Improving Motivational Interviewing Skills

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MI Skills

ABSTRACT

Motivational interviewing is a counseling technique used to support patients as they adopt behaviors consistent with positive health change. There is data to support its effectiveness in a variety of health care settings and with a variety of health challenges. MI involves assisting the client to make lasting behavioral changes by encouraging discussion focused on accepting and adopting new or different behaviours. Several techniques are used, including open-ended questions, affirmations, summaries and reflective listening. Reflective listening is an important component of this method and appears to be more difficult for clinicians to learn. The current recommended structure for MI training is a two-day workshop with follow-up coaching and practice, which is often too intensive to be feasible for busy clinicians and students. This study will examine an alternative teaching method by incorporating standardized clients (actors trained to simulate clients who are resistant to change) role-plays, as well as traditional lectures and learning groups into a module delivered to health science students. Pre and post measures of motivational interviewing skills will be obtained via two validated methods: analysis of written responses to clinical scenarios and analysis of video taped interactions. Measures will be analyzed to examine the effectiveness of the above training components. The results of this study will aid in the planning of training sessions for clinicians in the area of motivational interviewing by providing more efficient and effective ways in which to learn the skills necessary for this technique.

BACKGROUND OF MOTIVATIONAL INTERVIEWING

Motivational Interviewing (MI) is a counseling method used to elicit or strengthen intrinsic motivation for change. It is focused on resolving ambivalence and facilitating decision-

making and change in clients' lives through communication and collaboration with the client. MI is patient-centered and emphasizes support and guidance rather than the use of coercive methods (Miller & Rollnick, 2002). The aim of MI is to encourage and reinforce "change talk", which refers to "statements made by clients indicating that they are currently considering a positive change in a specific problem behavior" (Rosengren , 2009 p. 8). MI is composed of several elements, which are used together to resolve ambivalence and elicit change talk. These elements are: the spirit of MI, the principles of MI, and the specific communication techniques emphasized in the approach (Rosengren, 2009).

The Spirit of Motivational Interviewing

The spirit of Motivational Interviewing is centered on the context in which the technique is applied. There are three main elements in the spirit of MI: collaboration, evocation, and autonomy (Miller & Rollnick, 2002). Collaboration describes the partnership between the clinician and the client. MI puts a strong emphasis on this type of interaction, rather than a confrontational style of therapy. Evocation refers to "drawing out" ideas and intrinsic motivations for change rather than imposing ideas. Autonomy simply refers to the fact that the client makes the ultimate decision about change. Autonomy emphasizes the client's own abilities and responsibilities in making decisions (Miller & Rollnick, 2002).

The Principles of Motivational Interviewing

There are four primary principles that guide the practice of MI: express empathy, develop discrepancy, roll with resistance, and support self-efficacy (Miller & Rollnick, 2002). Principle one, express empathy, emphasizes the importance of understanding a person's perspective, even if it is not the same as the clinician's. The main skill the clinician exhibits to

express empathy is reflective listening, which will be elaborated on later. Principle two, develop discrepancy, highlights that, in order for change to take place, the client must realize the discrepancy between their behavior and their broader aims. The third principle is roll with resistance. This principle stresses the importance of communication between the client and clinician. The clinician does not oppose resistance during counseling, but uses it as an indication that he or she should respond differently to the client. The final principle, support self-efficacy, underlines the fact that the client is an autonomous individual, and it is ultimately the client who is in charge of change. If the client believes that change is possible and is motivated by such, they are exhibiting self-efficacy. It is the clinician's responsibility to support and enhance that sense of efficacy (Miller & Rollnick, 2002).

Communication Skills in Motivational Interviewing

The specific communication skills emphasized in Motivational Interviewing are identified by the acronym OARS (Open questions, Affirming, Reflecting, and Summarizing). An additional fifth aspect, eliciting change talk, integrates and guides the other skills. Miller and Rollnick (2002) refer to these skills as "the five early methods" (p.64) as they are important to use from the beginning of counseling and through the counseling process

The first communication skill in Motivational Interviewing is: ask open questions. Open questions help the client explore their ambivalence about change. Miller and Rollnick (2002) suggest asking open questions to have the client do most of the talking. In addition to providing opportunities for the client to talk and explore, open questions provide opportunities for the clinician to use other Motivational Interviewing methods, such as reflective listening (Miller & Rollnick, 2002).

