CONSIDERING THE USE OF MOTIVATIONAL INTERVIEWING FOR NURSE PRACTITIONER PRACTICE WITH ABORIGINAL CLIENTS

by

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Dedication

To John and Kay Booth, the wise and kind souls through which my worldview began.

Abstract

The purpose of this scholarly project was to explore how motivational interviewing (MI) as a behaviour change intervention may be used with Aboriginal clients by nurse practitioners (NP's) in primary health care settings. Four systematic peer-reviewed articles with meta-analyses were located through a literature search of 11 databases, annotated, and evaluated for empirical evidence supporting its use in clinical practice by health care professionals. Four themes relevant to the application of MI by NP's were identified across the four articles: dose of MI, target behaviours, practitioner training in MI, and the essential components of MI. Project findings provide support for the use of MI with Aboriginal clients, in order to influence health behavioural change. It is proposed, that based on a potential theoretical fit between MI and Aboriginal concepts of health, such as interconnectedness, balance, and respect, Aboriginal clients might be more receptive of an intervention that is flexible enough to incorporate an Aboriginal worldview. The project concludes with a discussion of the implications MI has for nurse practitioner practice.

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Thank you, Lyle and Sylvia for all the work and energy you have put into helping me successfully complete this paper. Your knowledge and experience have been instrumental in guiding me to take my thinking and writing processes to a higher level.

To my Elders, friends, and colleagues in the Cowichan, WSÁNEC, Tsilhqot'in, and Dakelh territories, thank you for the guidance and wisdom you continue to share with me as I develop into the nurse I am meant to be.

Finally, I give thanks to Gordon for loving me just as I am, and being the mirror that reflects back to me who I can be.

Table of Contents

Considering the Use of Motivational Interviewing for Nurse Practitioner Practice with Aboriginal Clients

An approach for preventing and managing chronic disease is the modification of lifestyle risk factors through behaviour change (Shinitzky & Kub, 2001). In Canada, the prevalence of chronic diseases is increasing and remains consistently higher for the Aboriginal population compared to the general population (Reading & Wien, 2009). Prevalence of type 2 diabetes mellitus, for example, is three to five times higher in the Aboriginal population than in the general population (Waldrum, 2006) and both the prevalence and outcomes of type 2 diabetes can potentially be affected by individual behaviour changes. Motivational interviewing (MI) is one example of a behaviour change intervention. The purpose of this scholarly project was to explore how MI, as a behaviour change intervention, may be used with Aboriginal clients by nurse practitioners (NP's) in primary health care settings.

First, MI is defined and the theoretical underpinnings of this behaviour change intervention outlined. Second, the search strategy used to locate literature on the use of MI in clinical practice is described. Four systematic peer-reviewed articles with meta-analyses were located through a literature search of 11 databases, then annotated, and evaluated for empirical evidence supporting use of MI in clinical practice by health care professionals. Third, three Aboriginal concepts of health, and their theoretical fit with the tenets of MI, are explored to support the hypothesis that MI is a culturally-appropriate behaviour change intervention for use with Aboriginal clients. Fourth, implications and recommendations for the application of MI by NP's are outlined for facilitating the wellness trajectories of Aboriginal peoples within nurse practitioner practice.

Background

You cannot teach a man anything. You can only help him discover it within himself.

Galileo Galilei

MI is both a theoretical model and a behaviour change intervention (Miller & Rose, 2009). William R. Miller first described MI in 1983 as an intervention for use with challenged drinkers. MI was defined by its founders as: "a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence" (Miller & Rollnick, 2002, p. 25). Understanding ambivalence is key to comprehending MI. Ambivalence is a natural occurrence in the process of change and has been defined as: "the simultaneous holding of contradictory feelings or attitudes" (Levensky, Forcehimes, O'Donohue, & Beitz, 2007, p. 52). Clients may understand benefits to changing a negative behaviour in question, but also continue to find benefit in retaining their current behaviour, thus preventing any movement toward change. Further, clients will continue to be unmotivated to change their behaviour until their ambivalence is resolved. Resolving ambivalence occurs through a process of assessment by which the client comes to understand the costs of retaining negative behaviours compared to the benefits gained through behavioural change, particularly when such gains more closely align with their own values and ultimate goals. The goal of MI is to prepare people to change rather than be a direct instrument of change (Miller & Rollnick).

Conceptually, MI is rooted in Prochaska and DiClemente's Transtheoretical Model of Change (TTM) (Prochaska, DiClemente, & Norcross, 1992). In the TTM, change is conceptualized as a cyclical process with five stages, outlined as pre-contemplation, contemplation, preparation, action, and maintenance. Prochaska et al. discussed the stages of

change as the "temporal dimension" of the model and the progression of when change occurs (p. 1107). A second dimension of the TTM identifies processes of change necessary to moving a person from one stage to the next. These processes of change include consciousness raising, self-evaluation, self-liberation, counter-conditioning, stimulus control, reinforcement management, helping relationships, dramatic relief, environmental re-evaluation, and social liberation (Prochaska et al.). Ambivalence may occur between stages of change. Of the ten processes of change identified by Prochaska et al., I propose four as important to MI and the resolution of ambivalence. They include consciousness raising, self re-evaluation, self-liberation, and helping relationships.

MI integrates communication principles and skills to resolve the ambivalence that impedes change (Miller & Rollnick, 2002). Such principles need to incorporate a philosophic approach to counselling that values collaboration between the health professional and the client in order to mobilize a client's intrinsic motivation for change. Central to this approach is the concept of autonomy. Miller and Rollnick defined autonomy as "the client's right and capacity for self-direction" (p. 35). Consistent with the philosophic approach to MI, the client is situated as the expert responsible for change, which contrasts with traditional health care practices wherein paternalistic values situate the health professional as in control of both the agenda and the outcome (Miller, 1983). In this regard, MI is reflective of Carl Roger's client-centered theory (Miller). Under Roger's theory, change is more likely to occur if the health professional comes from a place of empathetic understanding and acceptance of a client's past and current behaviour than from an authoritative or parental position. Through "skillful reflective listening that clarifies and amplifies a person's presentation of reality" the approach becomes client centered (van Wormer, 2007, p. 21). MI differs from Roger's theory

in that MI is intentionally directive with a goal to resolving ambivalence so a client can move forward through the TTM (Miller & Rollnick).

Principles of MI

MI techniques help create a therapeutic environment in which a practitioner guides a client to explore their ambivalent feelings about changing their behaviour. After a therapeutic environment is established, the practitioner moves to apply various principles of MI in order to help direct the intervention and ultimately assist clients to obtaining desired behavioural changes. The four principles of MI are: empathy, developing discrepancy, rolling with resistance, and supporting self-efficacy (Miller & Rollnick, 2002). The principles help elucidate the philosophic approach of MI and help define the type of environment necessary for effective MI intervention. It is necessary to understand the four basic principles of MI before considering the use of MI as a behaviour change intervention for use with Aboriginal clients. I now turn to a discussion of these principles.

Empathy

Empathy is fundamental to MI because it is the process of understanding a client's point of view by exploring their values, motivations, and feelings within the context of their life's circumstances (Miller, 1983). Miller and Rollnick (2002) suggest that although a practitioner understands and accepts a client and their behaviours, the practitioner should avoid overtly agreeing with or justifying client behaviours. Empathy is not only a communication tool, but also promotes a practitioner approach that respects, accepts, is nonjudgmental, and encourages understanding of a client's circumstances (Miller & Rollnick). This respectful attitude is necessary to assisting clients in discovering their own values and goals. Without a focus on discovering client goals and the motivators underlying them, practitioners risk

following their own agenda rather than their client's agenda. In MI, control of the therapeutic encounter between the practitioner and client must rest with the client. So pivotal is this notion, that once a client loses control of the agenda, the encounter is no longer considered to be MI (Miller & Rollnick). The purpose of exploring a client's goals is to create a discrepancy between their current behaviour and their desired goal.

