

# Motivational Interviewing in Health Care: Results of a Brief Training in Endocrinology

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## Abstract

**Background** Despite the importance of lifestyle change in disease management and the growing evidence supporting motivational interviewing (MI) as an effective counseling method to promote behavioral change, to date there are few published reports about MI training in graduate medical education.

**Objective** The study aimed to pilot the feasibility and effectiveness of a brief MI training intervention for endocrinology fellows and other providers.

**Methods** We used a pretest/posttest design to evaluate a brief MI training for 5 endocrinology fellows and 9 other providers. All participants completed subjective assessments of perceived confidence and beliefs about behavioral counseling at pretest and posttest. Objective assessment of MI was conducted using fellows' audiotaped patient encounters, which were coded using

a validated tool for adherence to MI before and after the training. Paired *t* tests examined changes in objective and subjective assessments.

**Results** The training intervention was well received and feasible in the endocrinology setting. At posttest, participants reported increased endorsement of the MI spirit and improved confidence in MI skills. Objective assessment revealed relative improvements in MI skills across several domains. However, most domains, as assessed by a validated tool, did not reach competency level after the training intervention.

**Conclusions** Although more intensive training may be needed to develop MI competence, the results of our pilot study suggest that brief, targeted MI training has short-term efficacy and is well received by endocrinology fellows and other providers.

## Introduction

Motivational interviewing (MI) is a brief, directive, patient-centered counseling technique to elicit behavior change by helping patients explore and resolve ambivalence about

change.<sup>1</sup> Main components include health professionals exhibiting empathy and eliciting the patient's own reasons for wanting to change in a collaborative, nonjudgmental manner.<sup>1</sup> General practitioners<sup>2-4</sup> and specialists<sup>5</sup> are increasingly using this technique, and its efficacy has been demonstrated across multiple behavioral domains,<sup>6,7</sup> including diet,<sup>8</sup> medication adherence,<sup>9</sup> diabetes care,<sup>10,11</sup> and substance abuse.<sup>6</sup> Within endocrinology, the role of behavior modification is a critical part of helping patients manage their diabetes. In a randomized controlled trial of MI among patients with type 1 diabetes, hemoglobin A1c values were lower in the MI group than the control group, suggesting the efficacy of this approach in improving meaningful health outcomes.<sup>10</sup>

Because of the growing use and support of MI, there is an increased need to examine effective training methods for health professionals.<sup>12-14</sup> However, providers and trainees have a limited amount of time available to learn a new clinical style,<sup>15</sup> and multiday training workshops may not be feasible.<sup>16</sup> Although there is currently no standardized curriculum for teaching MI, various approaches have been described<sup>16-19</sup>; yet, few studies have examined MI training for specialists.<sup>13</sup> We developed and piloted the feasibility,

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acceptability, and immediate effectiveness of a brief MI training for endocrinology specialists.

## Methods

Our single group, pretest/posttest design included endocrinology fellows and endocrine providers (nurse practitioners, dietitians, attending endocrinologists, and pharmacists) at a large, urban academic medical center in Virginia. Participants provided informed consent prior to study initiation. All participants completed a brief survey prior to and immediately after the MI training. To objectively evaluate the effect of the MI training on skill development, fellows' patient encounters were audiorecorded over a 2- to 3-week interval prior to and after the training and were coded for MI adherence. Study personnel obtained permission from eligible patients (ie, age  $\geq 18$  years, with type 1 or 2 diabetes) to audiotape the encounter prior to clinic visits. This study was approved by the Institutional Review Board of Virginia Commonwealth University.

### MI Training

Six hours of training were conducted by the first author, an MI expert, during 4 weekly 1.5-hour training sessions. Sessions included didactics, group discussions, practice activities, and video vignettes. Course materials included a text,<sup>20</sup> journal articles,<sup>6,9,14,19</sup> training DVDs, and Motivational Interviewing Network of Trainers (MINT) training exercises (including role-plays); DVDs and MINT resources are available at <http://www.motivationalinterview.net>.

Resource requirements to conduct the training include a DVD player, projector, copies of handouts, and a large room to host the number of trainees and to provide adequate space to allow for practice/role-plays. Suitable trainers include members of MINT and/or clinicians with considerable experience using and teaching others about MI. Extensive supervised practice and evaluation of MI skills are needed to verify the trainer's expertise. Additional teaching resources developed for this training are available upon request.

**Session 1** This session focused on defining MI and describing the MI spirit, which includes the following: (1) collaboration: developing a patient/provider partnership; (2) evocation: evoking rather than instilling motivation for change; and (3) autonomy: emphasizing the patient's ability and responsibility for making the decision to change.<sup>1</sup> Fundamental MI skills were also introduced, including open questions, affirmations, reflections, and summary statements.

