effective in reducing short term viral load and unprotected sexual acts. There is moderate quality evidence from one trial that MI is effective in reducing alcohol use. There is a need for more trials which report on outcomes such as adherence to medication, mortality and quality of life in youth.</p>  |
| <p>Naar-King, S., Parsons, J. T., &amp; Johnson, A. M. (2012). Motivational interviewing targeting risk reduction for people with HIV: A systematic review. <i>Current HIV/AIDS Reports</i>, 9(4), 335-343.</p>   | <p>To identify the efficacy of MI in relation to sexual risk and substance use, we conducted a systematic review of research literature published before May 2012, which focused on treatment fidelity, study design, and findings. Results suggest that MI has the potential to reduce sexual risk behavior, but the effects on reducing substance use were less consistent. We identify opportunities for future research with HIV-positive individuals, including the development of interventions assessing the effects of MI on illicit drug use, utilizing higher fidelity standards in intervention implementation and studies of transportability and cost-effectiveness.</p>   |
| <p>Wray, T. B., Grin, B., Dorfman, L., Glynn, T. R., Kahler, C. W., Marshall, B. D. L., . . . Operario, D. (2016). Systematic review of interventions to reduce problematic alcohol use in men who have sex with men. <i>Drug and Alcohol Review</i>, 35(2), 148-157.</p> | <p>The methodological quality of studies varied, and meta-analysis was not conducted because of heterogeneity in intervention approaches and outcomes. Studies provided preliminary support for the use of motivational interviewing/motivational enhancement-based interventions (MI) and hybrid MI and cognitive behavioural therapy treatments for heavy drinking among MSM over no treatment. Perhaps the most important conclusion of this review, however, is that well-designed, theoretically informed research focused on establishing the efficacy of interventions for hazardous drinking and alcohol use disorders among MSM is alarmingly scarce. Effective interventions to reduce hazardous drinking among MSM and prevent key alcohol-related outcomes, including risk for HIV transmission and health problems among HIV-positive MSM, are needed to mitigate health disparities in this population.</p> |
| <b>Inflammatory Bowel Syndrome</b>  |   |
| <p>Wagoner, S. T., &amp; Kavookjian, J. (2017). The influence of motivational interviewing on patients with inflammatory bowel disease: A systematic review of the literature. <i>Journal of Clinical Medicine Research</i>, 9(8), 659-666.</p>                           | <p>Results suggest that MI can be effective in improving outcomes for individuals with IBD since patients experienced improved adherence rates, displayed greater advice-seeking behavior, and perceived providers as having more empathy and better communication skills. Further research is required since the pool of retained studies is small, evidencing a paucity of literature focusing on this evidence-based health behavior intervention for the behaviors needed to optimally manage IBD. Further, only adults were examined in these studies, so generalizations to children and adolescents are limited.</p>   |
| <b>Medication Adherence</b>   |   |
| <p>Conn, V. S., Ruppap, T. M., Chase, J. A., Enriquez, M., &amp; Cooper, P. S. (2015). Interventions to improve medication adherence in hypertensive patients: Systematic review and meta-analysis. <i>Current Hypertension Reports</i>, 17(12), 94.</p>                  | <p>The most promising intervention components were those linking adherence behavior with habits, giving adherence feedback to patients, self-monitoring of blood pressure, using pill boxes and other special packaging, and motivational interviewing. The most effective interventions employed multiple components and were delivered over many days. Future research should strive for minimizing risks of bias common in this literature, especially avoiding self-report adherence measures.</p>  |

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| <p>Drymalski, W. M., &amp; Campbell, T. C. (2009). A review of motivational interviewing to enhance adherence to antipsychotic medication in patients with schizophrenia: Evidence and recommendations. <i>Journal of Mental Health, 18</i>, 6-15.</p>      | <p>The literature review produced only five empirical studies which utilized MI to increase antipsychotic adherence. Two studies found an increase in antipsychotic adherence following the MI-based intervention, while the other three found no change in adherence. The small sample of studies and the methodological limitations of each made it difficult to draw any meaningful conclusions. Suggestions to address these methodological issues in future research are provided.</p>  |
| <p>Easthall, C., Song, F., &amp; Bhattacharya, D. (2013). A meta-analysis of cognitive-based behaviour change techniques as interventions to improve medication adherence. <i>BMJ open, 3</i>(8).</p>   | <p>Interventions most commonly used MI, but many used techniques such as aiming to increase the patient's confidence and sense of self-efficacy, encouraging support-seeking behaviours and challenging negative thoughts, which were not specifically categorised. Cognitive-based behaviour change techniques are effective interventions eliciting improvements in medication adherence that are likely to be greater than the behavioural and educational interventions largely used in current practice. Subgroup analyses suggest that these interventions are amenable to use across different populations and in differing manners without loss of efficacy. These factors may facilitate incorporation of these techniques into routine care.</p>   |