Developing Discrepancy

Ambivalence is hypothesized to be one of the reasons why clients do not change their behaviour, despite negative consequences, and a reason why people become stuck between continuing with a problematic behaviour versus changing (Miller, 1983). In order to move out of this impasse, a practitioner guides clients through developing discrepancy: how their lifestyle behaviours are in conflict with their own values and goals. Further, for the practitioner to develop the discrepancy, the practitioner must provide genuine empathy to elicit from clients, recognition of their own values and their relationship to the behaviours in question.

Within the principle of developing discrepancy, the processes of change deployed are consciousness raising and self re-evaluation. The process of consciousness raising has been defined as "increasing information about self and problem" and the process of self re-evaluation defined as "assessing how one feels and thinks about oneself with respect to a problem" (Prochaska et al., 1992, p. 1108). These processes are especially useful in the early stages of change, because clients need to clarify why a change is necessary before they can take action to make change (Prochaska et al.). Miller and Rollnick (2002) suggested that clients who requests assistance with health behaviour change are already experiencing a discrepancy between their current circumstance and their perceived goals. A client who

requests assistance is in the contemplative stage of change because they are acknowledging their need to change, but are not yet ready to do the work required (Prochaska et al.). The role of the practitioner is to aid the client in exploring this discrepancy until the drive to change overrides the benefits of continuing with the harmful behaviour. This conceptualization of change as a result of discrepancy between behaviour and values is known as dissonance theory (Miller, 1983).

Rolling with Resistance

Resistance occurs when the client considers moving away from change back to the status quo. Resistance often appears in the form of an argument and can signal that a practitioner is pushing their own agenda, or that a client's self elicited reasons for change have not yet been fully explored (Miller & Rollnick, 2002). Regardless of the origins, within MI theory, resistance indicates that the encounter has moved away from being client centered. Rather than engaging with resistance, the practitioner needs to bring the conversation back to the client's perspective, and reaffirm that the client is in control (Duran, 2003). Resistance should be seen by the practitioner as an opportunity to further explore values and to problem solve with the client. The goal is to have the client voice his or her reasons for change, following a belief that client behaviour will ultimately reflect what they hear themselves arguing for. It follows that a practitioner must try to avoid conversations where a client argues for the current behaviour rather than for change when change is desired.

Supporting Self-efficacy

The fourth principle of MI is to support self-efficacy in a client. Self-efficacy has been defined as "a person's belief in his or her ability to carry out and succeed with a specific task" (Miller & Rollnick, 2002, p. 40). Intuitively, self-efficacy forms an important part of

motivating change, because without a belief in their own ability to carry out or to succeed with a change, individuals are unlikely to attempt change. In his original article describing MI, Miller (1983) described an exponential and positive relationship between self-efficacy and self-esteem, thus tying the two concepts together. Following the philosophic approach of MI, a practitioner who successfully works to increase self-esteem in clients will also succeed in increasing their self-efficacy.

In summary, the principles of MI help foster a practitioner-client interaction that is collaborative and client focused. The first three principles focus on creating the perception that change needs to occur. When combined with sufficient self-efficacy in a client, movement through the stages of change is believed to become a "self-fulfilling prophecy" (Miller & Rollnick, 2002, p. 41). Applying the MI principles of empathy, developing discrepancy, rolling with resistance, and self-efficacy, a practitioner also helps create an environment of collaboration. Within this space of equality, a practitioner can respectfully and empathetically direct clients to voice their own argument for change. This latter concept is known as eliciting change talk and is described next.

Eliciting Change Talk

Supported by the four primary principles discussed, MI as an intervention can be thought to center around eliciting change talk. Change talk reflects self-motivating statements or arguments for change expressed by a client (Miller & Rose, 2009). When clients voice their own arguments for change MI theorists believe that clients can recognize any disconnect between their values and their current behaviours that will prompt desired change. Communication skills used by a practitioner in MI to elicit change talk form the basis of an

intervention and include reflective listening, open-ended questions, affirming, and summarizing (Levensky et al., 2007; Shinitzky & Kub, 2001).

Literature Review

In this section, I outline my literature review search strategy and literature selection. I present four systematic, peer-reviewed articles, with meta-analyses in annotated form and evaluate these articles for empirical evidence supporting use of MI in clinical practice by health care professionals. Through this review, I identified four important themes relevant to the application of MI by NP's: (a) dose of MI, (b) target behaviours, (c) practitioner training in MI, and (d) the essential components of MI.

The search for literature on the use of MI by NPs with Aboriginal clients in pursuit of health, healing, and wellbeing occurred in two phases. First, a less formal exploratory phase was undertaken on the subject of MI. The phase examined MI from different perspectives while conducting student course work in the Family Nurse Practitioner Program at the University of Northern British Columbia. Articles of interest, continuing education workshops, and discussions with health professionals using MI in their practices informed the early stages of the literature search. In addition, three manuals focused on the use of MI with Aboriginal groups were discovered:

a) *Native American Motivational Interviewing: Weaving Native American and Western Practices* (Venner, Feldstein, & Tafoya, 2006),

b) *Trainer's Guide to Motivational Interviewing: Enhancing Motivation for Change - A Learner's Manual for the American Indian/Alaskan Native Counselor* (Tomlin, Walker, & Grover, 2005), and

c) *Motivational Interviewing: Enhancing Motivation for Change. A Learner's Manual for*

the American Indian/Alaskan Counselor (Tomlin, Walker, Grover, Arquette, & Stewart, 2005).

Although these manuals were for use by professional and lay practitioners intervening with indigenous peoples through their practices, they lacked theoretical and empirical discussion related to the use and efficacy of MI.

Second, a more formal literature review phase determined if NP's use of MI in primary health care settings resulted in improved wellness for Aboriginal clients. CINAHL, Medline, PsycINFO, PsychARTICLES, Cochrane, Native Health, Social Work Abstract, SocINDEX, Social Sciences full-text, the Biomedical Reference Collection, and ISI Web of Science databases were searched. The search was limited to English language articles published in peer-reviewed journals between January1999 and October 2009.

A search of these databases used a combination of the keywords: *motivational interviewing*, *primary care*, and *Aboriginal*, but returned no articles. These search terms defined the intervention, setting, and a focus on the Aboriginal population. The following search terms were then added to the previous keyword list and used in various combinations to locate appropriate articles: *health behaviour change*, *disease management*, *health care delivery*, *counselling, native, Native American, American Indian, indigenous, and first nations*. These terms, together, represented the target intervention, primary health care setting, and physician and nurse practitioner as interventionists, yielding results. Combining population related terms with *motivational interviewing*, for example, resulted in 22 articles; and combining *nurse practitioner* and *MI* resulted in 15 articles. Reference lists of these articles were hand searched for additional works, as was the bibliography page of the motivational interviewing official website (Wagner & Conners, 2009). Finally, the search

resulted in forty-six articles for in-depth review. All titles or abstracts contained information on the use of MI in either primary health care settings or indigenous populations.

During the in-depth review, many of the articles were discussion or background papers on MI and deemed inappropriate for inclusion because they did not provide empirical data necessary to evaluating the use of MI. Throughout the search process, it also became evident that settings in which MI interventions were used frequently involved substance abuse treatment centers or programs. These articles were not included because Family NP's are most often employed in medical clinics and community health centers (Bisal, 2008) and the article's direct relevance to NP practice was doubtful. For an article to be selected for inclusion, the MI intervention study had to be based on MI as defined by Miller and Rollnick (2002) rather than interventions mistakenly labelled as MI because they contained similar principles or communication techniques to MI (Burke, Arkowitz, & Menchola, 2003).