**Session 2** This session expanded on the open questions, affirmations, reflections, and summary statements, with particular emphasis on asking open rather than closed

### What was known

Motivational interviewing (MI) can assist patients with lifestyle change decisions important in disease prevention and management, yet few approaches for training exist that are sensitive to physicians' time constraints.

### What is new

To pilot the feasibility and effectiveness of a brief MI training interventions for fellows and other providers in an academic endocrinology clinic.

### Limitations

Single site, single subspecialty limit generalizability; small sample may result in the inability to detect effects. Participants' skills gains were not linked to outcomes to confirm effectiveness of the intervention.

### Bottom line

MI training was feasible and well-received, and led to improved MI-consistent attitudes toward behavioral counseling. The brief training did not fully develop participants' MI skills.

questions and making reflective statements. In MI, open questions facilitate the exploration of patients' behaviors and reasons for change. Similarly, making accurate and skillful reflections helps deepen patients' exploration of their ambivalence about change, conveys empathy, and can strengthen patients' motivation.<sup>1</sup>

**Session 3** Participants learned and practiced using MI-consistent strategies to identify and respond to patient resistance. Further, participants learned how to elicit and respond to "change talk," in contrast to talk from patients stating why they should not change. Strategies for integrating MI into patient counseling were presented, including (1) agenda setting, which offers a menu of options and allows patients to select the behavior on which to focus; (2) scaling questions to assess importance and confidence of changing the target behavior; (3) asking questions that can elicit change talk; and (4) devising strategies for responding to resistance. This session also included a sample structure for a 15-minute MI encounter.

**Session 4** This session included a review of previous material and extensive practice. Undergraduate and graduate students participating in a research course served as volunteer patients who came prepared to explore an authentic behavior change topic. They were provided with no other training or guidance. Participants conducted two 15-minute encounters with these volunteers. Two facilitators with expertise in MI moderated this practice and provided immediate feedback to trainees. After each practice session, the group discussed difficulties encountered and listened to provider and patient perspectives on the experience.

### Measures

#### *Motivational Interviewing Treatment Integrity*

Audiotaped patient encounters were coded using the

**TABLE** **PATIENT ENCOUNTER DESCRIPTIONS AND MOTIVATIONAL INTERVIEWING (MI) PROFICIENCY AT PRETRAINING AND POSTTRAINING COMPARED WITH RECOMMENDED PROFICIENCIES USING THE MOTIVATIONAL INTERVIEWING TREATMENT INTEGRITY (MITI) 3.0**

	Mean Rating <sup>a</sup>			MITI 3.0 Recommended Proficiencies	
	Pretraining	Posttraining	<i>P</i>	Beginner	Competent
MITI domain					
Global spirit, mean (SD) <sup>b</sup>	3.6 (0.22)	3.9 (0.61)	.26	3.5	4
Reflection-question <sup>c</sup> , mean (SD) <sup>c</sup>	0.1 (0.05)	0.6 (0.06)	.047	1.0	2.0
% Complex reflections, mean (SD) <sup>d</sup>	47.7 (0.21)	63.4 (0.20)	.06	40	50
% Open questions, mean (SD) <sup>e</sup>	15.8 (0.05)	26.2 (0.07)	.07	50	70
% MI adherent, mean (SD) <sup>f</sup>	82.2 (0.17)	82.9 (0.25)	.096	90	100
Patient encounter details					
Total No. of patient encounters	17	18	N/A <sup>g</sup>	N/A	N/A
Encounter duration, min, mean (range)	27.3 (20–31)	25.7 (15–36)	.71	N/A	N/A
No. of patient encounters per fellow, mean (range)	3.4 (3–4)	3.6 (3–5)	N/A	N/A	N/A

<sup>a</sup> Scores based on 17 pretraining encounters and 18 posttraining encounters among 5 participating fellows.

<sup>b</sup> Global spirit = (evocation + collaboration + autonomy)/3.

<sup>c</sup> Ratio = total reflections/total questions.

<sup>d</sup> % Complex reflections = (complex reflections/total reflections) × 100.

<sup>e</sup> % Open questions = (open questions/total questions) × 100.

<sup>f</sup> % MI adherent = MI adherent/(MI adherent + MI nonadherent).

<sup>g</sup> Not applicable.

Motivational Interviewing Treatment Integrity (MITI) V. 3.0,<sup>21</sup> a validated rating system for determining MI fidelity that includes global scores and behavior counts. Global dimensions rate the MI spirit on a 5-point Likert-type scale and include: (1) empathy, (2) evocation, (3) direction, (4) autonomy/support, and (5) collaboration. Behavior counts are tallies of clinician utterances and include (1) MI-adherent behaviors, (2) MI nonadherent behaviors, (3) open questions, (4) closed questions, (5) simple reflections, and (6) complex reflections. MITI guidelines were used to code clinician utterances and determine MI competency. Two independent blinded raters trained in the MITI 3.0 with previously established satisfactory intraclass correlations,<sup>22</sup> coded audiotaped sessions. About 15% (n = 6) were double coded, and an average of these ratings was used in analyses.