| <p>Palacio, A., Garay, D., Langer, B., Taylor, J., Wood, B. A., &amp; Tamkariz, L. (2016). Motivational interviewing improves medication adherence: A systematic review and meta-analysis. <i>Journal of General Internal Medicine, 31</i>(8), 929-940.</p> | <p>The main outcome was medication adherence defined as any subjective or objective measure reported as the proportion of subjects with adequate adherence or mean adherence and standard deviation. For categorical variables we calculated the relative risk (RR) of medication adherence, and for continuous variables we calculated the standardized mean difference (SMD) between the MI and control groups. We included 17 RCTs. Ten targeted adherence to HAART. For studies reporting a categorical measure (n = 11), the pooled RR for medication adherence was higher for MI compared with control (1.17; 95 % CI 1.05- 1.31; p &lt; 0.01). For studies reporting a continuous measure (n = 11), the pooled SMD for medication adherence was positive (0.70; 95 % CI 0.15-1.25; p &lt; 0.01) for MI compared with control. The characteristics that were significantly (p &lt; 0.05) associated with medication adherence were telephonic MI and fidelity-based feedback among studies reporting categorical measures, group MI and fidelity assessment among studies reporting continuous measures and delivery by nurses or research assistants. Effect sizes differed in magnitude, creating high heterogeneity. MI improves medication adherence at different exposure times and counselors' educational level. However, the evaluation of MI characteristics associated with success had inconsistent results. Larger studies targeting diverse populations with a variety of chronic conditions are needed to clarify the effect of different MI delivery modes, fidelity assessment and provision of fidelity based-feedback.</p> |
| <p>Teeter, B. S., &amp; Kavookjian, J. (2014). Telephone-based motivational interviewing for medication adherence: A systematic review. <i>Translational Behavioral Medicine, 4</i>(4), 372-381.</p>  | <p>A total of nine articles were retained for review. The quality of the studies and the interventions varied significantly, which precluded making definitive conclusions but findings among a majority of retained studies suggest that telephone-based MI may help improve medication adherence. The included studies provided promising results and justification for continued exploration in the provision of MI via telephone encounters. Future research is needed to address gaps in the current literature but the results suggest that MI may be an efficient option for healthcare professionals seeking an evidence-based method to reach remote or inaccessible patients to help them improve their medication adherence.</p>  |
| <p>Zomahoun, H. T., Guenette, L., Gregoire, J. P., Lauzier, S., Lawani, A. M., Ferdynus, C., .</p>  | <p>Nineteen RCTs were identified, and 16 were included in the meta-analysis. The pooled MI intervention effect size was 0.12 [95% confidence interval (CI) = (0.05, 0.20), I<sup>2</sup> = 1%]. Interventions that were based</p>  |

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| <p>.. Moisan, J. (2016). Effectiveness of motivational interviewing interventions on medication adherence in adults with chronic diseases: A systematic review and meta-analysis. <i>International Journal of Epidemiology</i>, 46(2), 589-602.</p> | <p>on MI only [beta = 0.183, 95% CI = (0.004, 0.362)] or those in which interventionists were coached during intervention implementation [beta = 0.465, 95% CI = (0.028, 0.902)] were the most effective. MI interventions that were delivered solely face to face were more effective than those that were delivered solely by phone [beta = 0.270, 95% CI = (0.041, 0.498)]. This synthesis of RCTs suggests that MI interventions might be effective at enhancing of medication adherence in adults treated for chronic diseases. Further research is however warranted, as the observed intervention effect size was small.</p>   |
| <p><b>Mental Illness</b></p>  |   |
| <p>Cleary, M., Hunt, G., Matheson, S., Siegfried, N., &amp; Walter, G. (2008). Psychosocial interventions for people with both severe mental illness and substance misuse. <i>The Cochrane database of systematic reviews</i>(1), CD001088.</p>     | <p>Evaluation of long-term integrated care included 4 RCTs (total n=735). We found no significant difference on measures of substance use (n=85, 1 RCT, RR 0.89 CI 0.6 to 1.3) or loss to treatment (n=603, 3 RCTs, RR 1.09 CI 0.8 to 1.5). For the non-integrated intensive case management trials (4 RCTs, total n=151) we also found no significant difference for loss (n=134, 3 RCTs, RR 1.35 CI 0.8 to 2.2). Motivational interviewing plus cognitive behavioural therapy (3 RCTs, total n=276) did not reveal any advantage for retaining participants (n=36, 1 RCT, RR lost to treatment 0.50 CI 0.1 to 5.0) or for relapse (n=36, 1 RCT, RR 0.58 CI 0.3 to 1.1), and no benefit for reducing substance use (n=119, 1 RCT, RR 0.19 CI -0.2 to 0.6). Cognitive behavioural therapy alone (4 trials, total n=260) showed fewer participants lost from treatment (n=260, 4 RCTs, p=0.02, RR 0.61 CI 0.4 to 0.9). No benefits were observed on measures of lessening cannabis use (n=47, 1 RCT, RR 1.30 CI 0.8 to 2.2) or on the number of participants using substances (alcohol; n=46, 1 RCT, RR 5.88 CI 0.8 to 44.0, drugs; n=46, 1 RCT, RR 2.02 CI 0.9 to 4.8) and no differences were observed on measures of mental state (n=105, 1 RCT, RR 0.52 CI -0.8 to 1.8). We found no advantage for motivational interviewing alone (5 trials, total n=338) in reducing 'lost to evaluation' (n=338, 5 RCTs, RR 0.96 CI 0.6 to 1.5) compared with treatment as usual, although significantly more participants in the motivational interviewing group reported for their first aftercare appointment (n=93, 1 RCT, RR 0.69 CI 0.5 to 0.9, NNT 4 CI 3 to 12). Some differences were observed in abstaining from alcohol favouring treatment (n=28, 1 RCT, RR 0.36 CI 0.2 to 0.8, NNT 2 CI 2 to 5), but not other substances (n=89, 1 RCT, RR -0.07 CI -0.6 to 0.4) and no differences were observed in mental state (n=30, 1 RCT, WMD -4.20 CI -18.7 to 10.3). Finally, we found no significant differences for skills training in the numbers lost to treatment by 12 months (n=94, 2 RCTs, RR 0.70 CI 0.4 to 1.1). We included 25 RCTs and found no compelling evidence to support any one psychosocial treatment over another to reduce substance use (or improve mental state) by people with serious mental illnesses. Furthermore, methodological difficulties exist which hinder pooling and interpreting results; high drop out rates, varying fidelity of interventions, varying outcome measures, settings and samples and comparison groups may have received higher levels of treatment than standard care. Further studies are required which address these concerns and improve the evidence in this important area.</p> |