The second skill, reflective listening, is one of the most important and challenging skills (Miller & Rollnick, 2002). Reflective listening is considered to be a foundational skill of Motivational Interviewing, and reflective statements should make up a large portion of responses in early stages of MI. While it is one of the most important skills, it is also one of the most difficult to acquire (Miller & Rollnick, 2002). Reflective listening is an attempt, on the clinician's part, to understand what the client is trying to communicate, and then reflect this message back in the form of a statement without offering a suggestion, warning, criticism, label, or analysis. It is an opportunity for the therapist to check if their understanding of the meaning is correct, rather than just assuming it is. Reflective listening is particularly important in MI because a reflective statement is less likely to cause resistance from the client than a question, because a question requires a response and causes the individual to question the feelings or ideas that they have expressed. Responding with a reflective statement provides an opportunity for the client to explore and share their thoughts, and to hear their own statement at least twice with a particular emphasis on change talk (Miller & Rollnick, 2002). In addition, responding to a client's statement with a reflection can avoid the creation of an environment that is not conducive to MI, such as one of passive answering rather than engaging, or one where a hierarchy exists with the clinician as the expert.

There are several aspects of reflective listening that make it a difficult skill to acquire. It is necessary to not just repeat what the client has said in a reflective statement, but the clinician can also reflect on the client's emotions or unspoken meaning. If the therapist is merely repeating what the client is saying, the interview may feel ineffective, and is likely due to a lack of the depth of the reflections (Miller & Rollnick, 2002). The different levels of

reflections are described as simple or complex, with simple reflections providing minimal additional information or emphasis to what the client has said, and complex reflections adding substantial meaning or emphasis to what the client has said (Moyers, Martin, Manuel, Miller, & Ernst, 2010). Many clinicians find complex reflections to be quite difficult when they first begin to use MI.

The third communication skill in Motivational Interviewing is the use of affirmations. These are important to support and build a rapport with the client. The clinician must first notice the client's strengths, then affirm these back to the client (Miller & Rollnick, 2002).

The fourth OARS skill, Summarize, connects ideas and reinforces what has been said. These summaries are carried out periodically throughout a session to show that a foundation has been set, that the clinician is listening and understands the client's concerns, and sets the stage for what can be done next. Three main types of summaries are used in MI: collecting summaries, linking summaries, and transitional summaries. The collecting summary is usually short and is used during the exploration process. It is used to collect clients' thoughts and change talk, then offer opportunity for continuation. Linking summaries link what the client has been saying to what was mentioned earlier. These summaries are used to allow the client to see relationships between earlier items, which may help clarify their feelings of ambivalence. The final type of summary, the transitional summary, identifies movement from one topic to another. These can be used at the beginning or ends of sessions, or when there is broader shift in focus in therapy (Miller & Rollnick, 2002). One strategy for successful use of summaries in an MI framework is to ensure that the summaries are focused on statements of client strengths, ideas for change, motivation for change or plans for change.

The final communication skill that is fundamental and present throughout all OARS methods is eliciting change talk. Change talk involves recognizing disadvantages of the current situation, recognizing advantages of change, expressing optimism, and finally implicit determination to change (Miller & Rollnick, 2002). One of the many ways to elicit change talk is by asking evocative questions, such as open questions (e.g. “You seem to be really motivated to do this. What will you try first?”). A second way to evoke change talk is to have the client rate the importance of change on a scale from one to ten, then ask them why they are not at a zero. The clinician should also ask what it would take for them to get to a higher number. This is called the importance ruler. Other ways of eliciting change talk are to explore the positive and negative aspects of their present behavior; have the client elaborate on an area of focus; have the client describe the extremes of their behavior or concerns, and then have them envision the consequences; have the client look to the past and compare that to the present to have the client realize a possible discrepancy; have the client look to the future and have them see if they would be happier after change; and a final approach to evoke change talk is to explore the client’s goals and values (Miller & Rollnick, 2002). In summary, it is important to elicit change talk to show a difference between current actions and future aims. When the client realizes this discrepancy, they will be more willing to change their behavior. The communication skills used in Motivational Interviewing (OARS) are employed in ways to evoke change talk and develop intrinsic motivation for change (Miller & Rollnick, 2002).

Motivational interviewing, developed by William R. Miller, was originally used by psychologists in addictions counseling (Miller, 1983). Miller further developed the approach with Stephen Rollnick. The MI technique is based on Rogerian principles of active listening and

empathetic understanding. These principles are combined with directive techniques to explore discrepancies (Olney, Gagne, White, Bennett, & Evans, 2009). The MI method has been adapted and used for various other applications in health care settings (Emmons & Rollnick, 2001). MI has great potential in health care, as it helps encourage constructive engagement in rehabilitation and promotes collaborative goal-setting. MI also facilitates therapeutic alliance between the clinician and client (Medley & Powell, 2010).

