



Short Communication

Motivational Interviewing in an ordinary clinical setting: A controlled clinical trial at the Swedish National Tobacco Quitline



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HIGHLIGHTS

- MI significantly improved client 6-month continuous abstinence rate compared to ST.
- The MI implementation was partly successful in this ordinary clinical setting.
- MI counsellors had significantly higher MITI scores compared to ST counsellors.

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ABSTRACT

Introduction: The present study aimed to assess the effect of adding Motivational Interviewing (MI) to the first session of an effective smoking cessation treatment protocol in an ordinary clinical setting: the Swedish National Tobacco Quitline (SNTQ).

Method: The study was designed as a controlled clinical trial. Between September 2005 and October 2006, 772 clients accepted the invitation to participate in the study and were semi-randomised to either standard treatment (ST) or MI. The primary outcome measures were self-reported 7-day point prevalence abstinence and 6-month continuous abstinence.

Results: At 12-month follow-up, the 772 clients were included in an intention to treat analysis. Of the clients allocated to MI, 57/296 (19%) reported 6-month continuous abstinence compared to 66/476 (14%) of the clients allocated to ST (OR 1.48, 95% CI 1.00–2.19; $P = .047$).

Conclusions: Integrating MI into a cognitive behavioural therapy-based smoking cessation counselling in an ordinary clinical setting at a tobacco quitline increased client 6-month continuous abstinence rates by 5%.

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1. Introduction

One way to assist smokers seeking to quit is to establish telephone-based smoking cessation services (“quitlines”). Quitlines have proven both effective (Stead, Perera, & Lancaster, 2007; Zhu et al., 1996, 2002) and cost-effective (Tomson, Helgason, & Gilljam, 2004). The Swedish National Tobacco Quitline (SNTQ) is a nationwide free of charge service that is operated by the Stockholm County Council Health Service and funded by the Swedish Government.

This study assesses the effect of adding Motivational Interviewing (MI) to the existing SNTQ treatment protocol. It was hypothesised that the MI component would increase 7-day point prevalence abstinence and 6-month continuous abstinence at 12-month follow-up.

MI is a collaborative, client-centred, counselling approach designed to help clients change particular lifestyle behaviours, such as tobacco smoking (Miller & Rollnick, 2002). Research into the efficacy of MI in smoking cessation counselling has reported significant effects with modest effect sizes (Heckman, Egleston, & Hofmann, 2010; Hettema & Hendricks, 2010; Lai, Cahill, Qin, & Tang, 2010). However, in most smoking cessation studies, MI has been combined with another intervention. Studies have not been designed to gauge the effect of the added MI component alone (Heckman et al., 2010). Thus there is a lack of knowledge in respect of the effectiveness of the MI component in smoking cessation counselling.

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2. Material and methods

2.1. Study design and setting

Ethical approval was granted by the Karolinska Institutet Northern Research Ethics Committee (00-367). The study was designed as a controlled clinical trial (trial registration number: NCT01121887) and subjects were recruited among individuals who called the SNTQ.

All SNTQ counsellors had received 6 months training in tobacco cessation counselling. The training was a combination of coaching skills and Cognitive Behavioural Therapy (CBT) techniques. A year before the commencement of the study, most SNTQ counsellors had participated in introductory MI workshops on two occasions.

2.2. Allocation of counsellors

Seventeen counsellors participated and were randomly assigned (by coin flip) to either standard treatment (ST) or MI. The allocation of the counsellors resulted in an uneven distribution of total working hours between the groups. In order to achieve a more equal distribution between the two arms, the groups were readjusted (again by coin flip). In total, nine counsellors were allocated to ST and eight counsellors to MI. During the study period, two of the MI counsellors left SNTQ. Consequently, the MI arm eventually came to consist of six counsellors.

2.3. Training of ST counsellors

The counsellors allocated to ST underwent training (including lectures on CBT) and supervision. Training and supervision totalled approximately 40 h over the study period. In addition, ST counsellors were offered group supervision on five occasions, and had access to CBT-based individual supervision upon request.

2.4. Training of MI counsellors

Counsellors allocated to MI underwent comprehensive MI training. Initial MI training consisted in a 2-day workshop made up of a mixture of didactics and practical exercises. Details of the MI training and supervision have been published elsewhere (Forsberg, Forsberg, Lindqvist, & Helgason, 2010).