| <p>Hunt, G. E., Siegfried, N., Morley, K., Sitharthan, T., &amp; Cleary, M. (2013). Psychosocial interventions for people with both severe mental illness and substance</p>   | <p>We found no advantage for motivational interviewing alone compared with usual treatment (8 RCTs, n = 509) in reducing losses to treatment at 6 months (n = 62, 1 RCT, RR 1.71 CI 0.63 to 4.64, very low quality of evidence), although significantly more participants in the motivational interviewing group reported for their first aftercare appointment.</p>  |

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| misuse. <i>The Cochrane database of systematic reviews</i> , 10, CD001088.  |  |
| Osborn, L. D. (2006). <i>A meta-analysis of controlled clinical trials of the efficacy of motivational interviewing in a dual-diagnosis population</i> . Psy.D. Dissertation, Wright Institute, Berkeley, CA.   | A meta-analysis was conducted on seven controlled clinical trials investigating the efficacy of Motivational Interviewing on dually-diagnosed patients. Efficacy was defined differently in the studies: some were compliance with treatment (e.g. session attendance) whereas others were abstinence or reduction in drug use. Contrary to the author's hypothesis, the results did not support the efficacy of Motivational Interviewing in dually-diagnosed participants.   |
| Vanderwall, F. M. (2015). Impact of motivational interviewing on medication adherence in schizophrenia. <i>Issues in Mental Health Nursing</i> , 36(11), 900-904.   | Relevant studies from the last ten years were included, resulting in six studies being included in this literature review. One study presented evidence for a direct relationship between motivational interviewing and medication adherence. Most studies did not support this relationship. Some studies found evidence for a relationship between motivational interviewing and other outcomes such as improved psychotic symptoms and decreased re-hospitalization rates. Motivational interviewing may be beneficial for some patients with schizophrenia but should not be considered a first line therapy. Clinicians not already using motivational interviewing in providing care to their patients with schizophrenia should not implement it for this population. |
| <b>Obesity / Overweight / Weight Loss</b>   |  |
| Armstrong, M. J., Mottershead, R. A., Ronksley, P. E., Sigal, R. J., Campbell, T. S., & Hemmelgarn, B. R. (2011). Motivational interviewing to improve weight loss in overweight and/or obese patients: A systematic review and meta-analysis of randomized clinical trials. <i>Obesity Reviews</i> , 12(9), 709-723. | Motivational interviewing was associated with a greater reduction in body mass compared to controls (SMD = -0.51 [95% CI -1.04, 0.01]). There was a significant reduction in body weight (kg) for those in the intervention group compared with those in the control group (WMD = -1.47 kg [95% CI -2.05, -0.88]). For the BMI outcome, the WMD was -0.25 kg m <sup>-2</sup> (95% CI -0.50, 0.01). Motivational interviewing appears to enhance weight loss in overweight and obese patients.  |
| Barnes, R. D., & Ivezaj, V. (2015). A systematic review of motivational interviewing for weight loss among adults in primary care. <i>Obesity Reviews</i> , 16(4), 304-318.   | A total of 24 adult randomized controlled trials were identified. MI interventions typically were provided individually by a range of clinicians and compared with usual care. Few studies provided adequate information regarding MI treatment fidelity. Nine studies (37.5%) reported significant weight loss at post-treatment assessment for the MI condition compared with control groups. Thirteen studies (54.2%) reported MI patients achieving at least 5% loss of initial body weight. There is potential for MI to help primary care patients lose weight. Conclusions, however, must be drawn cautiously as more than half of the reviewed studies showed no significant weight loss compared with usual care and few reported MI treatment fidelity.            |
| DiRosa, L. C. (2010). <i>Motivational interviewing to treat overweight/obesity: A meta-analysis of relevant research</i> . Ed.D. Dissertation, Wilmington University, New   | There were 41 trials that analyzed the effectiveness of motivational interviewing in changing diet, physical activity, and body weight included in this meta-analysis. In terms of overall effectiveness, there was a moderate effect of motivational interviewing on all outcomes ( $d. = 0.29$ ) with a success rate of 57%. Motivational interviewing was most effective in changing dietary behavior ( $d. = 0.35$ ). There were   |

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| Castle DE.   | significant moderator effects of gender, socioeconomic status, ethnicity and practitioner on dietary intake outcomes but not physical activity or weight outcomes, indicating that motivational interviewing is more effective for females, middle/mixed socioeconomic status, Caucasians and trained practitioners. From the results of this study, it can be concluded that motivational interviewing has the potential to be an effective treatment for obesity.   |
| Van Dorsten, B. (2007). The use of motivational interviewing in weight loss. <i>Current Diabetes Reports</i> , 7(5), 386-390.  | Within the past two decades, motivational interviewing has emerged as a useful strategy to help individuals develop motivation to change health behavior and sustain those efforts. This article reviews the preliminary but burgeoning literature that supports the effectiveness of motivational interviewing strategies in promoting positive changes in a variety of health behaviors, including dietary change, activity increases, and regimen adherence. A variety of adaptations of the motivational interviewing process are discussed as relevant to making this treatment strategy increasingly applicable to a variety of health care settings.   |
| <b>Obstetrics/Gynecology</b>   |   |