In summary, six systematic reviews evaluating MI to change health behaviours were shortlisted for inclusion on the basis of potentially offering best evidence for justifying the use of MI by nurse practitioners (Loiselle, Proffetto-McGrath, Polit, & Beck, 2007). Four of these reviews contained a meta-analysis of the data, offering a final inclusion criterion and further eliminating two of the articles. These four systematic reviews with meta-analyses supporting the use of MI in clinical practice by health care professionals are annotated, and evaluated, below.

Findings: Summary of Four MI Systematic Reviews and Meta-analyses Articles

In this section, four selected systematic reviews and meta-analyses are annotated and critically evaluated. The findings of each article present information related to: context and summary, content relevant for NP practice, strengths, and limitations. Each summary offers

an evaluation of empirical evidence supporting the use of MI in clinical practice by health care professionals.

First Critical Annotation

Rubak, S., Sandbaek, A., Lauritzen, T., & Christensen, B. (2005). Motivational interviewing: A systematic review and meta-analysis. *British Journal of General Practice, 55*(513), 305-312.

Context and Summary: The four physician authors identified MI as a counselling intervention used to treat lifestyle problems and disease. Through systematic review and meta-analysis, their aim was to examine the influence of MI on different disease outcomes, as well as identify other factors influencing these outcomes, such as length of session or profession of practitioner. This review focused on a literature search of 16 databases based on randomized controlled trials that compared the effectiveness of MI, as defined by Miller and Rollnick, to traditional advice offered by general medical practitioners using other behaviour change interventions. Potential randomized control trials assessed for quality based on a validated scale resulted in a sample of 72 randomized control trials. Data from 19 trials combined into a generic inverse variance meta-analysis resulted in combined effect estimates at a 95% confidence interval. These provided calculations for seven physiologic measures: body mass index (BMI), systolic blood pressure, glycosylated haemoglobin (HgbA1C), total blood cholesterol, blood alcohol concentration, standard ethanol contents, and number of cigarettes per day. Use of MI resulted in statistically significant decreases in all the physiologic measures except for HgbA1C and cigarettes per day. Regardless of statistical significance, MI resulted in clinically relevant changes in three-quarters of the trials and was equally effective for both physiological and psychological diseases. Physicians

and psychologists appeared more successful in their use of MI as they achieved a positive effect 80% of the time compared to other health care providers who were successful 46% of the time. Fifteen-minute encounters showed a positive effect 64% of the time. Positive effects increased as the number of sessions increased. The authors concluded that, in a scientific setting, using MI to change behaviours that influence disease was more effective than traditional advice giving. They recommended MI be studied in clinical settings to measure its effect on behaviours influencing the prevention and treatment of a variety of diseases.

Content Relevant for NP Practice: Rubak et al. discussed a number of points relevant to NP practice, most importantly was how MI appeared to influence behaviour change. MI improved not only client adherence to prescribed disease treatments, but also encouraged personal habit changes that effect health. This could prove useful in the treatment of diseases that require both medication and lifestyle change; one example is diabetes because of the strong links between symptoms and ability. Adhering to prescribed medication can result in decreased blood sugar that leads to the client feeling more energetic, more energy could result in the client being able to exercise, and exercise leads to weight loss, furthering the reduction of blood sugar. The influence of MI in this example doubles as it leads to adherence to the prescribed treatment and change to personal habits.

Rubak et al. found that MI still had a positive effect, even when a client did not change their behaviour, because it made the client aware of the potential for change. This finding suggests that MI used with clients during the first stage of change, pre-contemplation, can result in increased awareness, which is the first step in developing discrepancy. Motivation

for change may be inspired when clients recognise the connection between behaviour and the attainment of their goals.

Dosage of MI can be either the length of a session, the number of sessions, or both. In this meta-analysis, MI interventions as short as 15 minutes showed a positive effect. The dose of MI intervention across these 72 studies ranged between 10 and 120 minutes, with a median of 60 minutes. The authors drew two conclusions regarding the dose of MI although calculations for dose-related findings were not available in the meta-analysis. The first conclusion was that as length of the MI session increased so, too, did the effect. The authors reported that in studies where the MI session was 60 minutes there was a positive effect 81% of the time, compared to 20 minutes when there was a positive effect 65% of the time. Further, as the number of sessions of MI increased, a positive effect was more likely at 87% for five or more sessions compared to 40% with just one session. Worthy of note is that the authors did not identify or clarify other variables that may have influenced these outcomes; calculations of percentages appeared as independent variables.

Rubak et al. discussed that the profession of the practitioner appears less important than the specific MI training and clinical experience the practitioner has, although no data supported this hypothesis. Historically, professionals specializing in psychology applied MI, however, in this review, general and family practice doctors achieved the same effects as psychologists and psychiatrists. No discussion or data on the MI training of practitioners or their clinical experience was evident, yet were important considerations for future research. The authors further hypothesized that the client-practitioner relationship may also be an important variable influencing MI effectiveness in behaviour change, although they did not analyze data to support this claim.

Strengths: A number of strengths were evident in this systematic review and meta-analysis. The first strength identified was the literature search. The Cochrane Collaboration's search strategy was the framework guiding the search of 16 databases that encompassed medical, psychological, and sociological literature. Relevant behaviour change reports were searched in international diabetes conference proceedings from 1997 to 2004. Rubak et al. contacted various MI study authors to gather further statistical information, asking if there was insufficient data available in the published study to include it in the meta-analysis. Reference lists of pertinent studies were hand searched for additional sources. Overall, the literature search was extensive and well organized. A second strength of this review was the inclusion of a wide range of physiologic outcome measures. The first supplemental table outlines the specific parameters of the outcome measures, as well as the lists indicating if outcomes were clinically relevant, statistically significant, and if the study contained statistical data. The outcome measures tested suggest MI be used for both prevention and treatment of a number of chronic diseases including diabetes, heart disease, kidney disease, lung disease, liver disease, and substance abuse. A third strength of the Rubak et al. review was that the tables and boxes included amongst the text presented data in easy to read formats. Table One contained study data categorized into clinically relevant subjects, and listed whether or not each variable had an effect. Dosing of MI, counsellor profession, measuring method, and area of intervention were the main subject headings in this table. The supplementary tables were easy to locate and provided detailed information on individual studies within the review. The boxes provided information on the characteristics of MI, with the supplementary box going into explicit detail about the intervention. The inclusion of the tables and boxes added to the readability of this review.

Limitations: A number of limitations noted in Rubak et al.'s review included the authors not incorporating data or discussion of gender, age, or ethnic demographics of separate study samples. Such individualizing, clarifying information is important to acknowledge when discussing the evidence for MI use because any of these three demographics might prove to alter the effect. Also, credibility of a number of the authors' conclusions were suspect, because findings were presented as stand-alone variables, such as length and number of sessions of MI; no explanation of how extraneous variables were accounted, or controlled for, such as severity of disease. Finally, although the authors mention that each study included in the meta-analysis received a quality assessment, they do not name the assessment tool but simply say all the included studies ranked high except for one. Despite these limitations, this systematic review and meta-analysis provides evidence to support the use of MI as a behaviour change intervention, with positive effects obtained for a number of health related outcome measures that could influence a range of chronic diseases.

Second Critical Annotation

Hettema, J., Steele, J., & Miller, W. R. (2005). Motivational interviewing. *Annual Review of Clinical Psychology, 1*, 91-111.

Context and Summary: Three psychologists aimed to summarise the growing body of evidence supporting MI as a behaviour change intervention in this meta-analysis. A search of the psychINFO database, the MI official website (www.motivationalinterviewing.org), and references of three previous systematic reviews (Burke et al., 2003; Dunn, DeRoo, & Rivara, 2001; Miller & Wilbourne, 2003) resulted in a sample of 72 clinical trials. The trials examined the effect of MI across ten behaviour domains including abuse of alcohol, drugs, smoking, HIV risk, treatment compliance, gambling, intimate relationships, water safety,

eating disorders, and diet and exercise. The authors focus on five groupings of variables in this meta-analysis:

a) post-treatment outcomes related to each behaviour domain,

b) efficacy of MI over time (ranging from <3 months to >2 years),

c) comparison of MI to no treatment versus MI combined with other treatments,

d) amount and type of training for the MI practitioner, and

e) effect of specific components of MI on outcome measures.