2.5. Allocation of clients

Given the clinical setting, it was not practicable to implement formal randomisation of clients. As an alternative, the allocation of clients to treatment arms was determined by the client's first contact with an SNTQ counsellor. The client's first call was allocated to the first available counsellor. Whether this counsellor was ST trained or MI trained determined which treatment arm the client would belong to for the duration of the study.

2.6. Recruitment of clients and data collection procedures

A total of 4208 people called SNTQ to discuss their own smoking behaviour during the recruitment period (September 2005 to October 2006). Callers who only wanted to ask short practical questions, had apparent mental impairments or had major difficulties understanding Swedish were not invited to participate. Some counsellors forgot or did not have time to invite clients and some clients were invited but declined. In total, 1380 out of 4208 (33%) clients orally consented to participating in the study and were sent a postal baseline registration questionnaire. The purpose of the baseline questionnaire was to confirm client identity and to seek written informed consent to follow-up. Clients who returned the questionnaire constituted the study base. Of the 1380 clients, 69 clients had their first session with counsellors who were hired after the

study commenced and were therefore excluded. Of the remaining 1311 clients, 818/1311 (62%) of client first sessions were with an ST counsellor and 493/1311 (38%) of client first sessions were with an MI counsellor. Of the clients whose first session was with an ST counsellor, 476/818 (58%) returned the baseline questionnaire, whilst 296/493 (60%) of clients whose first session was with an MI counsellor returned the questionnaire. In total, 772 clients returned the questionnaire. We found no statistically significant differences regarding baseline characteristics between the two arms.

If a client called the quitline more than once, subsequent calls were transferred to a counsellor who belonged to the same treatment arm as the counsellor who had taken their first call, as far as this was possible. Of the ST clients, 83 (17%) had at least one subsequent session with an MI counsellor upon additional calls, whereas 47 (16%) MI clients had at least one of subsequent calls with an ST counsellor.

Twelve months after the initial contact with SNTQ, clients received a postal follow-up questionnaire. In order to minimise drop out, clients who did not return their baseline or follow-up questionnaire received one reminder letter by post and one via a phone call.

2.7. Treatment integrity assessment

Throughout the study period all SNTQ counsellors were instructed to audio-record treatment sessions at six-week intervals ('assessment periods'). Counsellors were instructed to audio-record the first three treatment sessions for every 'assessment period'. At the end of the study, five randomly selected sessions from each counsellor (one ST counsellor only had two recorded sessions, and one MI counsellor only had three) from the middle of the study period were coded using the Swedish translation of the Motivational Interviewing Treatment Integrity Code (MITI) version 3.0 (Moyers, Martin, Manuel, Miller, & Ernst, 2007). The MITI is a valid and reliable instrument for evaluating the use of MI (Forsberg, Berman, Kallmen, Hermansson, & Helgason, 2008; Forsberg, Kallmen, Hermansson, Berman, & Helgason, 2007; Moyers, Martin, Manuel, Hendrickson, & Miller, 2005). The inter-rater reliability between the two coders who coded the sample was calculated as intra-class correlations (ICC) using a two-way mixed model with absolute agreement. The ICC ranged from 'good' to 'excellent' (single measure reliability range 0.69–0.98) (Cicchetti, 1994).

2.8. Outcome measures

Self-reported "point prevalence abstinence" was assessed using a follow-up questionnaire. The question posed was "Have you had one puff of smoke or more within the past 7 days?". Those who reported abstinence were also asked to answer the additional question, "How long have you been abstinent?". "Continuous abstinence" was defined as: "not a single puff of smoke within the past 6 months or more".

2.9. Statistical analyses

Logistic regression analyses were used to compare arms. We controlled for potential confounders and did not find any variable that substantially (more than 10%) changed the strength of the association. Therefore, only unadjusted analyses are presented.

A two-level hierarchical analysis, with counsellors on the second level of the model, and each telephone call on the first level, was used in order to examine the between- and within-counsellor effect on outcome.

All statistical tests were two-sided, and *p*-values of 0.05 or less were considered to be statistically significant. Statistical analyses were performed using SPSS 19.0 and STATA IC Version 12.0.

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