| Castro, K. M. G. (2016). <i>Impact of prenatal motivational interviewing on health status and health behavior related with nutrition: A systematic review</i> . M.S. Masters Thesis, Kent State University, Kent, OH.  | More than half of the studies (N=12, 63.15%) showed significant positive impact of MI on all their primary health outcomes, while just three studies (15.78%) did not find any significant impact of MI in the established period. The quality of the studies was evaluated, with 14 studies (73.68%) rating with a strong design. The study shows that MI have a significant impact on health status and health behavior related with nutrition. A standardized method to deliver MI is needed since has been proved that it is an effective counseling technique.   |
| Handmaker, N. S., & Wilbourne, P. (2001). Motivational Interventions in prenatal clinics. <i>Alcohol Research &amp; Health</i> , 25(3), 219-229.   | Although the risks associated with pregnancy are well-documented, prevention efforts, for the most part, have not reached women who drink at levels that present the greatest risk. Recent clinical studies and demonstration projects show that interventions by obstetric caregivers can help reduce drinking even among women who consume alcohol at the heaviest levels. Brief interventions and motivational interviewing are two approaches that can be adapted for busy medical offices to provide interventions before, during, and after pregnancies. By combining these interventions with a stepped-care approach, practitioners will be able to intervene to prevent drinking during pregnancy while minimizing costs to the patient and demands for limited clinic resources.  |
| Wilson, A., Nirantharakumar, K., Truchanowicz, E. G., Surenthirakumaran, R., MacArthur, C., & Coomasamy, A. (2015). Motivational interviews to improve contraceptive use in populations at high risk of unintended pregnancy: a systematic review and meta-analysis. <i>European Journal of Obstetrics, Gynecology, and Reproductive Biology</i> , 191, 72-79. | Eight randomised controlled trials were included in the review with a total of 3424 women at high risk of pregnancy. Meta-analysis showed an increase in effective contraceptive use with motivational interviews when compared with control (RR 1.32 95%CI 1.11, 1.56: P=0.002) in the period of zero to four months post intervention. No difference in effective contraceptive use was shown at four to eight months (RR 1.10, 95%CI 0.93, 1.32: P=0.27), and between eight to twelve months (RR 1.18 95%CI 0.96, 1.46: P=0.12). No evidence of effect in the reduction of subsequent pregnancies or births at twelve to twenty-four months was seen with motivational interviews (RR 0.80 95%CI 0.51, 1.26: P=0.34). Motivational interviews significantly increase effective contraceptive use immediately after and up to four months post-intervention. The effect without reinforcement is short lasting as no evidence of effect is seen after |

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|   | four months post-intervention.   |
| <b>Offenders</b>  |  |
| McMurrin, M. (2009). Motivational interviewing with offenders: A systematic review. <i>Legal and Criminological Psychology</i> , 14, 83-100.  | In total, 13 published studies and 6 dissertation abstracts were identified. MI is most evaluated in relation to substance misusing offenders ( $N=10$ ). Other applications are with domestic violence offenders ( $N=3$ ), drink-drivers ( $N=5$ ), and general offending ( $N=1$ ). In these populations, MI is used to enhance retention and engagement in treatment, improve motivation for change, and change behaviour. MI can lead to improved retention in treatment, enhanced motivation to change, and reduced offending, although there are variations across studies. To advance the study of MI with offenders, a theory of change needs to be articulated on which testable hypotheses may be based. The integrity of treatment in its application needs to be assured. Based on these foundations, more outcome research is needed to examine who responds to what type of MI in relation to treatment retention, readiness to change, and reconviction. |
| <b>Pediatrics / Child &amp; Adolescent Health / Parent-Child Interventions</b>  |  |
| Borelli, B., Tooley, E. M., & Scott-Sheldon, L. A. J. (2015). Motivational interviewing for parent-child health interventions: A systematic review and meta-analysis. <i>Pediatric Dentistry</i> , 37(3), 254-265.  | Relative to comparison groups, MI was associated with significant improvements in health behaviors (e.g., oral health, diet, physical activity, reduced screen time, smoking cessation, reduced second hand smoke) and reduction in body mass index. Results suggest that MI may also outperform comparison groups in terms of dental caries, but more studies are needed. MI interventions were more successful at improving diets for Caucasians and when the intervention included more MI components. Our findings provide support for providing motivational interviewing to parents and children to improve pediatric health behaviors.  |
| Cushing, C. C., Jensen, C. D., Miller, M. B., & Leffingwell, T. R. (2014). Meta-analysis of motivational interviewing for adolescent health behavior: efficacy beyond substance use. <i>Journal of Consulting and Clinical Psychology</i> , 82(6), 1212-1218.                       | MI interventions produced a small, but significant, aggregate effect size for short-term postintervention effects sustained at follow-up assessments averaging 33.6 weeks postintervention. MI interventions for adolescent health behavior appear to be effective. In addition, the magnitude of the aggregate effect size does not appear to differ meaningfully from reports of interventions targeting only substance use in adolescents. However, significant lack of clarity exists regarding interventionist training requirements necessary to ensure intervention effectiveness.  |