EVIDENCE AND SUPPORT

While Motivational Interviewing originated as a means to facilitate client-centered change in the field of alcohol addictions counseling (Miller, 1983), it has since spread to many areas outside of addictions therapy and has been utilized extensively in health fields. A 2005 systematic review by Rubak, Sandbaek, Lauritzen and Christensen explored the application of MI to areas of alcohol abuse, drug addiction, smoking cessation, weight loss, adherence to treatment, increasing physical activity, asthma and diabetes, finding a significant effect of MI in 74% of randomized control trials. More recently, the techniques and methods employed by MI have been integrated into the realm of speech-language pathology. A study by Behrman (2006) used an MI-adapted voice therapy program to "elicit adherence to vocal behavioural change" an area where clients may be less inclined to comply with treatment protocols due to prior controlling relationships with doctors, intensive treatment regimens, or lack of social and familial supports. Behrman points out "whereas alcoholism, smoking, and drug use represent addictive behaviors with strong negative societal pressures, voice therapy represents training behavioral change for quality of life issues" (p. 219). This point illustrates the range of

situations to which MI can be applied to yield positive change for clients. This includes situations in which there is outside pressure for the individual to change (for example, pressure from family to stop drinking), as well as situations in which the desire for behavioural change is coming directly from the client, who may not know the best way to begin (for example, in voice therapy, where a client has approached the clinician for help).

Additional areas that have employed motivational interviewing include dialysis adherence (Russel et al., 2011), improving cardiovascular health (VanNes, 2010), stopping smoking in pregnant women (Karatay, Kublay, & Emiroglu, 2010), and in the treatment of anorexia nervosa (Price-Evans & Treasure, 2011). The use of MI in domains such as traumatic brain injury therapy (Giles & Manchester, 2006) and stroke are of particular importance to speech language pathologists, as they demonstrate ways in which MI can become a evidenced based, patient centered form of treatment. For example, MI has been found to have a significant effect on mood and mortality rate 3 and 12 months post stroke, which is an important issue to address as depression may have a negative impact on participation in therapy (Watkins et al. 2001; Thompson, 2011). Suarez and Mullins (2008) investigated use in pediatric health interventions and found that MI "aimed at affecting parent and or child behaviors related to a variety of clinical health conditions appears to be feasible as a stand-alone intervention" (p. 426).

The spirit of Motivational Interviewing involves a reflective dialogue between a client and practitioner that serves to promote the client's understanding and acceptance of changes that need to occur. These methods make MI an important tool that can be used by health care practitioners to ensure that they fully understand how their client feels about their situation

and the possibility of change (Miller, 2010). Additionally, research shows that MI is a cost effective use of clinician time, as it does not add a significant amount of time to the amount of care delivered while still providing an effective add-on to traditional health services (Dunn, Derro, & Rivara, 2001).

Teaching of MI Skills

The extensive research supporting Motivational Interviewing includes studies examining how to effectively train students and clinicians in the specialized skills required by this technique. MI involves acquiring specific, meaningful skills as well as suppressing habitual practice behaviours. Therapists often have a well-established style of practice that may not be consistent with this type of counseling method, and therefore, require careful training to help modify. There are a number of empirical studies that explore and evaluate the methods used for teaching MI to general health care professionals.

One of the most common methods for introducing MI into ongoing practice, as in the case with many other therapeutic teaching practices, has been through professional training workshops or seminars, usually lasting approximately 1-3 days. In the initial component of MI training, clinicians may prepare for the acquisition of MI skills by reading written material and watching MI practice videos (Rosengren, 2009). As workshops are being more commonly used, there is growing research evaluating the efficiency of this type of teaching method. Rubel, Sobell and Miller (2000) found an increase in clinician knowledge regarding MI responses through pencil and paper measures after a two-day workshop. Saitz, Samet, & Sullivan, (2000) found that practitioners benefited from a brief four hour instruction, even after assessment years later.

Miller and Mount (2001) raised the issue of evaluating change in clinician behaviour and found that self-reports yielded more positive assessments of client behaviour that were less reflective of their actual abilities. In a 4-month follow-up to evaluate clinician change, they used audiotaped sessions with clients and found a tendency to return to baseline measures. As the researchers pointed out, stable change in practice behaviour is likely to be sustained by long-term monitoring and feedback.