Hettema, Steele and Miller (2005) drew a number of general conclusions based on their analysis of the data. Post-treatment outcomes generally supported the use of MI because effect sizes were statistically significant, particularly in decreasing substance abuse. However, the variability of effect was inconsistent across, and within, all the health treatment outcomes. The authors suggested that the varying degree of effect sizes among studies of the same problem behaviour could mean that the delivery of MI is the active ingredient. When used as a stand-alone treatment, the effect of MI was greatest at the early follow-up period of less than three months and decreased over the following year. Conversely, MI efficacy over time improved when MI was used as an add-on, or at the beginning of another specified treatment program, such as admission to an inpatient facility or stress management program. MI appeared most effective to engage clients in a more intensive form of treatment when combined with another active treatment, such as cognitive therapy, or when compared to no treatment.

Regarding MI characteristics, neither the dose, purity of the intervention, nor counsellor training in MI was predictive of efficacy. However, the data suggested that the effect sizes were smaller when the practitioner used a manual to guide the encounter. Hettema et al.

hypothesised that this result could be subsequent to only measuring this variable across studies rather than within a study. Further, the practitioners may have been using a manual that dictated the MI intervention be completed within one encounter and conclude with a statement of change from the client. Hettema et al. argued that this, in and of itself, is contradictory to the client centred nature of MI. Of particular note, the authors found that MI appeared to produce larger effects when used with minority populations. Thirty-seven studies reported ethnic composition within the sample. These 37 studies had a combined total of 243 participants, of which 18% or 43.74 were Native American (supplemental table 3). The combined effect size for the minority samples was approximately three times higher than that of the Caucasian samples. This was an important, but unexpected finding, however, the authors could not provide evidence to explain this observation.

Hettema et al. concluded that there was strong evidence for use of MI as a brief intervention, but MI is more efficacious when used in combination with other established behaviour interventions, in order to engage or retain clients in treatment plans. Finally, researchers must continue to clarify the causal processes of MI, as well as what is best practice for training providers.

Content Relevant for NP Practice: The important points of interest for NP practice in this meta-analysis revolved around the evolution of MI as a theory. Researchers remain unclear as to what the "active ingredients" are within MI, despite a growing body of evidence demonstrating the efficacy of MI (Hettema et al., 2005, p. 103). The authors of this meta-analysis analysed each of the 72 trials for components of MI, which included "being collaborative, being client centered, being nonjudgmental, building trust, reducing resistance, increasing readiness to change, increasing self-efficacy, increasing perceived discrepancy,

engaging in reflective listening, eliciting change talk, exploring ambivalence, and listening" (p. 98). The above components of MI across the studies had a mean of 3.6. The authors could not draw definitive conclusions regarding the importance of individual or grouped components on outcomes, but instead presented a theory that MI occurs in two phases. In the first phase, the practitioner directs clients to explore their personal desires, ability, reasons, and need for change, otherwise defined as change talk. During the second phase, the practitioner works with the client to strengthen their commitment to the changes they have decided to make based on the self-exploration that occurred in the first phase. Throughout this process, it is imperative that the agenda and argument for change is client driven, and not coming from the practitioner.

Dosing of MI was a variable in this meta-analysis. Comparison of the length of MI sessions with no treatment indicated the maximum duration MI needed to have was six hours, in order to have an effect. In contrast, measurement of the MI session with the comparison treatment revealed that the comparison treatment needed to have up to 25 hours longer to have an effect. No definitive conclusions of the ideal length of a session or the number of sessions in a course of MI were drawn.

An exploration of how practitioners are educated in MI was a focus of the meta-analysis. Although most of the studies reported that training had occurred, only 13 of the studies provided specifics on time spent on it. The calculated mean of educational time spent on MI was 9.92 hours. Hettema et al. (2005) reported that MI training most often occurred as an expert lead workshop. Self directed learning from books or training videos was the second most utilized learning activity. The authors claimed these learning activities taught practitioners about MI; however, to become proficient practitioners, they also needed to have

personalized feedback from recorded MI sessions and coaching consultations with MI experts. Further research that explores the best practice for practitioner education in MI and its cost effectiveness compared to other behavioural change intervention training would be worthwhile.

The final point of interest to NP's in this meta-analysis was the findings related to use of MI in minority populations. Again, MI showed greater efficacy when used with minority samples compared to Caucasian samples. This effect could not be explained by the authors, however, based on their experience using MI with Native American groups, they hypothesise that MI may be a "culturally congruent intervention" because the empathetic, client centred, non-confrontational style of communication used in MI is reflective of communication patterns within this population (Hettema et al., 2005, p. 105).

Strengths: A strength of this meta-analysis was the inclusion of age, gender, and ethnicity demographics. Only ethnicity appeared to predict the effect of MI. The way the supplementary tables were organized, was helpful. Specifically, Supplemental Table 2 provided an easy to read summary of data as the specific behaviour domain outlined the components of MI into clinically useful categories, such as dose and setting. The power point presentation linked to this meta-analysis was a third strength identified. The presentation is located on the official MI website and provides an explicit visual summary of the method, data, findings, and implications of this study.

Limitations: The search strategy used to locate studies for inclusion in this meta-analysis appears to lack rigour. Only one database was searched (psychINFO), which led one to wonder if studies outside of the field of psychology may exist and could have contributed to the meta-analysis. Further, relying only on the references of three previous systematic

reviews and the MI official website as secondary sources of bibliographic information may also have led to the inadvertent exclusion of additional studies and data. Finally, although the power point presentation associated with this meta-analysis was cited above as beneficial, not providing clear direction on how to access it or clearly stating that it even exists, was considered a limitation of the authors' discussion.

Third Critical Annotation

Burke, B., Arkowitz, H., & Menchola, M. (2003). The efficacy of motivational interviewing: A meta-analysis of controlled clinical trials. *Journal of Consulting and Clinical Psychology, 71*(5), 843-861.

Context and Summary: Created as part of a doctoral dissertation in psychology, this systematic review and meta-analysis explored use of MI in treating problem behaviours related to alcohol use, drug use, diet and exercise, smoking, and HIV risk behaviours. The authors specified that the MI intervention they were studying was adapted from traditional motivational interviewing, because the intervention used in each study included a component of provider given feedback to clients regarding their behaviour. Feedback is not a component of MI, thus the interventions studied in this review article were not considered "pure MI" (Burke, et al., 2003, p. 859). Their aim was to compare the adapted MI to other behaviour change interventions, which included cognitive behavioural therapy, twelve step programs, brief advice, confrontational feedback, client centered counselling, relapse prevention, skills based counselling, and standard treatment. Investigating the sustained efficacy, clinical influence, and moderator variables of MI were additional objectives of this review. Thirty controlled clinical trials chosen as the sample were inherent in this review. The search used to locate these trials included three strategies:

a) a database search of psychINFO,

b) reference lists of three prior reviews (Burke, Arkowitz, & Dunn, 2002; Dunn et al., 2001; Noonan & Moyers, 1997) and the MI website bibliography were hand searched for appropriate studies, and

(c) members of the Motivational Interviewing Network of Trainers were emailed for information on unpublished and in-press studies.

The results of the meta-analysis showed the adapted MI intervention to have equivalent effect to other active treatments, and moderate effect compared to no treatment or placebo, for all the health outcomes studied except HIV risk behaviours and smoking. Potential moderators of the adapted MI effect were comparative dose, adapted MI format, and client problem area. Although not statistically significant, adapted MI had positive clinical and social influences. The authors concluded that MI continued to show promise as a behaviour change intervention for use outside of its original domain in addictions treatment. Further research directed at understanding the causative mechanisms at work within MI would be beneficial.