| Erickson, S. J., Gerstle, M., & Feldstein, S. W. (2005). Brief interventions and motivational interviewing with children, adolescents, and their parents in pediatric health care settings: A review. <i>Archives of Pediatrics &amp; Adolescent Medicine</i> , 159(12), 1173-1180. | Although MI has consistently demonstrated efficacy in changing adult behavior, questions remain about the viability of MI with school-aged children. In particular, it is not clear whether younger children, with more limited abilities to form long-term goals and to experience ambivalence between future goals and current behavior, may demonstrate the same levels of benefits with MI. In contrast, MI appears to be highly effective in increasing self-efficacy to enact change in adolescents. MI is amassing support as a brief intervention with adolescents who are highly ambivalent or may be ambivalent about following a prescribed health care regimen. In addition, MI has shown promise as an intervention with parents of younger adolescents.  |
| Gayes, L. A., & Steele, R. G. (2014). A meta-analysis of motivational interviewing interventions for pediatric health behavior change. <i>Journal of Consulting and Clinical</i>  | The overall effect size (Hedges's $g$ ) of MI in this population as compared to both other active treatments and no treatment was slightly higher than a small effect size and also slightly higher than what has been typically found in the substance literature. Effect sizes varied by health condition such that the health domains with the largest overall effect sizes were Type 1 diabetes, asthma, and calcium intake. The   |



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| <p><i>Psychology</i>, 82(3), 521-535.</p>  | <p>effectiveness of MI in pediatric domains was moderated by factors such as practitioner background, health domain, and the family member who participated. Unexpectedly, number of MI sessions and follow-up length were not significant moderators. MI seems to be most effective when both parent and child participate in sessions and when the cultural background of the practitioner matches the family. Overall, these findings indicate that MI is an effective and appropriate intervention for targeting child health behavior changes.</p>  |
| <p><b>Physical Activity</b></p>  |  |
| <p>Chilton, R., Pires-Yfantouda, R., &amp; Wylie, M. (2012). A systematic review of motivational interviewing within musculoskeletal health. <i>Psychology, Health &amp; Medicine</i>, 17(4), 392-407.</p>             | <p>Five studies were identified for quality assessment. Due to variations in delivery modality, musculoskeletal condition and type of MI application it was not possible to provide direct comparative interpretations for these factors. A data synthesis was used to provide a summary of study characteristics, a narrative overview and conduct a quality assessment as well as considering authors comments on study limitations. The results of the quality assessment highlighted a number of methodological issues which supported and expanded upon those expressed by the studies authors. None of the studies contained children or young people and in terms of training there were variations in training provider, duration and competency, as well as variation in the fidelity of MI. The findings have highlighted the need for well designed randomised controlled trials that are suitability powered to measure the effectiveness of MI within musculoskeletal health. Future studies may consider the application of MI within musculoskeletal conditions in terms of self-management and its application to creating lifestyle changes (e.g. diet, exercise) for adults, as well as children and young people. Research currently being conducted may expand upon the evidence, feasibility and validity of MI within areas such as fibromyalgia, osteoporosis, arthritis, understanding of knee replacement and rehabilitation.</p> |
| <p>McGrane, N., Galvin, R., Cusack, T., &amp; Stokes, E. (2015). Addition of motivational interventions to exercise and traditional physiotherapy: A review and meta-analysis. <i>Physiotherapy</i>, 101(1), 1-12.</p> | <p>Exercise attendance was measured in six studies (n = 378), and the results indicate that there was no significant difference in exercise attendance between the groups (REM, standardised mean difference 0.33, 95% confidence interval -0.03 to 0.68, I2 62%). Perceived self-efficacy results were pooled from six studies (n = 722), and there was significant difference between the groups in favour of the interventions (FEM, standardised mean difference 0.71, 95% confidence interval 0.55 to 0.87, I2 41%). The results for levels of activity limitation were pooled (n = 550), and a significant difference was found between the groups in favour of the interventions (REM, standardised mean difference -0.37, 95% confidence interval -0.65 to -0.08, I2 61%). Motivational interventions can help adherence to exercise, have a positive effect on long-term exercise behaviour, improve self-efficacy and reduce levels of activity limitation. The optimal theory choice and the most beneficial length and type of intervention have not been defined, although all interventions showed benefits. There is a need to determine how practising physiotherapists currently optimise adherence, and their current levels of knowledge about motivational interventions.</p>  |
| <p>O'Halloran, P. D., Blackstock, F., Shields, N., Holland, A., Iles, R., Kingsley, M., . . . Taylor, N. F. (2014). Motivational interviewing to</p>   | <p>Eleven publications (of ten trials) were included. There was moderate level evidence that motivational interviewing had a small effect in increasing physical activity levels in people with chronic health conditions relative to comparison groups (standardized mean differences = 0.19, 95% CI 0.06 to 0.32, p =</p>  |

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| <p>increase physical activity in people with chronic health conditions: a systematic review and meta-analysis. <i>Clinical Rehabilitation</i>, 28(12), 1159-1171.</p>  | <p>0.004). Sensitivity analysis based on trials that confirmed treatment fidelity produced a larger effect. No conclusive evidence was observed for cardiorespiratory fitness or functional exercise capacity. The addition of motivational interviewing to usual care may lead to modest improvements in physical activity for people with chronic health conditions.</p>   |
| <p><b>Smoking/Tobacco Cessation</b></p>  |  |