Miller, Moyers, Pirritano and Yahne (2004) provided a deeper analysis of determining the effectiveness of training workshops for teaching MI where two training adjuncts were studied: feedback about proficiency and individual coaching. Results showed that all groups that received training adjuncts (feedback and/or coaching) eventually reached clinical trial proficiency criteria, whereas the group receiving workshop-only, when assessed one year later, never did. Unlike in the preliminary study by Miller and Mount (2001), clinicians showed changes in practice behaviour that were large enough to make a difference in their client's responses and reached clinical trial thresholds for competence in MI.

When teaching MI in professional training workshops, communication skills are usually practiced using standardized patients (SPs) or by conducting role-plays with fellow trainees. The use of SPs provides structured cases where the actor is unknown to the trainees. Controlling the content of the case presentations within the practice interactions may be difficult to achieve in any other way. Badger and MacNeil (2002) tested the effectiveness of using SPs to provide social worker students to practice their assessment skills prior to contact with real-life clients. The results from the study indicated that the interviewing skills of the students from Years 2 and 3 improved markedly in comparison to the Year 1 students, who practiced by

traditional role-play only. In sum, the students and instructors rated the use of SPs as "highly acceptable and educationally valuable," and agreed that the use of SPs offered a unique learning opportunity to evaluate their skills before prior to working with real clients (Badger & MacNeil, 2002).

A recent study completed by Ivanova, Krolczyk and McFarlane (2010) examined MI training for physical therapy students at the University of Alberta, with a focus on a shortened training period in a module type approach. To evaluate their success in increasing MI abilities, they compared pre and post scores to the Motivational Interviewing Treatment Integrity (MITI) global scale proposed by Moyers et al. (2010), which can be used as means to evaluate a clinician's skills. The procedure employed by Ivanova et al. found that average post test scores met the competency levels recommended by the MITI in all areas except for reflective listening. This finding might indicate that reflective listening is a more difficult skill to learn, or may require the use of different learning strategies to effectively improve student and clinician skill in this important area of MI.

The same study by Ivanova et al. (2010) found that training significantly increased Spirit and the use of open-ended questions, but did not result in a significant increase in the use of reflections compared to questions, or the use of complex reflections. In particular, the reflection to question ratio did not reach the beginning proficiency levels recommended by the Motivational Interviewing Treatment Integrity (MITI) Code. These researchers suggested that additional attention to reflective listening is necessary in educational training of MI.

A study by Rautalinko et al. (2007) further emphasized the necessity of spending additional time on the training of reflective listening. This study looked at three different

lengths of training of reflective listening skills for Psychology undergraduate students. The study found that, while all lengths of training resulted in improved reflective listening skills, the students with the longer period of training showed the largest improvement in skills.

Additional areas identified for further inquiry by Ivanova et al. include greater control over the amount of preparation time done by students prior to certain activities such as role-plays and questionnaires, tighter experimental control in the random assignment of role plays to equally counterbalance conditions, and evaluation of skill maintenance to determine if a shortened MI training module is successful in teaching skills that are maintained over time. Some of these issues will be explored further in the following experiment, which employed a similar training procedure with a group of Speech-Language Pathology students at the University of Alberta.

Many researchers emphasize the importance of conducting further research to evaluate MI training efforts and investigate which type of training is most successful in incorporating MI in clinical practice (Baer, 2004). The current recommendation for training is participation in a two-day workshop with follow-up coaching and practice. This intensity of training is beyond what is typically possible in a university course focused on a variety of communication strategies. Previous research with university health care students revealed significant growth in three key skills (opened ended questions, affirmations and summaries) following a brief training program, but no change in reflective listening skills was observed (Ivanova et al., 2010). The purpose of this study is to examine the effectiveness of multi-dimensional teaching strategies in improving MI skills. In particular, the effectiveness of training with a standardized client (trained actors that simulate authentic patient experiences) in the acquisition of reflective listening will

be examined. The multi-dimensional teaching strategies will include traditional lectures, standardized clients, role-plays, web-based activities, and learning groups.

METHODS

Experimental Design

This study used a within subjects design with pre and post intervention measures. The independent variable was the MI teaching module, including lectures, role-plays, practice activities and standardized patient evaluation. The dependent variables were MI skills based on behavioral counts, Spirit ratings and written responses. Multiple paired t-tests were used in order to evaluate the change in specific MI skills as a result of the teaching module.

