Gender differences in motivations and perceived effects of Mind–Body Therapy (MBT) practice and views on integrative cardiac rehabilitation among acute coronary syndrome patients: Why do women use MBT?

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Summary
Background: Over one-third of cardiac patients practice Mind–Body Therapy (MBT), particularly women. Considering women are less likely to engage in conventional physical activity, few studies have examined why MBT is well-accepted by women.
Objectives: To qualitatively explore gender differences in the motivations for, and perceived effects of MBT, and the inter-relationships among alternative and conventional physical activities and secondary prevention programs.
Methods: A random subsample of 16 participants (8 female) who reported practicing MBT in a larger study of 661 cardiac patients was interviewed until theme saturation was achieved. Audiotapes were transcribed and coded based on interpretive–descriptive technique within Nvivo-7 software. An audit trail and second coder were utilized to ensure the transparency and validity of results. After main themes emerged, the data were split by gender to identify differences for each theme.
Results: Five themes emerged: (1) promotes positive well-being, (2) physical health benefits, (3) intrinsic and extrinsic motivations, (4) proactive health orientation, and (5) MBT as a preferred complementary and/or alternative physical activity. Men more often expressed preference for MBT for increased positive mood and cardiac-specific benefits, whereas women emphasized stress reduction, increasing self-efficacy, and physical activity, and were eager to see MBT offered in cardiac rehabilitation (CR).
Conclusions: Both male and female users perceived substantial psychosocial and physical benefits of MBT practice. MBT addresses some of women's common barriers to CR.

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Introduction

Mind—Body Therapies (MBTs) are defined as "techniques designed to enhance the mind's capacity to affect bodily function and symptoms".[1] There are two main types of MBT: relaxation techniques which include meditation and deep breathing, and somatic techniques (i.e., exercise with relaxation) such as Yoga and Tai Chi.[2] Empirical evidence suggests that somatic forms of MBT in particular may ease the burden of cardiovascular disease by improving physiological function and reducing emotional distress.[3–5] MBTs have been commonly practiced by both healthy and patient populations, particularly women.[6–9]

A previous study reported that 36% of cardiac patients used complementary and alternative medicine, among which 17% used MBTs.[10] Epidemiologic evidence shows increased MBT participation among patient populations, including cardiac patients,[8,11–13] however, these studies do not explain the motivations these cardiac patients held or the perceived effects associated with MBT use.

Our previous work examined the prevalence and correlates of MBT practice among 465 acute coronary syndrome (ACS) patients.[7] Results showed that one-third of participants self-reported using MBTs. Adjusted analyses revealed that females who are less likely to participate in cardiac rehabilitation (CR)[14,15] were more likely to use MBTs. The current study was undertaken to investigate: (1) gender differences in the motivations and perceived effects of MBT practice among ACS patients, and (2) the inter-relationship among alternative and conventional physical activities and cardiovascular secondary prevention.

Methods

Participants

This current qualitative study was conducted within a larger prospective study. Ethics approval was obtained from all participating institutions. A sample of 661 ACS in-patients was recruited from 3 hospitals in Ontario. A survey was mailed to participants 18 months post-discharge and included questions regarding MBT practice. As outlined in a previous paper,[7] 165 (34%) ACS patients self-reported using MBTs in their lifetime, and over half reported using more than one type of MBT. Using a random number table, a subsample of 60 current and former MBT users were contacted with a letter and a consent form requesting their participation in an in-depth personal interview. Twenty-one (9 females) patients agreed to participate; however, only 16 interviews were conducted. Interviews continued until data generated failed to notably contribute to the emergent categories and themes. Interviews were conducted consecutively, with the gender of the participant alternated where possible.

Procedure

The researcher conducted semi-structured telephone interviews with participants, lasting approximately 45 min. The open-ended questions were designed with a focus on perceived benefits, motivations for practice, opinions on conventional health care, and the incorporation of MBTs into CR programs. Interviews were audio-taped and transcribed verbatim.

Data were imported into NVivo 7 software for coding.[16] Data transcription and analysis were concurrent with data collection, which facilitated generation of new questions for subsequent participants, and therefore interview questions were revised and re-evaluated as data collection progressed.[17,16] For instance, additional questions and/or probes were introduced to interviews when issues of importance arose in previous interviews. Additionally, questions not understood by respondents were reworded, and questions that did not generate relevant discussion were eliminated for later interviews.