| <p>Heckman, C. J., Egleston, B. L., &amp; Hofmann, M. T. (2010). Efficacy of motivational interviewing for smoking cessation: a systematic review and meta-analysis. <i>Tobacco control</i>, 19(5), 410-416.</p> | <p>Analysis of the trials (9485 individual participants) showed an overall OR comparing likelihood of abstinence in the motivational interviewing (MI) versus control condition of OR 1.45 (95% CI 1.14 to 1.83). Additional potential correlates of treatment effects such as study, sample, and intervention characteristics were examined. This is the most comprehensive review of MI for smoking cessation conducted to date. These findings suggest that current MI smoking cessation approaches can be effective for adolescents and adults. However, comparative efficacy trials could be useful.</p>  |
| <p>Hettema, J. E., &amp; Hendricks, P. S. (2010). Motivational interviewing for smoking cessation: A meta-analytic review. <i>Journal of Consulting and Clinical Psychology</i>, 78(6), 868-884.</p>             | <p>Several subgroups of studies had significant combined effect sizes, pointing to potentially promising applications of MI, including studies that had participants with young age, medical comorbidities, low tobacco dependence, and, consistent with clinical practice guidelines, low motivation or intent to quit. Effects were smaller among pregnant samples. In addition, significant combined effect sizes were observed among subgroups of studies that administered less than 1 hr of MI and among studies that reported high levels of treatment fidelity.</p>  |
| <p>Lai, D. T., Cahill, K., Qin, Y., &amp; Tang, J. L. (2010). Motivational interviewing for smoking cessation. <i>The Cochrane database of systematic reviews</i>(1), CD006936.</p>                              | <p>We identified 14 studies published between 1997 and 2008, involving over 10,000 smokers. Trials were conducted in one to four sessions, with the duration of each session ranging from 15 to 45 minutes. All but two of the trials used supportive telephone contacts, and supplemented the counselling with self-help materials. MI was generally compared with brief advice or usual care in the trials. Interventions were delivered by primary care physicians, hospital clinicians, nurses or counsellors. Our meta-analysis of MI versus brief advice or usual care yielded a modest but significant increase in quitting (RR 1.27; 95% CI 1.14 to 1.42). Subgroup analyses suggested that MI was effective when delivered by primary care physicians (RR 3.49; 95% CI 1.53 to 7.94) and by counsellors (RR 1.27; 95% CI 1.12 to 1.43), and when it was conducted in longer sessions (more than 20 minutes per session) (RR 1.31; 95% CI 1.16 to 1.49). Multiple session treatments may be slightly more effective than single sessions, but both regimens produced positive outcomes. Evidence is unclear at present on the optimal number of follow-up calls. There was variation across the trials in treatment fidelity. All trials used some variant of motivational interviewing. Critical details in how it was modified for the particular study population, the training of therapists and the content of the counselling were sometimes lacking from trial reports. <b>AUTHORS' CONCLUSIONS:</b> Motivational interviewing may assist smokers to quit. However, the results should be interpreted with caution due to variations in study quality, treatment fidelity and the possibility of publication or selective reporting bias.</p> |
| <p>Lindson-Hawley, N., Thompson, T. P., &amp; Begh, R. (2015). Motivational interviewing for smoking cessation. <i>The Cochrane</i></p>  | <p>We identified 28 studies published between 1997 and 2014, involving over 16,000 participants. MI was conducted in one to six sessions, with the duration of each session ranging from 10 to 60 minutes. Interventions were delivered by primary care physicians, hospital clinicians, nurses or counsellors. Our</p>  |



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| <p><i>Database of Systematic Reviews</i>(3), CD006936.</p>   | <p>meta-analysis of MI versus brief advice or usual care yielded a modest but significant increase in quitting (risk ratio (RR) 1.26; 95% confidence interval (CI) 1.16 to 1.36; 28 studies; N = 16,803). Subgroup analyses found that MI delivered by primary care physicians resulted in an RR of 3.49 (95% CI 1.53 to 7.94; 2 trials; N = 736). When delivered by counsellors the RR was smaller (1.25; 95% CI 1.15 to 1.63; 22 trials; N = 13,593) but MI still resulted in higher quit rates than brief advice or usual care. When we compared MI interventions conducted through shorter sessions (less than 20 minutes per session) to controls, this resulted in an RR of 1.69 (95% CI 1.34 to 2.12; 9 trials; N = 3651). Single-session treatments might increase the likelihood of quitting over multiple sessions, but both regimens produced positive outcomes. Evidence is unclear at present on the optimal number of follow-up calls. There was variation across the trials in treatment fidelity. All trials used some variant of motivational interviewing. Critical details in how it was modified for the particular study population, the training of therapists and the content of the counselling were sometimes lacking from trial reports. Motivational interviewing may assist people to quit smoking. However, the results should be interpreted with caution, due to variations in study quality, treatment fidelity, between-study heterogeneity and the possibility of publication or selective reporting bias.</p> |
| <p><b>Therapeutic Mechanisms (of Motivational Interviewing)</b></p>  |  |
| <p>Apodaca, T. R., &amp; Longabaugh, R. (2009). Mechanisms of change in motivational interviewing: A review and preliminary evaluation of the evidence. <i>Addiction, 104</i>, 705-715.</p>  | <p>Four constructs of therapist behavior were evaluated: MI-Spirit, MI-Consistent behaviors, MI-Inconsistent behaviors and therapist use of specific techniques. Five constructs of client behavior were evaluated: change talk/intention, readiness to change, involvement/engagement, resistance and the client's experience of discrepancy. The absence of experimental and full mediation studies of mechanisms of change was notable. Effect sizes were generally mixed. The most consistent evidence was found for three constructs: client change talk/intention (related to better outcomes); client experience of discrepancy (related to better outcomes); and therapist MI-Inconsistent behavior (related to worse outcomes). Regarding therapist use of specific techniques, use of a decisional balance exercise showed the strongest association to better outcomes.</p>   |
