

# Development of a Culturally Tailored Motivational Interviewing-Based Intervention to Improve Medication Adherence in South Asian Patients

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**Background:** South Asians (SAs) are among the fastest growing ethnic population in Western countries and have a higher risk of cardiovascular diseases relative to the general population. SAs living in Canada also have poorer adherence to medical regimens for treating cardiovascular disease, relative to other ethnic groups. Motivational interviewing (MI) maybe effective in improving health-related behaviour change in patients; however, the research is nascent on the effectiveness of MI in SAs and may also require cultural adaptation.

**Aim:** To develop a culturally tailored MI-based intervention to improve medication adherence in hypertensive SA patients living in Canada.

**Methods:** Previous literature about medication adherence in SAs was reviewed, along with transcripts and responses to open-ended survey questions from our previous studies with SAs, to draft an MI intervention manual. The manual received extensive feedback from the study team, SA community members and health-care providers who work with SA patients. The feedback was used to refine the manual and make it culturally tailored and relevant to SA hypertensive patients living in Canada.

**Results:** A culturally tailored MI-based manual which we called a “motivational communication manual” was developed to support a study focused on improving medication adherence in SA hypertensive patients. The development process, components (eg, being culturally sensitive, family involvement, providing education about medications, reminders, etc.) and cultural nuances included in the manual are described in this paper.

**Conclusion:** This is the first culturally tailored MI-based intervention manual that has been developed with the aim of improving medication adherence in hypertensive SA patients and that includes direct feedback from SA community members. Use of this manual may improve the accessibility and adoption of MI-based practices in improving health behaviours in SAs living in Canada as well as encourage further research studies and clinical trials with SA patients.

**Keywords:** motivational interviewing, medication adherence, South Asians, ethnicity, hypertension

## Introduction

South Asians (SAs; Indian, Pakistani, Bangladeshi, Nepali, Sri Lankan) are among Canada’s largest and most rapidly growing ethnic groups, accounting for approximately 25% of the total visible minority population and 5% of Canada’s total population.<sup>1</sup> Visible minorities in Canada are described as “persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour”, and

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consist mainly of South Asian, Chinese, Black, Filipino, Latin American. Cardiovascular disease, to which coronary artery disease (CAD) is a major contributor, is arguably one of SA's most pressing chronic diseases worldwide.<sup>2-4</sup> Persons of SA origin have greater morbidity from CAD and typically develop CAD approximately 10 years earlier than their white counterparts.<sup>5-8</sup>

SAs' management of chronic CAD is also worse than the general population. SAs are less likely to follow a heart-healthy diet, participate in exercise programs, or achieve glucose, blood pressure and lipid targets.<sup>9-11</sup> SA cardiac patients also have significant challenges with medication adherence. Studies have suggested poor adoption of heart-healthy behaviours such as medication adherence by SAs,<sup>12,13</sup> with 30% of SAs being non-adherent to cardiac medications compared to 15% in the general population.<sup>14</sup> Studies have also identified specific barriers that may contribute to medication non-adherence (eg, medication side-effects, cost, forgetfulness, higher frequency of dosing, language-barriers) in this group,<sup>2-4</sup> although these barriers may also apply to the general population.<sup>15</sup> Therefore, a patient-centred, culturally tailored approach to chronic CAD management that improves motivation to engage in heart-healthy behaviours is needed to close this substantial gap. Although not all barriers are motivational in nature, improving a patient's motivation and invoking their reasons for change can help them prioritize heart-healthy behaviours.