Participants

Participants were recruited from the first year Master of Science, Speech-Language Pathology (SLP) students at the University of Alberta in the Faculty of Rehabilitation Medicine, who were enrolled in a course titled *Communication Disorders: Diagnosis and Appraisal*. A motivational interviewing module was included within this course, as well as other communication and diagnosis modules. Students were provided with information about the study at the beginning of the course and provided an informed consent form. Participation in the study did not affect the requirements of the students in the course. Participation allowed researchers to access and analyze assignments and videotapes completed as part of the course requirements. A total of 32 students out of a possible 57 elected to participate in the study. The demographics of the sample included 2 men and 30 women enrolled in their second year of the Master of Science, Speech Language Pathology program at the University of Alberta. As a

benefit to participating in the study, participants were offered a detailed analysis with specific feedback of the MI skills that they demonstrated and the changes that occurred as a result of instructions. Participants could use this feedback as a tool for continued development of their MI skills.

Materials

The Helpful Responses Questionnaire (HRQ) (Miller, Hedrick & Orlofsky, 1991) was adapted to create a tool that was used by the participants to practice written responses to varying scenarios. This adapted tool "Motivational Interviewing Scenario Response Instrument (MISRI) " (Appendix A) used scenarios and scoring procedures unique to this study. Each scenario received a scaled score on a scale of zero to five, based on the presence or absence of MI adherent responses, resulting in a maximum total score of 15. Scoring guidelines are included in Appendix A.

The Motivational Interviewing Treatment Integrity 3.1.1 (MITI 3.1.1) (Moyers et al., 2010) was used in the scoring of pre and post videotaped role-play interactions. The MITI was designed to provide feedback to clinicians in order to increase MI skills, as well as provide a measure of treatment integrity of MI in clinical practice. It provides quantitative behavioral counts of key skills and rating scales for measuring MI sprit.

Procedures

An instructional module on Motivational Interviewing was delivered to the students as part of a required course. An instructor in the Faculty of Rehabilitation Medicine, who has a background in counseling and prior experience teaching MI in this department and other departments, taught the MI module. The instructor has received MI training through the

Motivational Interviewing Network of Trainers. The MI module includes several cycles of learning, including an initial assessment and reflection, following by information sharing, discussion, practice, application, and finishing with a final assessment and reflection.

Prior to receiving any instruction in MI, students completed the MISRI and participated in a videotaped role-play with a standardized patient. Researchers that were classmates of the subjects assumed the roles of the standardized patients in the pre-training condition. There were two role-play scenarios designed to provide opportunities for students to demonstrate techniques they would use when interacting with a client in a problem-focused discussion, as well as a baseline measure for skills in MI. The two role-play scenarios were as follows:

1) *You are a speech-language pathologist in a school district. You and the classroom teacher have identified a 6 year old in grade one who would benefit from assessment as well as individual and classroom assistance. The child, Jason, has a noticeable phonological delay and delays in grammatical development and phonological awareness. It affects his interaction with the other children, his early literacy and his intelligibility. The request for referral has been sent home and his mother, Nancy, has asked to meet with you.*

2) *Mary is an adult with a moderate fluency disorder. She has shown good improvement in fluency in treatment sessions, but is reporting no changes in other environments. You are Mary's SLP and you have provided her with carry-over assignments to do at home and at her job. You have practiced the carry-over assignments in the clinic with unfamiliar conversation partners. You have offered to accompany Mary for some of the practice outside the clinic, but she is strongly opposed*

to this. You suspect that Mary has not been doing any practice and have asked about it at every session. Mary says that she does practice several times during the week and is really committed to the treatment.

The role-play was assigned randomly to each student and counterbalanced for the pre and post videos. Students had approximately 10 minutes to review the clinical scenario before beginning the role-play. As part of the course requirement, students analyzed their written responses to the questionnaire and the skills demonstrated in their role-play. They also signed a confidentiality document, which prevented them from discussing the specifics of the role-play scenarios with other students.

Students were taught the spirit, principles, and techniques of MI in approximately 5 hours of classroom instruction. Students completed 5 lab assignments in order to practice MI skills and apply them to simulated clinical cases. These assignments were chosen based on skills they identified for practice from their initial assessment/reflection and allowed the students to practice the skills by judging written responses for MI Spirit, watching videos and identifying reflective listening, providing reflective responses for client statements and open-ended questions and by identifying and eliciting change talk in written case scenarios. The students then had the opportunity to evaluate a recorded conversation with a partner for MI consistency, and to identify goals for future practice.