| <p>Copeland, L., McNamara, R., Kelson, M., &amp; Simpson, S. (2015). Mechanisms of change within motivational interviewing in relation to health behaviors outcomes: a systematic review. <i>Patient Education and Counseling, 98</i>(4), 401-411.</p> | <p>291 studies were identified and 37 met the inclusion criteria. Few of the 37 studies included, conducted mediation analyses. MI spirit and motivation were the most promising mechanisms of MI. Although self-efficacy was the most researched, it was not identified as a mechanism of MI. Study quality was generally poor. Although this review has indicated possible mechanisms by which MI could influence health behavior outcomes, it also highlights that more high quality research is needed, looking at other possible mechanisms or causal pathways within health behavior outcomes. MI spirit possibly plays an important role within MI and may potentially be used to evoke change talk which links to outcomes.</p>  |
| <p>Magill, M., Gaume, J., Apodaca, T. R., Walthers, J., Mastroleo, N. R., Borsari, B., &amp; Longabaugh, R. (2014). The technical hypothesis of motivational interviewing: a meta-analysis of MI's key causal model.</p>                               | <p>A systematic literature review, using stringent inclusion criteria, identified 16 reports describing 12 primary studies. We used review methods to calculate the inverse-variance-weighted pooled correlation coefficient for the therapist-to-client and the client-to-outcome paths across multiple targeted behaviors (i.e., alcohol or illicit drug use, other addictive behaviors). RESULTS: Therapist MI-consistent skills were correlated with more client language in favor of behavior change (i.e., change talk; <math>r = .26</math>, <math>p &lt;</math></p>  |

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| <p><i>Journal of Consulting and Clinical Psychology</i>, 82(6), 973-983.</p>   | <p>.0001), but not less client language against behavior change (i.e., sustain talk; <math>r = .10</math>, <math>p = .09</math>). MI-inconsistent skills were associated with less change talk (<math>r = -.17</math>, <math>p = .001</math>) as well as more sustain talk (<math>r = .07</math>, <math>p = .009</math>). Among these studies, client change talk was not associated with follow-up outcome (<math>r = .06</math>, <math>p = .41</math>), but sustain talk was associated with worse outcome (<math>r = -.24</math>, <math>p = .001</math>). In addition, studies examining composite client language (e.g., an average of negative and positive statements) showed an overall positive relationship with client behavior change (<math>r = .12</math>, <math>p = .006</math>; <math>k = 6</math>). This meta-analysis provides an initial test and partial support for a key causal model of MI efficacy. Recommendations for MI practitioners, clinical supervisors, and process researchers are provided.</p> |
| <p>Romano, M., &amp; Peters, L. (2015). Evaluating the mechanisms of change in motivational interviewing in the treatment of mental health problems: A review and meta-analysis. <i>Clinical Psychology Review</i>, 38(June), 1-12.</p>                        | <p>Twenty studies met inclusion criteria and examined a range of potential MI mechanisms, including patient motivation and confidence, patient resistance, and engagement. Results indicated that while MI did not increase patient motivation more so than did comparison conditions, MI showed a favourable effect on patient engagement variables. However, medium to high levels of heterogeneity were detected for patient engagement, indicating significant differences between studies. Heterogeneity was somewhat explained through subgroup analyses examining the effect of comparison condition and participant diagnosis. Overall, there were few MI mechanisms of change available for review, though the results suggest that patient engagement with treatment may be a potential mechanism of change in populations diagnosed with anxiety, mood, and psychotic disorders.</p>  |
| <p><b>Training (of Motivational Interviewing)</b></p>  |  |
| <p>Barwick, M. A., Bennett, L. M., Johnson, S. N., McGowan, J., &amp; Moore, J. E. (2012). Training health and mental health professionals in motivational interviewing: A systematic review. <i>Children and Youth Services Review</i>, 34(9), 1786-1795.</p> | <p>A total of 22 studies were included in this review. Seventeen of the 22 studies reported significant practitioner behavior change relative to motivational interviewing skills, notwithstanding variation in training approach, population, outcome measures, and study quality. This review demonstrates practitioner behavior change on MI skills utilizing a variety of training and outcome methods. Future work of high methodological rigor, clear reporting, and that attends to training as one part of the implementation process will help to elucidate the factors that lead to the uptake of new practices.</p>   |
| <p>de Roten, Y., Zimmerman, G., Ortega, D., &amp; Despland, J. N. (2013). Meta-analysis of the effects of MI training on clinicians' behavior. <i>Journal of Substance Abuse Treatment</i>, 45, 155-162.</p>   | <p>We conducted a meta-analytic review of clinicians' MI-training and MI-skills findings. Fifteen studies were included, involving 715 clinicians. Pre–post training effect sizes were calculated (13 studies) as well as group contrast effect sizes (7 studies). Pre–post training comparisons showed medium to large ES of MI training, which are maintained over a short period of time. When compared to a control group, our results also suggested higher MI proficiency in the professionals trained in MI than in nontrained ones (medium ES). However, this estimate of ES may be affected by a publication bias and therefore, should be considered with caution. Methodological limitations and potential sources of heterogeneity of the studies included in this meta-analysis are discussed.</p>  |