Motivational interviewing (MI) is a collaborative, person-centred form of guiding to elicit and strengthen motivation for change by evoking an individual's own reasons for change, working through ambivalence and perceived barriers to behaviour modifications, as well as fostering self-efficacy.<sup>16</sup> The key MI strategies to develop discrepancy and evoke commitment to change include the following: 1) asking permission (soliciting patient's permission before sharing information), 2) reflective listening, 3) using open-ended questions, 4) eliciting response, 5) providing affirmations, 6) working with a scale (a rating scale used to help quantify the patient's readiness to improve their condition) and 7) summarizing. MI has been shown to be effective in enhancing health-behaviour change in several patient populations, including patients with coronary risk factors.<sup>17</sup> A review of 72 clinical trials using MI suggests that MI is more effective with minority populations than it was with white populations,<sup>18</sup> although the reasons for this were not determined. In addition, a recent review<sup>19</sup> showed that MI, especially when culturally adapted is generally effective in

promoting behaviour change in ethnic groups. Culturally adapted interventions are tailored to patients' norms, beliefs, values, language and literacy skills.<sup>20,21</sup> Most ethnic participants in the included studies also reported acceptance of MI-based interventions. Only one study examined MI in SA patients and revealed that MI was an effective intervention in enhancing smoking cessation.<sup>22</sup> MI has never been examined in SA cardiac patients, thus, suggesting a strong need to examine the potential effectiveness and acceptability of MI in the SA cardiac population, especially when the intervention is culturally adapted.

The aim of this project was to work in partnership with SA participants as well as health-care providers who work with SA patients to develop a culturally sensitive MI-based intervention manual to improve medication adherence in hypertensive SA patients. We chose hypertensive patients because hypertension is a major risk factor for cardiovascular disease. SAs also have high incidence and poor control of hypertension.<sup>23</sup> In addition, SAs are known to experience greater side-effects (especially cough) of blood pressure medications compared to people of other ethnicities.<sup>24</sup> In this paper, we describe how the MI-based intervention manual was developed and adapted to the cultural nuances of SA hypertension patients based on existing literature and qualitative data collected by our research group during previous studies with SAs.

## Methods

### Manual Development

The initial version of the manual was developed by first reviewing the existing literature on medication adherence in SAs.<sup>25-27</sup> In addition, previous qualitative data collected during hundreds of hours of interviews for research studies conducted by our group (PhD-trained researchers, including a psychologist and nurse, as well as a SA community member) with SA cardiac patients were used in developing and culturally tailoring this manual.<sup>28</sup> We interrogated previously collected qualitative interviews (n=64), focus groups (n=18 participants) and responses to open-ended survey questions (n=900) from SA cardiac patients to identify potential motivators and detractors of medication adherence.<sup>13,34</sup> These motivators and detractors are listed in [Table 1](#).

We used the literature, data from previous studies (as identified above), as well as feedback received from our research group regarding individual motivators and detractors and the best ways of incorporating them into an intervention manual to draft a culturally tailored MI-based

**Table 1** Potential Motivators and Detractors for Medication Adherence in South Asians

Motivators	Detractors
Obedying the doctor	Poor relationship with doctor (poor communication)
Staying well for family	Lack of trust in medication
Religious obligation	Sense of fatalism (God has put this in my hands)
Understanding the medication	Fear of medications
Having money/insurance	Medication side effects
Keeping time on “my side” (I am so young)	Lack of trust of health-care providers
Staying healthy and avoiding future problems	Inconvenience/busy schedule (too much work to remember)
Having a positive relationship with the health-care providers	Absence of knowing if medication is missed (ie, not noticed)
Ease of use	Not getting expected benefits
Fear of another event	

manual. In addition, we propose that “time orientation” is an aspect of health behaviour among SA patients and was used as a guide to develop the manual. Time orientation is a cultural preference toward past, present, or future thinking. Time orientation affects the way a culture values time and the extent to which people believe they can control time.<sup>35</sup> The manual also included components of the COM-B model of behaviour change<sup>17</sup> and the Four Habits model.<sup>18</sup> The COM-B model recognizes that behaviour is based on the interaction of capability, opportunity, motivation and behaviour (COM-B).<sup>36</sup> According to the COM-B model, behaviour change interventions must change one or more of the components of COM-B. The Four Habits model describes effective medical interviewing skills and its inter-dependent components are: (1) invest in the beginning, (2) elicit the patient’s perspective, (3) demonstrate empathy and (4) invest in the end.<sup>37</sup>

### Seeking Feedback to Refine the Manual

After creating the first draft of the manual, it was sent out to the study team to receive extensive feedback regarding its pragmatic value and cultural-acceptability of the approach. We also received feedback on the motivators and detractors from members of the SA community members (n=9) and family physicians (n=3) who worked with SA patients. A sample feedback form is shown in [Figure 1](#). Based on the feedback received, the manual was further refined after which it was sent out to family physicians (n=3) who work with SA patients to receive extensive feedback.