As a final evaluation of assessment and reflection, students repeated the MISRI and conducted another video role-play with the counterbalanced clinical scenario. In the post-training condition, the role-play was conducted with standardized patients who were PhD students in the Speech Pathology and Audiology program, and were trained by the principle

investigator. The participants were familiar with these individuals, as they had provided guest lecture instruction during the program. As in the pre-training condition, students had approximately 10 minutes to review the clinical scenario before the role-play began. The final evaluation occurred 5 weeks after the participants completed the initial role-plays.

The researchers analyzed the participants' written responses on the MISRI and verbal utterances during the role-play scenario. The role-play scenarios were viewed by the researchers and transcribed to written format, after which the participants' responses were coded according to behavioral types, as per the MITI guidelines (Moyers et al., 2010). In addition, the role-play scenarios were analyzed for MI Spirit and assigned a numeric score from 1-5 for collaboration, autonomy, and evocation as per the MITI guidelines. Scoring of spirit differed from the scoring of the MISRI and role-play transcripts, as it was based on live coding of the videos for a global impression rather than behaviour counts. Participants were given a score from 1 to 5 based on referenced verbal anchors from the MITI on three Spirit measures; Autonomy, Collaboration, and Evocation (for example, a score of 2 on the Autonomy scale was given if the "clinician discouraged client's perception of choice or responded to it superficially", where a score of 4 was given if "clinician was accepting and supportive of client autonomy" (Moyers et al., 2010, p. 9). Written transcriptions of the role-plays are not essential for scoring with the MITI guidelines. The written transcripts were used to facilitate blind coding of the results (since the standardized patients were different from the pre to post videos) and to facilitate comparison of results to determine point-to-point agreement for reliability measures.

Reliability

Four researchers concurrently scored the MISRI and the video role-plays, thus obtaining 100% agreement in the scores. Twenty percent of the MISRI questionnaires were chosen at random and analyzed by the principal research investigator, resulting in point-to-point agreement of 84%. In a similar fashion, twenty percent of video role-play transcripts were chosen at random and analyzed, resulting in 90.1% reliability between the researchers and the principle investigator, and twenty percent of spirit ratings were chosen at random and analyzed, resulting in 96% reliability.

RESULTS

SPSS (Statistical Package for the Social Sciences) was used to analyze data collected in this study. Scores from the MISRI and analysis of the role-plays at two time periods were analyzed using paired t-tests with a Bonferroni correction for multiple comparisons. A total of 7 pair-wise comparisons were made, resulting in a corrected p value of .007. Total scores obtained from responses to the MISRI post-training ($\bar{x}$=12.13) were significantly higher than pretest ($\bar{x}$=8.74; t=-6.225, df=30, p<0.001). Spirit ratings (the average of scores given for Collaboration, Autonomy, and Evocation) were compared pre-training ($\bar{x}$= 3.194) and post-training ($\bar{x}$=4.290), indicating a significant increase in this area (t=-8.856, df=30, p>0.001). The percentage of instances of verbal statements from the clinician that were "MI non-adherent" (for example, directing the conversation, giving advice without permission, making judgments etc.) were compared pre-training ($\bar{x}$=17.4%) and post-training ($\bar{x}$=2.7%), indicating a significantly lower average number of non-adherent statements after training than before (t=4.498, df=30, p<0.001). The percentage of verbal statements that were "MI adherent" (asking for permission,

affirming the patient, using supportive statements etc.) were compared pre-training ($\bar{x}$ =53.42%) and post-training ($\bar{x}$= 88.73%), indicating a significant increase (t=-4.763, df=30, p<0.001). The reflection (the total number of simple and complex reflections) to question (total number of open and closed questions) ratio was compared pre-training ($\bar{x}$ = 0.199) to post training ($\bar{x}$ =0.324) indicating a significant increase (t=-2.870, df=30, p=0.007). The percentage of open questions (number of open questions compared to total questions) used was compared pre-training ($\bar{x}$=27.47%) and post-training ($\bar{x}$=49.08%) indicating a significant increase (t=-3.966, df=30, p<0.001). The percentage of complex reflections (complex reflections compared to total reflections) was compared pre-training ($\bar{x}$=16.77%) to post-training ($\bar{x}$=44.22%), indicating a significant increase (t=-4.014, df=30, p<0.001).