Content Relevant to NP Practice: The primary point of interest for NP's in this review and meta-analysis was dosing of MI. Burke et al. (2003) calculated that the time needed to produce comparable effects of other behaviour change interventions was shorter for the adapted MI intervention. For substance abuse outcomes, the authors found that the adapted MI was approximately 180 minutes shorter than other treatments, which could translate to as many as four fewer sessions. They also found that as the dose of adapted MI increased so, too, did the effect. They called this a "significant dose-effect relationship" (Burke et al., 2003, p. 857).

Sustained efficacy is the length of time after the intervention is applied, and continues to show the desired effect. Burke et al. (2003) calculated the sustained efficacy of adapted MI to be at least 20 weeks across all health outcomes. For alcohol, drug, and diet and exercise outcomes, the sustained efficacy continued up to four years post-treatment. This leads one to ask: Could the efficacy be further sustained, if the adapted MI intervention was revisited in subsequent appointments with clients working on behaviour changes?

In this review, clinical influence was assessed; Burke et al. (2003) defined clinical influence as "the practical value or importance of an intervention to clients or to others with whom clients interact" (p. 844). The measurement of clinical influence was the reduction of target symptoms, such as the quantity and frequency of alcohol use. Measurement of social influence was the effect of the target symptom on one's life, such as missed days of work. Although the authors calculated no statistically significant results related to the clinical or social influence of adapted MI when compared to other behaviour change interventions, a decrease of 51% in the substance use measures suggests that adapted MI could be a useful clinical tool to support harm reduction in primary health care.

Moderator findings were another important variable in the review, investigated to "uncover meaningful patterns in the data that can then be used to formulate potential causal hypotheses to be tested empirically" (p. 858). It was hypothesized that level of severity of behaviour influenced change, for example, diet and exercise outcomes scored higher than alcohol and drug measures. Burke et al. (2003) purported that because substance use can create a physiological addiction, additional barriers to change may result. Comparative dose and format of adapted MI also proved to be a moderator variable especially influential in substance abuse treatment. This finding resulted from an exploratory multiple regression

analysis of the data; the authors did not speculate on the possible explanation for this finding. The final moderator variable studied was practitioner training in MI; no conclusive results were evident, and the researchers recommended that others include this variable in future studies. Specifically, evidence of cost effectiveness of training and provision of MI in primary care would be valuable.

Strengths: A methodological strength of this review and meta-analysis was the detailed description of the calculations the authors provided of the effect sizes, including how they accounted for and minimized bias. This lends to the scientific rigour of the analysis. Calculated effect sizes were at a 95% confidence interval, which demonstrated positive effect size differences that favoured the MI intervention compared to control groups being a result of the MI intervention and not of chance. A second strength was the inclusion of discussion on the clinical influence of MI, because even when clients do not completely change their behaviour, small physiologic changes could result that may improve the prevention or course of illness. The overall effect of adapted MI for alcohol use, for example, resulted in a decrease of up to 20 standard drinks per week. Although the client may continue to drink, this significant reduction in alcohol intake could result in a decrease in short and long-term liver and stomach damage. Finally, a discussion of how MI may decrease the social influence of harmful health behaviour was beneficial, because it suggests that changing individual health behaviours could have positive consequences for population health.

Limitations: The sparse description of the search strategy used to locate studies for this review and meta-analysis was a limitation. Additionally, the authors did not include discussion or data on the age and gender demographics of the studies samples. These demographics could be modifying variables and investigated; and although investigating

moderator variables such as practitioner training in MI appeared to be an objective of the meta-analysis, the data pertaining to this was not outlined in enough detail. Inclusion of a table as a supplement or within the body of the paper could have strengthened this review.

Despite these limitations, this meta-analysis provided evidence that adapted MI can be used to change behaviour across a number of health domains with equal efficacy to other evidence based interventions, but in a shorter time. Finally, the inclusion of the effect of MI on clinical and social influences of harmful health behaviour is important to NP practice, because these outcomes could influence physiological and social consequences of chronic disease.

Fourth Critical Annotation

Vasilaki, E. I., Hosier, S. G., & Cox, W. M. (2006). The efficacy of motivational interviewing as a brief intervention for excessive drinking: A meta-analytic review. *Alcohol and Alcoholism, 41*(3), 328-335.

Context and Summary: This literature review and meta-analysis introduces MI as a brief intervention for reducing problem alcohol consumption. The aim was to determine if MI was more efficacious than no treatment or as efficacious as other established interventions in the reduction of alcohol use. The comparative treatments included usual standard of care and brief advice, directive-confrontational counselling, an educational intervention, skill based counselling, and cognitive behavioural treatment. The studies chosen for inclusion were located through literature searches of four databases: Medline, psychINFO, Science Direct, and Ingenta. Searched to identify applicable studies were the MI website bibliography page and the reference lists of two previous meta-analyses (Dunn et al., 2001; Noonan & Moyers, 1997). Twenty-two randomised controlled trials selected for the literature review had data

from 15 of these trials included in the meta-analysis. Alcohol reduction as an outcome was measured and correlated into three categories: a) as a reduction in drinks per day, b) drinks per week, or c) drinks per drinking occasion. The results showed that MI produced the largest effect when compared to the no treatment group, specifically during the first three months following the intervention. The authors concluded that approximately 87 minutes (range 30-120 minutes) of MI intervention was needed to show an effect on alcohol consumption compared to no treatment group. Approximately 53 minutes of MI was required to produce an equal effect to that of 90 minutes of comparison treatments offered for behaviour change.

An additional finding, inadvertently identified by the authors, was that the severity of alcohol use had an influence on the effect of MI. Heavy or low dependent drinkers appeared to respond better than dependent drinkers, meaning those at the lower end of the severity spectrum responded better to the MI intervention. Further, the authors noted that age and gender could influence the efficacy of MI, but more research to substantiate this claim would be beneficial. The literature review and meta-analysis concluded that when MI is used, as a brief intervention to decrease alcohol consumption, it appears to work best when the client is younger, has less severe alcohol misuse, and when they are actively seeking treatment. Proposed was future research to examine the long-term efficacy and cost effectiveness of MI, as well as the influence of demographics and components of MI on health related outcomes.

Content Relevant to NP Practice: The dose of MI needed to effect change was the greatest point of interest for NP's in this review. Fifty-three minutes of MI to produce an effect equal to the effect produced after 90 minutes of other behaviour change interventions was required. There was no discussion, however, on whether the intervention occurred in one session or over a course of sessions, and if so how many sessions were ideal. The researchers

could not prove that MI was more successful in aiding clients to change, only that the change occurred in a shorter amount of time than with the comparison treatments. If MI is more successful, or even if it is equally successful, MI might be a more cost effective behaviour change intervention for use in primary health care. As of yet, there is no definitive answer to the question of cost effectiveness because no best practice has been established regarding the amount and type of education needed to produce proficiency in MI.

Hypothesized were other moderator variables as important predictors of change, such as age, gender, and level of alcohol use. The authors suggested that younger clients are more likely to experience a greater benefit of MI compared to older clients; one explanation could be that older clients may be more physiologically dependent on alcohol than younger alcohol users. Decreasing the intake of alcohol may be more difficult the longer the client practices excessive alcohol consumption. Again, further research is needed to substantiate or discredit this claim.

Vasilaki et al. (2006) found that MI appeared to produce greater effects for clients who were already seeking help for their alcohol use compared to those clients who were not actively seeking help. The authors hypothesized that this could be due to a treatment-seeking client who may be further along the continuum of change than someone not seeking help and, therefore, MI increases an already existing readiness to change. This meta-analysis did not provide evidence to support this hypothesis, but recommended conducting research to explore this theory.