Analysis

The interview transcripts were analyzed based on the interpretive—descriptive method[18,19] to enable the development of general themes. Main themes of the collected data emerged from a constant comparative method of data analysis.[20] After main themes were identified, each theme was reviewed by gender to investigate differences.

After interviews and analyses were completed, the first and second authors (Y.L. and K.G.) re-examined and discussed the data by code until consensus was reached. To ensure the objectivity and validity of the results, an audit trail was used, incorporating the techniques of memoing and overall checks of the representativeness of the coding and categories.[21]

Results

Sixteen patients who practiced MBTs (8 females) were interviewed. Table 1 displays the descriptive characteristics of participants. Females were generally older, and had a lower family income and education level than males. Through qualitative analysis of transcripts, five themes were identified: (1) MBTs promote positive well-being, (2) physical health benefits, (3) intrinsic and extrinsic motivations, (4) proactive health orientation, and (5) MBT as a preferred complementary and/or alternative physical activity. Each main theme is outlined below.

Theme 1: promotes positive well-being

Respondents felt that practicing MBTs resulted in positive mood and promoted positive self-image. For instance, many patients mentioned they "feel good" after MBT practice. Subthemes identified by participants included promoting a sense of belonging, improved self-image and personal control over emotions, increased self-efficacy, stress reduction and relaxation, and quieting one's mind.

> 197 M: In the long run, it [MBT practice] gives you a more positive look in life. It gives you more relaxed state ....

Males discussed that MBTs increased positive mood and self-image, while females mentioned MBTs led to increased self-efficacy. Moreover, only females mentioned that MBTs led to increased productivity and sense of achievement.

Table 1 Sociodemographic characteristics of interview participants by gender

Characteristics	MBT Participants (N=16, F=8)					
	Male		Female		Total	
Age (mean, S.D.)	63.4	6.6	71.8	7.0	67.5	7.9
Marital status (%married/common-law)	7	87.5	4	50.0	11	68.8
Education (post graduate or up)	7	87.5	3	37.5	10	62.5
Family income under 50,000/year	2	25.0	7	87.5	9	56.3
Work status (not working full-time)	4	50.0	8	100.0	12	75.0
Ethnocultural background (white)	5	62.5	6	75.0	11	68.8
Condition/procedure (PCI only)	4	50.0	3	37.5	7	43.8
Body mass index (mean, S.D.)	30.8	7.6	26.3	3.4	28.7	6.3
Non-cardiac rehabilitation participant	7	87.5	5	62.5	12	75.0
Bone or joint problem (yes)	5	62.5	8	100.0	13	81.3
Type(s) of MBT use						
Yoga	2	25.0	2	25.0	4	25.0
Meditation	2	25.0	2	25.0	4	25.0
Tai Chi	3	37.5	3	37.5	6	37.5
Deep breathing	4	50.0	3	37.5	7	43.8
Quiet sitting	1	12.5	2	25.0	3	18.8
Muscle relaxation	0	0.0	2	25.0	2	12.5
Others (prayer, self-hypnosis, etc.)	4	50.0	1	12.5	5	31.3
Duration of practice or this						
More than a year	6	75.0	4	50.0	10	62.5

PCI, Percutaneous Coronary Intervention.

1197 F: I am sort of proud of the fact that I am doing these things, go to yoga, go to Curves, practice my little exercise at home. Not a lot of women do these, none of my acquaintances do around my age. They don't do anything about it [health condition], so I sort of feel smarter that I do.

Stress reduction and relaxation

Almost all respondents stated that MBT was used as a tool for reducing stress, negative emotions and anxiety. Females expressed that they experienced stress and anxiety where males tended to report using MBT as a self-regulating tool which helped control anger and kept oneself calmer.

516 F: I tried to be as relaxed as I can. But when I run into a situation that is more stressful, I will try to focus on my deep breath exercise to try to calm myself down and then I can do more other exercise.