Inclusion criteria for SA community members (non-health-care professionals) included: adult ( $\geq 18$  years), community-dwelling man or woman who self-reported their ethnicity as SA; who spoke English, Punjabi or Hindi (the most frequently spoken SA languages in Canada<sup>1</sup>). Inclusion criteria for health-care professionals included: community health professional who worked with SA patients and who spoke English, Punjabi or Hindi. The manual was further refined using the feedback received to make it appropriate and culturally tailored in order to improve medication adherence in hypertensive SA patients.

Since there were no participants enrolled for the manual development process, approval by an institutional review board or ethics committee was not required.

## Results

A culturally tailored MI-based manual which we titled the “motivational communication (MC) manual” was developed to address the effectiveness of MI-based approaches for improving medication adherence in SA hypertension patients. Based on the feedback we received, many cultural nuances were included in the intervention manual which are described below.

### Cultural Nuances Incorporated into the Manual

SA culture is generally a “collectivist culture” rather than an “individualistic culture” and family and community is considered a very important part in the life of SAs.<sup>29,38,39</sup> Central to the SA culture is the desire and commitment to be there for and care for their families (parents, grandparents, children, close relatives).<sup>38</sup> Often, family members are involved in SA patients’ health management and play a role in the patient’s decision to take their medications.<sup>29</sup> Supportive family members have also been shown to improve medication adherence in SA patients by encouraging and reminding patients to take their medications, translating medical information for them and providing them transport to the pharmacy/getting medications for them.<sup>29,38,39</sup> Therefore, it is helpful to become familiar with the participant’s unique family history and responsibilities. Not only can this build rapport, it can also be used to elicit confidence/change talk by invoking family reasons for taking medications. In a similar way, becoming familiar with the participant’s community responsibilities and the role of community in their life and

*Background:* From our previous studies, we identified several factors which could act as motivators or detractors for South Asian patients to adhering to cardiac medications. After receiving feedback regarding the ‘cultural acceptability’ of the identified factors from South Asians and healthcare professionals who work with South Asians, we aim to incorporate these factors into motivational communication strategies to tailor them specifically for enhancing medication adherence among South Asians.

*Instructions:* In the space provided below each item, please provide your feedback regarding the cultural acceptability of including the following motivators and detractors into motivational communication strategies for enhancing South Asians’ medication adherence. If required, there is additional space at the end to provide general/overall feedback.

**MOTIVATORS:**

1) Obeying the doctor

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2) Staying well for family

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3) Religious obligation

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4) Understanding the medication

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5) Having money/insurance

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6) Keeping time on ‘my side’ (I’m so young)

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7) Staying healthy and avoiding future problems

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8) Having a positive relationship with the healthcare providers

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9) Ease of use

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10) Fear of another event

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**DETRACTORS:**

1) Medication side effects

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2) Poor relationship with doctor (poor communication)

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3) Lack of trust of healthcare providers

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4) Lack of trust in medication

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**Figure 1** Continued.

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5) Sense of fatalism (God has put this in my hands)

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6) Fear of medications

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7) Inconvenience/busy schedule (too much work to remember)

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8) Absence of knowing if medication is missed (i.e., not noticed)

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9) Not getting expected benefits

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**Additional Comments/Notes:**

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**Figure 1** Feedback form to test the cultural acceptability of motivators and detractors to medication adherence.

use this information to steer the participant towards change talk.