Strengths: This meta-analysis was methodologically strong because details were included on the quality rating of the individual studies and the clearly defined method of effect-size calculations. Clearly demarcated characteristics of the sample in the text and

tables included demographics, level of alcohol use, and type of treatment. Finally, the discussion of MI effects on change as related to levels of alcohol dependency raises important considerations for NP's contemplating the use of MI in primary health care settings.

Limitations: A limitation of this meta-analysis was that Vasilaki et al. (2006) did not discuss measures of the clinical and social influence of alcohol use; they were simply measuring for a decrease in alcohol intake, be it frequency or quantity. Additionally, the authors did not include or discuss details of the type of education the practitioners had in MI, although this information was part of the data of each study. A final limitation was that it was not clear if the MI interventions were single episodes or occurred as a course of treatment. The authors simply listed the total time of the intervention, therefore, it was difficult to grasp what the dose of MI actually was.

Synthesis and Discussion

The four systematic reviews and meta-analyses summarised above provide evidence that MI has statistical and clinical significance for improving physiologic and lifestyle outcome measures for a number of health behaviours. Dose of MI, target behaviours, practitioner training in MI, and the essential components of MI are important themes for NP's to consider in the use of MI. Synthesis of the research related to each of these themes is presented next as is a brief critical analysis of the proposed use of MI in NP practice with Aboriginal clients.

Dose of MI

Dose of MI may be of particular importance when considering NP practice environments. Dose includes elements of individual length of an MI session, frequency of recurrence, and total number of sessions. Current evidence offers no clear indication of the most appropriate

dose of MI needed to prepare clients to change. However, the evidence supports the presence of a positive relationship between dose and effect. As dose of MI increases, the effect on change increases.

NP's have the opportunity for increased frequency of MI sessions with their clients if an established professional relationship continues and is of indefinite duration. However, length of time between return visits will remain variable. The length of time an NP spends with clients at each visit may also create limitations. The MI interventions used in most studies exceeded 60 minutes in duration, while NP appointments with clients typically range only between 15 and 45 minutes (Hayes, 2007). Studies of the effects of short duration MI interventions are unknown. Longer group medical appointments, which can range between 90 and 150 minutes, may offer an opportunity to increase the dose of MI in NP practice. Both short duration interventions and opportunity for MI at group appointments warrant further investigation.

Target Behaviours

MI has shown efficacy for improving direct clinical and social outcomes for health behaviours, such as increasing exercise, decreasing BMI and blood pressure, and reducing the negative personal and societal influences of alcohol abuse, which result in missed days from work and turbulent professional and familial relationships. Based on the review results, MI may operate as a harm reduction intervention. Harm reduction has been defined as "a pragmatic response that focuses on keeping people safe and minimizing death, disease and injury associated with higher risk behaviour, while recognizing that the behaviour may continue despite the risks" (British Columbia Ministry of Health, 2005, p. 4). In addition, practitioners and clients may have different intentions and end-point objectives regarding the

type and amount of change necessary to influence chronic disease. In type 2 diabetes, for example, any amount of weight loss would likely have a positive impact on blood sugar levels; however, current guidelines recommend that an initial weight loss of 5-10% of total body weight is the outcome target for management of obesity in type 2 diabetes (Canadian Diabetes Association, 2008). When a practitioner uses MI to influence behaviours resulting in weight-loss, regardless of the amount, the practitioner contributes to the reduction of harm to the client that results from obesity, even if such changes are un-sustained or end-point targets not achieved. In this instance, MI is a harm reduction intervention.

In the management of substance abuse, the literature shows that MI can result in a decrease in alcohol consumption (Burke et al., 2003). Even if the client continues to drink, reducing the quantity and frequency of consumption decreases the physiological harm caused to the liver and stomach, and possibly minimises the secondary social harm that such behaviour results in for families and communities. MI would be valuable to use by NP's in the clinical environment as a harm reduction intervention when changed behaviours would provide benefit to chronic disease management.

MI has shown efficacy when used as a stand-alone treatment. Rubak et al. (2005) found that use of MI resulted in clients adhering to prescribed medication regimes, which lead to improved health outcomes. Again, using type 2 diabetes as an example, adhering to a prescribed regime of the drug Metformin can result in lowered blood sugars as it assists the body to use insulin more effectively. Effective use of insulin results in increased physical energy and possible weight-loss, which in turn improves the client's physical health and increases motivation to continue with the treatment. MI also helps increase self-efficacy, particularly where clients experience success in attaining self-directed goals. Increased self-

efficacy has a positive effect on mental health and can result in continued motivation for the client.

MI is also an effective adjunct intervention to other behavioural therapies, such as cognitive behavioural therapy (Burke et al., 2003). NP's can refer clients to specialists who offer MI interventions, and incorporating MI into daily primary health care practice can begin the process of change for clients awaiting specialist appointments. Further, NP's can use MI to prepare a client to enter into a more intensive treatment program, such as a metabolic syndrome program or a substance abuse treatment center. When combined with the behaviour change interventions used in the intensive treatment programs, using MI prior to admission improves client participation and outcomes (Hettema et al., 2005). This finding is important to NP's, because working in collaborative relationships with other health care professionals, both from a case management perspective as well as through referrals to specialists, is an important component of NP practice (Bisal, 2008; College of Registered Nurses of British Columbia, 2010).

In this section, MI is described, as a harm reduction intervention, an intervention to aid clients in adhering to prescribed treatment regimes, and an intervention for use prior to entry into intensive treatment programs. In the scenarios described above for management of chronic disease, use of MI differentiates NP work from that of Registered Nurses (RN) because it is within the NP scope of practice to make specialist referrals and prescribe medications (College of Registered Nurses of British Columbia, 2010). Given this extended role and scope of practice of NP's in the management of chronic disease, it is reasonable to conclude that NP's should receive education in MI.

Practitioner Training in MI

Three of the four systematic reviews considered in detail above focus on the field of psychology and involve MI practitioners specializing in psychology (Burke et al., 2003; Hettema et al., 2005; Vasilaki et al., 2006). While nurses and general medical practitioners are identified, it is unclear in which setting they applied MI interventions. Questions arise about the effectiveness of MI when delivered by practitioners not specialized in psychology and about what level of further education may be required for those not specialized in psychology. Given the link between health behaviours and improved health outcomes, master's degree prepared NP's with advanced education and practice skills would seem a potentially suitable option for delivery of MI.

The effectiveness of NP's delivering MI will require further study, but MI education could be included in NP curricula immediately. There are no clear recommendations of best practices for educating health care practitioners in MI. Research suggests that expert led, didactic style, two day educational workshop sessions have proven successful in educating practitioners in MI (Hettema et al., 2005). Self guided education programs that use print and video media to teach the techniques of MI, without requiring attendance at formal training sessions, are also likely to be effective (Hettema et al.). Both of these educational approaches need to have follow-up with mentorship sessions, either in person or by telephone, with a certified MI trainer, in order to consolidate the MI education and support the novice practitioner requires (Hettema et al). What is not yet apparent in the literature is whether MI training for NP's is cost effective relative to clinical effects, or if it is more economical to invest educational dollars in other behaviour change interventions for use in primary health care.

Essential Components of MI

Each of the four systematic reviews above contained detailed discussion of the different components of MI. There are no definite conclusions in the systematic reviews explaining which components are essential for preparing clients to change. Miller and Rose (2009) grouped elements of MI into technical or relational categories. On a theoretical level, aspects of both categories seem essential to successful MI intervention. The technical category includes the communication skills the practitioner uses to direct clients to explore their values and goals, such as using open ended questions and reflective listening. The relational category operates to create the environment in which the practitioner builds a relationship with the client, including: being client centered, practicing genuine empathy, and behaving authentically in order to promote a relationship of equality. These relational components have also been identified as forming the philosophic approach of MI (Miller & Rose, 2009). Despite the lack of empirical evidence about which components of MI are essential and most effective in assisting people with change, the data indicate that MI does result in positive lifestyle behaviour change and should be considered an influential clinical tool for use by NP's in primary health care.

