



**TITLE: Motivational Interviewing Following Pre-Diabetes Diagnosis: Clinical Effectiveness**

**DATE:** 12 January 2015

**RESEARCH QUESTION**

What is the clinical effectiveness of motivational interviewing following a diagnosis of pre-diabetes or gestational diabetes?

**KEY FINDINGS**

Five randomized controlled trials were identified regarding the clinical effectiveness of motivational interviewing following a diagnosis of pre-diabetes or gestational diabetes.

**METHODS**

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, issue 12), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2004 and December 14, 2014. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

**SELECTION CRITERIA**

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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**Table 1: Selection Criteria**

<b>Population</b>	Patients diagnosed with pre-diabetes or gestational diabetes
<b>Intervention</b>	Motivational interviewing
<b>Comparator</b>	No follow up with patient following diagnosis (or some other kind of follow-up, e.g., referral to diabetes clinics or education centres, family physicians, etc.)
<b>Outcomes</b>	Changes in lifestyle/self-care, changes in diabetes risk, impact on physician referrals
<b>Study Designs</b>	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies

**RESULTS**

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and non-randomized studies.

Five randomized controlled trials were identified regarding the clinical effectiveness of motivational interviewing following a diagnosis of pre-diabetes or gestational diabetes. No relevant health technology assessments, systematic reviews, meta-analyses, or non-randomized studies were identified.

Additional references of potential interest are provided in the appendix.

**OVERALL SUMMARY OF FINDINGS**

In the Hoorn Prevention Study, adults with a ten percent or greater risk of type 2 diabetes or cardiovascular disease were randomized to receive a combination of motivational interviewing and problem solving or to receive existing health brochures.<sup>1</sup> After 12 months of treatment, there was no significant difference in the reduction of risk scores between the two groups. A second study<sup>5</sup> was identified examining the effect of motivational interviewing and brochures on diabetes risk. The interventions were undertaken in primary care settings and participants were determined to be at risk for type 2 diabetes or cardiovascular disease based on a body mass index of 28 kg/m<sup>2</sup> or more. A weight loss target was achieved more often in the intervention group but the proportion of participants reaching a physical activity target did not significantly increase.

In the Newcastle arm of the European Diabetes Prevention Study<sup>3</sup> (EDIPS), participants with impaired glucose tolerance were randomized to receive motivational interviewing aimed at lifestyle modification or usual care. After a mean follow-up of three years, the absolute incidence of type 2 diabetes was reduced by 55% in the intervention group compared with the control group.

One study looked at the efficacy of an enhanced standard care program or a lifestyle program, administered by nurse practitioners, for adults at risk of type 2 diabetes.<sup>4</sup> Nurse practitioners found motivational interviewing to be difficult to adopt. More than twice as many participants met weight loss goals in the lifestyle program group.

In one study, women with previous gestational diabetes were randomized to receive either phone-based motivational interviewing regarding lifestyle modification with usual care or usual

care alone.<sup>2</sup> The interview group had significantly lower total fat intake, total carbohydrate intake, and glycemic load when compared with the control group after six months. Leisure activity was increased in the interview group but overall physical activity was not significantly different between groups.

## REFERENCES SUMMARIZED

### Health Technology Assessments

No literature identified.

### Systematic Reviews and Meta-analyses

No literature identified.

### Randomized Controlled Trials

1. Lakerveld J, Bot SD, Chinapaw MJ, van Tulder MW, Kostense PJ, Dekker JM, et al. Motivational interviewing and problem solving treatment to reduce type 2 diabetes and cardiovascular disease risk in real life: a randomized controlled trial. *Int J Behav Nutr Phys Act.* 2013;10:47. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3639181>  
[PubMed: PM23597082](#)
2. Reinhardt JA, van der Ploeg HP, Grzegorzulka R, Timperley JG. Implementing lifestyle change through phone-based motivational interviewing in rural-based women with previous gestational diabetes mellitus. *Health Promot J Austr.* 2012 Apr;23(1):5-9.  
[PubMed: PM22730940](#)
3. Penn L, White M, Oldroyd J, Walker M, Alberti KG, Mathers JC. Prevention of type 2 diabetes in adults with impaired glucose tolerance: the European Diabetes Prevention RCT in Newcastle upon Tyne, UK. *BMC Public Health.* 2009;9:342. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2760530>  
[PubMed: PM19758428](#)
4. Whitemore R, Melkus G, Wagner J, Dziura J, Northrup V, Grey M. Translating the diabetes prevention program to primary care: a pilot study. *Nurs Res.* 2009 Jan;58(1):2-12. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2689783>  
[PubMed: PM19092550](#)
5. Greaves CJ, Middlebrooke A, O'Loughlin L, Holland S, Piper J, Steele A, et al. Motivational interviewing for modifying diabetes risk: a randomised controlled trial. *Br J Gen Pract.* 2008 Aug;58(553):535-40. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2566518>  
[PubMed: PM18682011](#)

### Non-Randomized Studies

No literature identified.

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**APPENDIX – FURTHER INFORMATION:**

**Review Articles**

6. Maez L, Erickson L, Naumuk L. Diabetic education in rural areas. Rural Remote Health. 2014 Apr;14(2):2742.  
[PubMed: PM24930474](#)

**Additional References**

7. Hayes S. Using motivational interviewing to encourage women with gestational diabetes mellitus to breastfeed as a method of reducing their risk of type 2 diabetes mellitus. Aust Nurs Midwifery J. 2014 May;21(10):32-5.  
[PubMed: PM24941567](#)
8. Carino JL, Coke L, Gulanick M. Using motivational interviewing to reduce diabetes risk. Prog Cardiovasc Nurs. 2004;19(4):149-54.  
[PubMed: PM15539976](#)