DISCUSSION

Overall, statistical analyses indicate that the Motivational Interviewing module was successful in improving participants' communication skills from the beginning of the module to the end. Participants were able to increase their use of key MI skills such as reflections and open questions, and decrease non-adherent behaviours such as directing or confronting. Participants were also able to significantly improve their "Spirit", by evoking more motivation to change and encouraging more collaboration and autonomy.

The MITI outlines recommend clinician proficiency and competency thresholds for clinicians based on their coding system. This information can be compared to the student scores obtained in this study to further evaluate the effectiveness of the program based on clinical guidelines. The beginning clinician proficiency and competency thresholds include:

Global Spirit Rating (proficiency: 3.5 average, competency: 4 average); Reflection to Question Ratio (proficiency: 1, competency: 2); ratio of open questions to total questions (proficiency: 0.5, competency: 0.7); Percent Complex Reflections (proficiency: 40%; competency: 50%); and Percent MI-Adherent (proficiency: 90%, competency: 100%) (Moyer et al, 2010).

The Global Spirit Rating of this study reached the recommended competency threshold for clinicians ($\bar{x}$= 4.290). Global Spirit Rating is an indication of the overall interaction with the client, and includes measures of Collaboration, Evocation, and Autonomy (Moyer et al, 2010). Prior to treatment, the client interactions were characterized by more advising and were primarily centered on the clinician being responsible for instilling change in the client ($\bar{x}$=3.194). After treatment, students were able to improve the client interactions by practicing the key skills of Spirit to work in a partnership with the client and emphasize the client's own abilities. Students not only reached beginning proficiency in this area, but also attained the recommended competency threshold for clinicians.

The Reflection to Question Ratio did increase pre to post, but it did not meet the suggested beginning proficiency level of 1 (0.324). However, in this particular group of student clinicians, pre-training data revealed that students were already incorporating a high number of questions in their interactions. This is indicated by the pre-training percentage of 15.3% for open questions to total statements, which increased significantly, post-training to 27.9%. The percentage of reflections to total number of statements increased as well, with an overall percentage of 9.6% increasing to 18.1%, post-training. An analysis of the reflection to total statement ratio and question to total statement ratio indicates that both values increased from pre-training to post-training. However, the amount of reflections was initially less than

questions, and while both ratios increased in value, reflections would have had to increase more than questions to attain the recommended beginning proficiency ratio of 1. Therefore, in order to achieve a proficiency level of 1 in the Reflection to Question ratio, students would have to decrease their use of questions.

The Percentage of Open Questions in this study approached the beginning proficiency thresholds ($\bar{x}$= 49.08%). Prior to treatment, the percentage of Open Questions used was lower ($\bar{x}$=27.47%), indicating subjects used more closed questions. After treatment, students increased their use of Open Questions to improve their interaction with the client. This skill positively affects client interactions as it invites the client to talk and share. Open Questions allow the client to explore their problem or ambivalence, and allow the conversation to move forward (Miller & Rollnick, 2002).

The Percentage of Complex Reflections reached the MITI's recommended beginning proficiency ($\bar{x}$=44.22%). Prior to treatment, students infrequently used Complex Reflections in their client interaction ($\bar{x}$=16.77%). Complex Reflections add meaning or emphasis to what the client has said. Types of Complex Reflections include metaphors (e.g., "It sounds like you're stuck between a rock and a hard place."), hypotheses (e.g., "It sounds like you're having trouble with organization."), understatements (e.g., "You're having trouble seeing why this is helpful right now."), and reflections of affect (e.g., "You're feeling frustrated."). Complex Reflections emphasize, analyze, or synthesize what the client has said. Increases in this skill benefits client interactions in that it makes the client feel like they are being heard, and moves the conversation forward to continue exploration (Miller & Rollnick, 2002).

Finally, the Percentage of MI-Adherent (MIA) statements overall approached the suggested beginning proficiency level ($\bar{x}$=88.73%). Prior to treatment, students engaged in more advising without permission, directing, and confronting, resulting in more MI-Non-adherent (MIN) statements prior to treatment ($\bar{x}$=17.4%) than after treatment ($\bar{x}$=2.7%). Following treatment, the client interactions were characterized by asking for permission before giving advice, affirming the patient (e.g., "You are very strong."), and giving supportive statements (e.g., "There is a lot going on for you right now."). Although students did not achieve the suggested beginning proficiency level of 90%, the increase in the use of MIA skills from pre to post treatment was significant, as was the decrease in the use of MIN skills. This is an important factor, because while students increase their use of MI skills, it is also important that they decrease the use of behaviours that are inconsistent with MI. The use of MIA statements improves the overall client interaction by providing a positive and supportive environment for the client to share, and lower levels of MIN behaviours are associated with higher levels of client engagement and more positive outcomes for clients (McFarlane, 2010).