**Provider Survey** A brief self-report survey assessed perceptions about behavioral counseling. Items assessed perception of MI skills (eg, “I am a good listener with my patients”), confidence (eg, “I am confident in my ability to express empathy for my patients”), and spirit (eg, “Patients, in general, should be motivated by the desire to be healthy”). Posttests also assessed confidence with exploring the pros and cons of behavior change, and using

importance and confidence scaling questions (1 = strongly disagree, 5 = strongly agree). Pretest questions asked for provider demographics (age, sex, ethnicity, and education), prior MI experience, and years of clinical experience, and posttest questions assessed feedback on the training.

**Data Analysis** Intraclass correlations were calculated to establish interrater reliability. Summary scores were created using algorithms outlined in the MITI.<sup>21</sup> After descriptive analyses, paired *t* tests examined pretest to posttest changes in MITI scores and survey responses. SPSS v.18.0 (IBM, Armonk, NY) was used in analyses. *P* < .05 was used to determine significance.

## Results

Five fellows (4 adult and 1 pediatric) and 9 providers participated in this study. All but one participant reported receiving no prior MI training. The TABLE displays descriptive data for the audiotaped patient encounters and MITI 3.0 scores for MI adherence compared with recommended beginner and competency thresholds. There were significant improvements in reflection-to-question ratios (*P* = .047). There was no significant difference in MI competence by type of patient encounter (new [25.7%; 9 of 35] or follow-up [74.3%; 26 of 35]; *P* > .05). Interclass

coefficients overall were strong, with most ranging from 0.63 to 0.95, and were moderate at 0.47 for open questions.<sup>23</sup>

At posttest, participants reported significantly lower agreement with the belief that patients should be motivated by the desire to be healthy ( $P < .001$ ), as well as lower agreement with the belief that it is the practitioner's responsibility to provide information about the benefits of health behavior change, regardless of patient readiness to change ( $P = .003$ ). They also reported less need to learn new strategies for helping patients make behavioral changes ( $P = .04$ ). The more interactive activities (role-play activities, group discussions, and video vignettes) were perceived as relatively more useful than journal articles/books. Lectures and individual feedback were also reported to be very useful.

## Discussion

Our brief pilot training was designed for implementation within an academic health care system to specifically address the use of MI within endocrinology. After the training, fellows demonstrated significant improvements in their reflection-to-question ratios, a key MI skill.<sup>1</sup> Yet, only the percentage of complex reflections reached competency level, highlighting the need for continued training. Participants also reported greater understanding of the spirit of MI, with fewer reported gains in perceived counseling skills. Findings are similar to those from previous studies reporting short-term gains in skills<sup>17</sup> and improved MI-consistent attitudes after medical student trainings.<sup>16</sup> Competency in MI is not merely the use of techniques, but rather largely depends on embodying the spirit of this approach and applying it to behavioral counseling. Thus, it is important that trainees understand and adhere to the spirit of MI. Responses suggested that participants understood the collaborative nature of MI versus a more prescriptive, information-giving approach, which may translate into more effective patient encounters around behavior change. Further, by reducing assumptions that patients *should* be motivated by health, there may be a greater openness to exploring patients' individual reasons for change.

At posttest, the most frequent MI nonadherent behavior was giving advice or information without patient permission. The paradigm shift in role from "expert" to "collaborator" can be challenging for medical providers<sup>15</sup> and may contribute to the difficulty with this behavior. Additional practice of MI-adherent strategies for exploring a patient's readiness to change and providing information consistent with that level of readiness is warranted.

Study limitations include a small sample size of patients and participants, limiting generalizability. There was no

control group, introducing history and maturation (among others) as potential validity threats. Further, although the MITI 3.0 is a validated instrument, the survey is not, and it may not have been sensitive enough to detect significant changes. We were also unable to link practitioner skill to patient behavior or match patients from pretest to posttest, which would have increased the study's effectiveness. Last, follow-up was brief; longer follow-up is needed to examine whether changes were sustained beyond the immediate posttest. These limitations may have contributed to our inability to detect changes in several study variables.

## Conclusions

Our MI training was feasible and well received, and it led to improved MI-consistent attitudes toward behavioral counseling. However, more intensive training is needed to achieve greater improvement in MI skills. With growing evidence about the importance of lifestyle changes in managing and preventing diseases, continued investigation into feasible and effective training models is needed. The results of this pilot study contribute to the small but growing literature examining strategies for disseminating MI into the health care setting.

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