Exploring the Use of MI in NP Practice

It is hypothesized that MI can be used successfully in primary health care appointments with Aboriginal clients. Although untested, aligned with this hypothesis are conceptual elements of the philosophic approach of MI that parallel three Aboriginal concepts of health. This section presents a discussion of this compatibility and highlights important concepts relevant to NP's in practice. The significance of addressing health behaviours with Aboriginal clients rests in the disproportionate burden of illness present in Aboriginal

populations. Partnering with clients to assist them to recognize and change personal behaviours that negatively affect health is one way NP's can work with Aboriginal clients to reduce this burden of illness. Further, by practicing MI, NP's can positively influence both acute and chronic health outcomes within this population because MI use can lead to improved access to health care, as well as improved design and receptiveness to supportive treatment plans.

Various studies have focused on the experiences of Aboriginal people within the Canadian health care system. They indicated that negative and un-informed attitudes of health care providers, as well as lack of culturally appropriate interventions, have had detrimental effects on access to health care for many Aboriginal peoples (Browne, 2005; Browne & Fiske, 2001; First Nations Summit Society, 2002; Kendall, 2009). These attitudes and culturally inappropriate interventions arise, in part, from differing worldviews of the health care provider and the Aboriginal client as they interact. Health care practices are improved if attention to reconciling and understanding these worldviews is undertaken. Improved understanding requires adopting a relational premise of MI that requires practitioners to focus on a relationship that places control with the client. Locating control in the domain of the client offers the Aboriginal person the opportunity to engage more easily in health care delivery systems that are typically highly structured and inflexible. A discussion of the contrast between worldviews of health care providers and Aboriginal people follows next.

Differing Worldviews

A worldview is how a person perceives and interprets the world (Archibald, 2006). A person's worldview is a combination of "belief systems, decision making strategies, models

of problem solving, assumptions about how problems arise, and how change occurs" (McCormick, 1996, p. 164). The western and Aboriginal concepts of health can clash, because the underlying worldviews are grounded in opposing beliefs and values.

Without generalizing for all Aboriginal peoples, an Aboriginal worldview defines health as "a matter of balance and harmony within the self and with others, sustained and ordered by spiritual law and the bounty of Mother Earth . . . with equal emphasis to the physical, spiritual, mental and emotional aspects of the person" (Hylton, 2002, p. 6). Fundamental constructs of health within the Aboriginal worldview are interconnectedness, balance, and respect (Bopp, Bopp, & Lane, 1984). Aboriginal worldview is holistic, cyclical, and subjective, valuing "process as opposed to product" (Little Bear, 2000, p. 78). Living a healthy life is the goal, not keeping illness at bay. Further, wellness is believed to come from within, whereby the person is responsible for managing their health, not the practitioner.

Current western concepts of health are largely informed by a biomedical model (Hylton, 2002; Proctor, 1993; Waldram, Herring, & Young, 2006). The current biomedical model is founded on germ theory that purported "illnesses are caused by specific germs or other causal agents" which initiate outside the body (Proctor, 1993, p. 50). Knowledge sought through the lens of the biomedical model tends to be linear, objective, and fragmented with disease recognition and treatment being the goal (Hylton, 2002; Little Bear, 2000). This model is often operationalized as a health care delivery system that is both paternalistic and hierarchical with physicians regarded as experts leading top down approaches (Raphael, Bryant, & Rioux, 2006). Access to and navigation through the system is governed by a set of rules with the provider, most often a physician, at its centre. To gain entry into the system, a person presents with a symptom to a physician. The physician deduces the cause of the

symptom and prescribes treatment that, if followed, should resolve the underlying cause of the illness (Hunter, Logan, Barton, & Goulet, 2004). The system of health care delivery that follows a biomedical model creates policies, organizational structures, and programs that focus on keeping illness at bay rather than fostering health. In focusing on illness, current philosophical values of the biomedical model take away client autonomy and erect barriers to care (Browne & Fiske, 2001; Heller, McCoy, & Cunningham, 2004; Pauly, 2008; Smye & Mussell, 2001).

The current Canadian health care system remains heavily influenced by a biomedical model. The body, mind, emotional, and spiritual dimensions or realms of a person are often not addressed simultaneously, but are compartmentalized into organizational silos (Kendall, 2009; Reading & Wien, 2009; Venner, Feldstein, & Tafoya, 2007). Physical health, or how health relates to the body, is the aspect commonly identified within mainstream health care; physical symptoms are evaluated, testing is ordered, a diagnosis is given, and treatment is prescribed. This same process is utilized when symptoms affect the mind or emotional aspects of the client, however, the client will most likely be referred into the mental health stream of the system, which is a separate silo. When a person's concept of health is based in beliefs that all things are interconnected, accessing a health care system that fragments the body, mind, emotions, and spirit and compartmentalizes approaches to wellness may produce suboptimal results.

NP's advanced education prepares them for practice within the biomedical model (College of Registered Nurses of British Columbia, 2008), however, nursing also values holistic and individually focused approaches to health care delivery with emphasis on individual experiences and relational practices to promote health, wellbeing, choice, and

individual dignity (Canadian Nurses Association, 2002). NP's more easily offer a bridge between biomedical models and more holistic or alternate understandings of health and wellness. Principles of MI and its intervention components provide increased opportunity to understand and accept alternate worldviews in ways that reflect effective NP practices that in turn contribute to successful client relationships, relevant goals achievement, and deeper understandings.

Interconnectedness

Aboriginal worldview embraces the tenet of interconnectedness (Bopp et al., 1984; Chansonneuve, 2007; Ermine, 1995; Hylton, 2002; McCormick, 1996). Chansonneuve defined interconnectedness as encompassing "the past, present and future, people and all of creation, individuals and their families, communities and nations, and within each person the body, mind, heart and spirit" (p. 13). The relational components of MI are consistent with concepts of interconnectedness, autonomy, and empathy. MI principles of being client centred and utilizing genuine empathy creates a safe environment in which a client and practitioner interact, connect, and work together as equals to foster change.

When entering into a therapeutic relationship with a client, it is important to explore the social, cultural, and family influences of the client (Reading & Wien, 2009). These influences are important determinants of health that are integrated, and shape how a client thinks and acts. Looking at determinants of health can often provide a practitioner with an explanation as to why a client is ill or what needs to change to encourage wellness. My nursing experience suggests that Aboriginal interconnectedness to family and culture often transcends generations. There is an abundance of literature discussing how residential schools continue to influence the health of Aboriginal peoples, today. If health care

practitioners are to engage with Aboriginal clients and work, to improve health outcomes, practitioners must deeply understand the Canadian historical and current socio-political influences on health. Chansonneuve (2007) asked: "How can you have empathy for people without an understanding of the issues that brought that person to you for help in the first place, and the impact on them or their family?" (p. 5). Such a question has profound importance for health care professionals caring for and providing services to Aboriginal Canadians.

Balance

Balance is central to the concepts of Aboriginal health (Little Bear, 2000; Malloch, 1989; McCormick, 1996; Poonwassie & Charter, 2001; Waldram et al., 2006). A person must be balanced in their mind, body, spirit, and emotions to be healthy. When one or more of these realms is out of balance, illness or 'dis-ease' ensues (Hunter, Logan, Goulet, & Barton, 2006). NP's can assist clients in exploring aspects of self that might be out of balance. MI skills focus on finding discrepancy between goals and current behaviours, in order to offer the person a discrepancy assessment and assist the person to find areas of imbalance in their beliefs about health and wellness. MI techniques offer methods of finding imbalance within understandings of health. Where personal behaviours are believed or known to improve wellness, creating awareness within the client of his or her imbalance might assist in discrepancy recognition; and, when followed with change talk, can provide opportunities for personal change and improved wellness.