These results indicate that an abbreviated module can be successful in teaching a group of student clinicians the skills needed to use motivational interviewing techniques with clients. The implication of this result is that the intensive 2 to 3 day workshop recommended by MI experts is not the only way to teach this specialized skill. A shortened module may be a better option for busy clinicians in the workplace who do not have the time to devote to an intensive workshop but who still want to acquire the skills. This shortened module was found to be effective in a previous pilot study conducted with Physical Therapy students (Ivanova et al.,

2010). A standardized client was added to this pre-existing shortened module to examine additional growth and the effect on skill outcomes.

The addition of a standardized client segment of the module was highly successful in motivating students to practice and reflect on their skills, as it added an element of pressure not seen with paper evaluations alone. Scores in all areas increased significantly from pre-training to post-training. This simulated test of skills gave the module real world applications, as it allowed the clinicians to practice with a client presenting with an issue that is commonplace in the field (a concerned parent, and a client who feels unable to complete homework).

CONCLUSION

Although significant improvements in MI adherent skills were achieved, the research did have potential limitations. The study was only conducted on a group of 2nd year SLP student clinicians, and as such, the results cannot be generalized to other groups. However, the results of this study provide convincing evidence that introducing a MI module to student clinicians before they enter the workforce does improve their counseling skills, which may translate to increased client benefit once these students enter the work force and being engaging in problem solving with clients. Another limitation of this study includes the lack of carryover data. Although skills were measured before and after the training program, is not possible with the current data to assess maintenance of skills. Future investigation should examine how MI skills attained via this type of teaching module are maintained over time. To account for the reflection-to-question ratio discrepancy, future education or modifications to the training program should focus more attention on the role of reflections in the therapeutic dialogue. The

goal should be to increase this skill in relation to the number of questions used to get clinicians to reflect for every question they ask.

Additional future research considerations may include collecting data on groups of students in other disciplines, such as nursing, physiotherapy and occupational therapy, to examine if the same results can be attained with other future health care providers. Although standardized clients might not be a feasible option for practicing clinicians, the results are still important for educating counseling skills to student clinicians. Successful use of the training module with other student groups would lend itself to integrating MI components into the courses on counseling that each of these groups receive during their training.

The results of this study suggest that a shortened module involving multi-dimensional teaching strategies, with the inclusion of a standardized client, was effective in significantly increasing the use of motivational interviewing skills in a group of student clinicians. This abbreviated teaching module demonstrated a positive opportunity for growth where scores in all areas, including overall spirit, the use of reflections, open-ended questions, and MIA statements increased significantly post-instruction. Including a standardized client in the final assessment offered an added an element of pressure, thus triggering increased preparation in students, and a unique learning opportunity for students to practice and reflect on their counseling skills that can be applied to their future practice.

Appendix A: MISRI Scenarios and Scoring Guidelines

Scenario #1

During a session a 15 year old female client says to you: "I am really mixed up. I hate going to school. I am stupid. I am failing all of my classes. I don't really have any friends. There are some girls who talk to me sometimes, but they usually just make fun of me. I just can't do it anymore. I just want to drop out of school!"

Scenario #2

During a session a client's spouse says to you: "I am feeling really overwhelmed. As the sole caregiver I am trying to do the best I can, but it is just not enough. By the end of the day I am exhausted, and I often don't have a chance to work on your suggestions with my wife. My wife is so important to me, and I feel like I am letting her down. As much as I try, I just can't do it all."

Scenario #3

During a session a mother says to you, "Last night, my son had a huge temper tantrum. He was throwing his toys around the room, screaming at the top of his lungs, and when I came close to him he started swinging at me. He broke his toy truck and a mirror too! It was like he was crazy. I just don't know what to do!

Scoring guidelines:

Points	MI Adherent (MIA)		MI Non-adherent (MIN)
0	No MIA or open question (OQ)	and	MIN
1	MIA or open question (OQ)	and	MIN
2	Reflection	with	MIN
3	Simple reflection and/or other MIA/OQ		NO MIN
4	Complex reflection		NO MIN
5	Complex Reflection + other MIA/OQ		NO MIN

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