SAs have been shown to have lower understanding of cardiovascular diseases and of the medications prescribed to treat them.<sup>25</sup> SA patients' medication adherence is enhanced when they have a better understanding and knowledge about their medications.<sup>26,32,33,40</sup> Therefore, the role of increasing patient's knowledge can be crucial to improving medication adherence. This is achieved in the manual by testing patient's knowledge about their medications and providing them general information (as needed) about their medications in a patient-centred manner.

SAs also tend to have a present-fatalistic orientation (what one does today would not necessarily influence any future outcomes) rather than a future orientation that is often associated with health-care provision (eg, if you do this today, then that will happen tomorrow) (unpublished data). Thus, it is important that rather than examining the problems their condition has caused in the past or the future benefits of taking medications as prescribed, more

emphasis is placed on the present consequences of their behaviour. For example, invoking a desire to care for their family or being there for their grandchildren in the present could potentially lead to a positive behaviour change in SA patients.

Use of a culturally sensitive greeting (Hello, Namaste, Sat Sri Akal, etc.) when meeting with the SA participant was also suggested in order to build rapport with patients. Handshakes, especially with older participants were suggested only when initiated by the participant. Further, initiating a handshake with participants of the opposite sex were also cautioned, unless initiated by the participant. Moreover, religion can be an important part in the lives of many SAs<sup>6,7</sup>. Therefore, it is important to ask participants about the impact of their religion in influencing their decision to take their medications. The response can be used by the interviewer to further guide change talk. An example of a question which can be used by the researcher using a 5-point Likert scale is described in [Box 1](#).

SAs often tend to use traditional herbal remedies along with their medications, and in some cases, prefer them

### Box 1 General Recommendation for Using MI-Based Approaches with Hypertensive South Asian Patients

- Use greeting to build rapport. Use a culturally sensitive greeting (Hello, Namaste, Sat Sri Akal, etc.) when meeting with the participant. Handshake (especially with older participants) only if the participant initiates. However, avoid handshakes with participants of opposite sex unless the participant extends the hand themselves. Sustained eye contact is also not recommended.
- It is important to understand the participant's concerns about medications rather than explaining the benefits of the medications to them. Some particular concerns may be: It is helpful to acknowledge that it is normal to have concerns/fears/apprehensions regarding medications.
- Regularly test participant comprehension by asking them to repeat what the interviewer has summarized. Example: their reasons for taking medications, their motivators and the steps they will take to adhere to their medications.
- Also, before offering any suggestions, ask permission first. Only proceed if the participant says yes.
- Note: Only discuss blood pressure medications. It is okay for the participants to talk about other medications that they are currently taking or took in the past. However, only use this information to identify the participant's motivators and detractors and use the information for reflections during the session. However, do not go into detail into other medications. If the participant starts talking about different medications, redirect them towards the target behaviour. Example: Perhaps it would be more beneficial to you to talk about XYZ medications with your doctor or pharmacist as they can provide you better information on them.
- If the participant agrees to proceed, thank them. Ask them if they have any questions before starting.
- Discuss treatment goals and express respect towards alternative healing practices, as these can be culturally driven.
- Compliment participants on efforts to adhere to their medications.
- Use open-ended questions to explore the participant's perspective.
- The interviewer's role in goal setting is to facilitate the participant's planning and problem-solving by asking about strategies that the participant thinks may be helpful. Although the interviewer may ask guiding questions (eg, "What has worked for you in the past?"), no direct advice regarding strategies for change would be provided by the interviewer without participant's prior permission. In addition, the interviewer will not talk about medication dose, etc. Rather, the interviewer will ask the participant to talk with their doctor or pharmacist if they have medication-specific questions, should it come up in the interview.
- When appropriate, use a 5-point Likert scale to examine how various factors can affect patient's desire/ability to adhere to their medications. For example:

Do religious obligations and beliefs influence your desire/decision to take your medications as prescribed?