Balance can be located in the power relationships within practitioner-client dyads. Aboriginal conceptions of health reveal that one must be balanced in their relationships to their family and community (Chansonneuve, 2007). This view contrasts with the power

dynamic evidenced in traditional health care provider dichotomies underpinned by biomedical models. In biomedical models, the health care provider is favoured as the expert who holds the balance of power and responsibility in the health care relationship (Adelson, 2005; Browne, 2005; Browne & Fiske, 2001; Browne & Varcoe, 2006; Hylton, 2002; Miller & Rollnick, 2002).

The hierarchy evident in the practice and structure of health care delivery systems in North America has been likened to the patriarchal system of colonialism (Adelson, 2005). Colonialism is often cited as the cause of historic and continued marginalization of Aboriginal peoples in Canada (Assembly of First Nations/First Nations Information Governance Committee, 2007; Kelm, 1998). The philosophic approach of MI reveals the power balance between the practitioner and client favours the client, who is considered the expert (Miller & Rollnick, 2002). Therefore, primary health care appointments utilizing MI might be an effective intervention for use with Aboriginal clients. I propose that MI is a culturally appropriate intervention that emphasizes improving balance in the provider-client relationship and increasing respect for the Aboriginal client through a power structure that favours the client (Venner et al., 2007).

Respect

Respect is the final component of Aboriginal concepts of health discussed. Smylie (2001) created a clinical practice guideline for practitioners to use when providing care with Aboriginal clients. First, it was recommended that practitioners recognize respect as a "cornerstone of many Aboriginal philosophies" and that mutual respect is a necessary ingredient of all health care encounters (Smylie, p. 2). Browne (1995) explored the meaning of respect from an Aboriginal perspective based on interactions with health care providers.

Browne (1995) defined respect as "an interrelationship that recognizes the freedom of choice, inherent worth and essential equality of all persons" (p. 97). From her research, eight themes were identified that, when practiced by health care providers, translate into clients feeling respected. These themes are identified as the capacity to treat people as inherently worthy and equal in principle, acceptance of others, willingness to listen actively to patients, genuine attempts to understand patients and the unique situation of each, attempt to provide adequate explanations, and sincerity during interactions. They are consistent with MI tenets of autonomy and empathy, and the values of choice and dignity as outlined in the *Code of Ethics for Registered Nurses* (Canadian Nurses Association, 2002) that govern NP's in practice, suggesting that MI promotes the respect of clients while encouraging ethical practices.

Practicing in a manner that attends to Aboriginal health beliefs can be interpreted as respectful behaviour. Mussell, Cardiff & White (2004) write that when health care providers express respectful behaviour it "honours the wholeness of a person and acknowledges the significance of his or her life experience, self-knowledge, ability to change and uniqueness as a human being" (p. 12). If NP's practice in a manner consistent with Aboriginal concepts of respect, it will likely result in increased self-esteem for the client and positively influence self-efficacy. Under MI theory, increased self-efficacy is a necessary ingredient to successful movement through a continuum of change.

Despite finding many complementary and parallel principles between MI and Aboriginal concepts of health, the notion that an NP can influence client health behaviour through use of MI holds some contradictions. MI is an intervention designed for, focusing upon, and emphasizing implementation with individual persons and does not directly incorporate

important external factors, like community, into its methods. In this respect, MI presents some incongruence with Aboriginal worldviews insofar as MI does not clearly incorporate interconnectedness of self with community and environment to promote the greatest healing (McCormick, 1996; Smye & Mussell, 2001). However, notwithstanding this shortcoming, the philosophic approach, principles, and components of MI find significant overlap with at least three significant Aboriginal concepts of health and thereby offer NP's and Aboriginal clients a clinical tool to promoting change.

Limitations of the Research

All four of the systematic reviews annotated and evaluated in this paper included similar observations about the limitations of research regarding the efficacy of MI. The authors proposed that the research was difficult to disseminate for general use outside of the addictions field, due to heterogeneity among the studies, including the assessment tools used, strength of trials, and fidelity to set MI methods (Burke et al., 2003; Hettema et al., 2005; Rubak et al., 2005). With these limitations, they indicated that additional research is required to ascertain the dosage of MI needed to effect change amongst a range of health behaviours (Burke et al., 2003; Rubak et al., 2005; Vasilaki et al., 2006). In addition, researchers are encouraged to study the components of MI to determine which are essential and most responsible for behaviour change. Research to determine the necessary level of education for MI practitioners, essentials skills required to conduct this intervention, cost effectiveness, and ways to best offer practitioner education and support implementation of MI in practice were all recommended (Burke et al., 2003; Rubak et al., 2005). As an intervention, the efficacy of MI is unknown when applied by NP's working with Aboriginal populations in Canada. Modifications to dosage and delivery, as well as the recognition of overlapping MI concepts

with Aboriginal wellness concepts, such as interconnectedness, are areas where further research would be beneficial.

Implications for Nurse Practitioners

New approaches to behaviour change interventions and to client-practitioner relationship in the current health care system that more fully recognize client centeredness and concepts of Aboriginal health and wellness will improve health outcomes for Aboriginal clients. Proponents of MI suggest that MI as a theoretical framework, and the philosophic approach of MI, could be this new approach. Conducting a literature review and using critical reflection to examine MI and three Aboriginal concepts of health, I propose a number of implications for NP's. First, gaps exist in the literature about the effectiveness of MI on a broader range of identifiable population groups, including Aboriginal groups, and more research must be undertaken with a goal to understanding if MI can be successful in assisting health behaviour changes for more population subgroups. Testing the hypothesis that MI can influence health behaviours in primary health care settings is necessary in order to determine if MI is a cost effective intervention for use by NP's in familiar and alternate practice structures. In particular, studies are needed to examine the use of MI by NP's that explore questions related to MI technique changes, appropriate dose, repetition, and appointment structures when working with Aboriginal peoples living in Canada.

Health care interactions between NP's and Aboriginal clients may be enhanced by a focus on the nursing profession and holistic values of choice and dignity; and through a power and control shift in favour of the client consistent with MI theory. NP's and health care providers in general must reflect upon traditional roles as experts in health. Autonomy is

a fundamental value of nursing (Canadian Nurses Association, 2002) and essential to behaviour change. The holistic values of the nursing profession, particularly choice and dignity must remain at the forefront of nursing's vision. In the words of Poonwassie and Charter (2001), health care providers "must be prepared to relinquish control and learn, understand and accept realities and worldviews other than their own" (p. 70).

NP's must learn about the local context of the population in which they provide service. To authentically practice empathy, one must have an understanding of the social and cultural influences and beliefs of their clients (Chansonneuve, 2007). As NP's, we must be reflective in our practice and be able to recognize and reconcile colonial attitudes, behaviours, policies, and practices within ourselves, the health care system, and society as a whole. NP's can be advocates who create awareness in the medical community about how past trauma can affect the prevalence of episodic and chronic health conditions (Venner et al., 2007).

Conclusion

In summary, the goal of this paper was to examine and evaluate four systematic reviews with meta-analyses for evidence related to the use of MI by NP's with Aboriginal clients. MI is an intervention of interest to NPs because helping clients manage their health behaviours is a proven determinant of health. Minimal literature to support the use of MI by NP's with aboriginal clients for influencing health behaviour change in the context of primary health care appointments was found. Critical reflection suggests that NP's can use MI successfully with Aboriginal clients because MI offers holistic, client-centred approaches to behaviour change that mirror client interpretations consistent with Aboriginal concepts of health, such as interconnectedness, balance, and respect. MI offers an example of an intervention that provides consistency with Aboriginal worldviews, and concepts of health and wellness. NP's

are able to implement MI in primary health care, particularly because of their holistic views of health and wellness. These nursing views are congruent with MI principles and techniques, and offer NP's in practice an opportunity to recognize alternate understandings of health and to shift traditional power dynamics between provider and client to favour the client.

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