| <p>Hall, K., Staiger, P. K., Simpson, A., Best, D., &amp; Lubman, D. I. (2016). After 30 years of dissemination, have we achieved sustained practice change in motivational interviewing? <i>Addiction</i>, 111(7), 1144-1150.</p>                             | <p>Of the 20 studies identified, 15 measured training at a follow-up time-point using standard fidelity measures. The proportion of clinicians who reached beginning proficiency was either reported or calculated for 11 of these studies. Only two studies met our criterion of 75% of clinicians achieving beginning proficiency in MI spirit after training. Of the 20 studies identified, two measured client substance use outcomes with mixed results. A broad range of training studies failed to achieve sustained</p>  |

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|  | practice change in MI according to our criteria. It is unlikely that 75% of clinicians can achieve beginning proficiency in MI spirit after training unless competency is benchmarked and monitored and training is ongoing. The impact of training on client outcomes requires future examination.  |
| Madson, M. B., & Campbell, T. C. (2006). Measures of fidelity in motivational enhancement: A systematic review. <i>Journal of Substance Abuse Treatment</i> , 31, 67-73.                   | The movement to use empirically supported treatments has increased the need for researchers and clinical supervisors to evaluate therapists' adherence to and competence in particular empirically supported interventions. Motivational interviewing (MI) is an empirically supported intervention for substance abuse and other behavioral problems. However, for this intervention to work, it must be provided with fidelity and skill. This article provides a systematic review of MI adherence and competence measures that have been developed and described independently elsewhere. Recommendations for refinement of the measures and future research are also discussed.   |
| Madson, M. B., Loignon, A. C., & Lane, C. (2009). Training in motivational interviewing: a systematic review. <i>Journal of Substance Abuse Treatment</i> , 36(1), 101-109.                | Motivational interviewing (MI), an evidence-based counseling approach, has received much recognition from a wide variety of health care professionals. Because of the rising interest in MI, there is increasing demand for training in this counseling approach. The MI training community has answered this call and as a result placed much emphasis on studying the MI training process. The purpose of this article is to provide a systematic review of the published research on MI training. Our goal is to provide a consolidated account of MI trainings outlining the populations receiving training, methods used, and training outcomes. We also identify which aspects of the (W. R. Miller & T. B. Moyers, 2006) eight stages of learning MI each study addressed. Recommendations for advancing the MI training research are highlighted.  |
| Schwalbe, C. S., Oh, H. Y., & Zweben, A. (2014). Sustaining motivational interviewing: a meta-analysis of training studies. <i>Addiction</i> , 109(8), 1287-1294.                          | A meta-analysis of training studies was conducted with studies that reported MI skills using observational measures and that included trainees from real-world agency settings. Standardized change scores were calculated to indicate the magnitude of pre-post training change in MI skills; standardized change scores from post-training to 3 and 6+ months follow-up were calculated to indicate the sustainability of training gains over time. Effect sizes were aggregated using random effects models. RESULTS: Twenty-one papers that reported the effects of MI training on agency staff were included in this review. Across studies, training yielded gains in MI skills ( $d = 0.76$ ). Studies that did not include feedback and/or coaching reported eroding skills over a 6-month follow-up ( $d = -0.30$ ), whereas post-workshop feedback/coaching sustained skills ( $d = 0.03$ ). Effects of post-workshop feedback/coaching were moderated by frequency, duration and length of training. Moreover, studies reporting low levels of attrition from training protocols showed small increases in skills over the 6-month follow-up period ( $d = 0.12$ ), whereas studies with high attrition showed skill erosion ( $d = -0.29$ ). CONCLUSIONS: On average, three to four feedback/coaching sessions over a 6-month period sustain skills among trainees for motivational interviewing, mainly for substance use disorder treatment. However, high rates of attrition from feedback/coaching contributes to post-workshop skill erosion. |
| Soderlund, L. L., Madson, M. B., Rubak, S., & Nilsen, P. (2011). A systematic review of motivational interviewing training for general health care practitioners. <i>Patient Education</i> | Ten studies were found. The median length of the training was 9h. The most commonly addressed training elements were basic MI skills, the MI spirit, recognizing and reinforcing change talk, and rolling with resistance. Most studies involved follow-up training sessions. The study quality varied considerably. Five studies assessed training outcomes at a single point in time, which yields low internal validity. Four   |

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| <p><i>and Counseling</i>, 84(1), 16-26.</p> | <p>studies used random assignment of practitioners to the MI training and comparison conditions. The training generated positive outcomes overall and had a significant effect on many aspects of the participants' daily practice, but the results must be interpreted with caution due to the inconsistent study quality. CONCLUSIONS: The generally favourable training outcomes suggest that MI can be used to improve client communication and counselling concerning lifestyle-related issues in general health care. However, the results must be interpreted with caution due to inconsistent methodological quality of the studies. PRACTICE IMPLICATIONS: This review suggests that MI training outcomes are generally favourable, but more high-quality research is needed to help identify the best practices for training in MI.</p> |
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