1	2	3	4	5
Not at all	Not much	Neutral/Undecided	Somewhat	Very much

If the answer is either 4 or 5, a follow up question can be asked by the researcher. For example, we asked: In what ways can your high blood pressure affect your ability to fulfil your religious obligations and duties in the future?

over the medications they have been prescribed.<sup>27</sup> SAs also experience greater side-effects (especially cough) of blood pressure medications compared to people of other ethnicities, which can contribute to non-adherence.<sup>24</sup> Therefore, understanding patients' concerns and asking them how they can best manage the conflict between traditional medicines and Western medicines, especially when they experience medication side effects could contribute to improved medication adherence.

Convenience of and having reminders to take medications can also play a critical role in enhancing medication adherence. SAs often prefer to get their medication from pharmacies which are conveniently located for them to visit, where the pharmacist can speak to them in the same language as theirs and remain non-judgmental regarding their non-adherence.<sup>29</sup> Setting reminders (eg, taking medicines after shower, praying, etc.) and writing schedule on the medication vials in their native language has also been shown to help SA patients adhere to their medications better.<sup>29</sup> These considerations were included in the form of suggestions which can be provided to SA patients if their lower rate of medication adherence is due to these factors. Some general recommendations for using MI-based approaches with hypertensive SA patients were also included in the intervention manual (Box 1).

## Discussion

We developed a culturally sensitive motivational communication manual for improving medication adherence in SA patients. The intervention manual is available upon request following publication. Constructing the motivational communication manual involved incorporating components from previous research<sup>25</sup> as well as extensive feedback from the study team, SA community members and health-care providers who work with SA patients. It is important to note that this manual is intended to be used as a guideline rather than a script, emphasizing maintenance of the spirit of MI during the sessions rather than using rote questions and responses, while still being culturally sensitive. In particular, it seems important to not assume stereotypes of SAs, but rather to approach each person as an individual with their own set of beliefs and practices.

Some previous studies have determined that the effectiveness of MI-based interventions is enhanced when the cultural differences of the participants are acknowledged and the intervention is culturally adapted.<sup>19,41-45</sup> The one study which examined MI in SA populations did not use a

culturally tailored MI intervention, even though the study yielded positive results after an MI intervention.<sup>22</sup> While a pure MI-based approach may work in SA patients, we speculate that making the components of the MI-based approach more culturally tailored could have an enhanced effect on the acceptability of the intervention among SA patients and may even increase the effectiveness of the MI-based intervention.

This motivational communication manual provides guidelines to researchers, counselors and health-care providers to apply MI in a culturally appropriate manner to SA patients. Care should be taken, however, to avoid cultural stereotypes and proceeding with attention to individual differences. Scientific evaluations of the effectiveness of this adapted version of MI-based intervention will provide more guidance for further adaptations for SA and other diverse populations.

Although this manual has been tailored to hypertensive patients, we believe that the components of this manual can be applied to improving medication adherence for other related conditions in SA patients (diabetes, hypercholesterolemia, etc.). This is because we expect the drivers of medication adherence to be relatively consistent across different conditions. Our research team is currently conducting a pilot study examining the efficacy of this MC manual in improving medication adherence in hypertensive SA patients. Further work needs to be done to develop a comprehensive understanding on the effectiveness of culturally tailored MI-based interventions in SA patients. As SAs have a greater risk of CAD compared to the general population along with a poor management of CAD, this manual has the potential to contribute towards improving health outcomes in SA patients with CAD.

## Limitations

Though this is the first MI-based intervention manual developed for hypertensive SA patients to improve their medication adherence, there are a few potential limitations. As this manual is developed specifically for hypertension, it may not be completely applicable to other health conditions without modifications. It is also possible that this culturally tailored manual may not be completely relevant to second and third-generation SAs in western countries. The manual may also not be applicable to all SA patients as SAs (like most all ethnic groups) are a diverse group of people with variability in their cultures. In addition, as our pilot test is ongoing, the efficacy of this intervention manual has not been established yet. In addition, further changes to this

manual are possible based on the feedback received from participants in the pilot study.

## Conclusion

A culturally tailored MC manual developed using direct feedback from SA community members and health-care providers who work with SA patients can be adapted and used to improve health behaviours and conducting research studies with SAs while being culturally sensitive.

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## Disclosure

There is no conflict of interest to declare.

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