Theme 2: physical health benefits

This theme included participant descriptions about perceived physical and cognitive benefits from their MBT practice including muscle relaxation, decreased muscle and joint pain, improved blood circulation, weight loss, increased stamina and exercise capacity, and improved sleep, thought clarity, ability to concentrate and other cardiac-specific benefits. With regard to the latter, many respondents reported that MBT was a self-regulating tool to control cardiac symptoms such as shortness of breath, angina pain, and rapid heart rate. Several respondents viewed MBT as a tool to help them become stronger so that they could participate and enjoy other physical activities. In terms of gender differences, females reported that MBTs helped decrease joint and muscle pain and soreness, weight loss, and improved circulation. Where males reported cardiac-specific benefits, such as ability to control and enhanced awareness of their cardiac symptoms.

1235 M: I play golf and what have you. I tend to push myself a little further and get too tired and then I have an angina attack, and that is when I have to do it [MBT] ... I am not going to spend the rest of my life sitting in the emergency room and I have to find something to help that and this [MBT] is what came about.

Many females expressed that MBTs led to increased stamina to engage in exercise and other physical activities. They perceived MBT as a low-impact activity which made them physically stronger. Therefore, they felt more comfortable trying other physical activities such as walking and light weight training.

157 F: It [MBT] is a way of making you feel good and keep your stamina up ... it helps me exercise more because it keeps you more limber and you are not sore when you do exercise, when you are not sore, you attempt to do a little bit more.

Theme 3: intrinsic and extrinsic motivation

This theme incorporated sources of intrinsic motivation toward practicing MBTs including personal interest, positive expectation, and need for self-care, self-motivation and self-discipline, and need for low-impact activity. For instance, many respondents learned that MBTs were good for the elderly and health, and mentioned personal interest, such that they felt the movements were beautiful and enjoyable. Both men and women expressed the need to participate in a low-impact physical activity due to their physical comorbidities such as arthritis, shortness of breath on exertion, and weakness in the knees and legs.

> 331 M: All I can say is when I do it [MBT], it does help. It strengthens my resolve by doing it .... I have 3 massive heart attacks and I didn't even know I had them. I thought I had indigestion .... My doctor was surprised that I could survive any of them. That is when I thought that meditation must have helped. That is why I keep doing the meditation.

Some patients mentioned that MBTs were self-taught from readings or self-discovery. Interestingly, a majority of females expressed interest in learning other forms of MBT.

> 817 M: I got some Tai Chi tapes from the Mississauga library and I have been reading books about Tai Chi and martial arts. I found out about Tai Chi which is slow moving and smooth motion and I found that is better for seniors to do.

Extrinsic motivation

Extrinsic motivators articulated included supports from family and friends as well as physicians. The majority of respondents expressed that their family and friends were very supportive about their MBT use. However, females did not mention support from their family and friends as did their male counterparts.

> 128 M: My wife is very encouraging to try to get me to do as much exercise as I could. She likes me to do more.

Many males told their physician about their MBT practice, and their physicians encouraged them.

> 157 M: I did tell my cardiologist and family doctor about it, especially my family doctor who encouraged me to do a lot of walking, he said if you do that you are able to do a little bit more. They said it was excellent.

Theme 4: proactive health orientation

MBT practice was often regarded as part of respondents' overall proactive health orientation for managing their heart problems. This theme was interwoven with personality traits such as inclination to engage in conventional exercise, being health conscious, the desire to keep healthy and active, positive attitudes towards the healthcare they received, and informing their physicians about their MBT practice.

The majority of respondents concurrently engaged in conventional forms of exercise and regarded exercise as an important part of their lifestyle, even though half of these respondents did not attend CR programs. They engaged in not only MBTs but also common exercise such as golfing and swimming. A few respondents raised the need for a routine, creating challenge, and pushing themselves.

> 365 F: I still do walking, line dancing, swimming and gardening in the summer, and I help looking after my grandchildren.

Theme 5: MBT as a preferred complementary and/or alternative physical activity

This theme focused on logistical issues such as greater access, lower cost and fewer barriers to MBT practice than conventional exercise. Almost all respondents expressed that there were few health barriers to practicing MBTs because of their simple, non-strenuous, and they fit flexibly within one's schedule. Moreover, MBTs could be performed socially or privately. Respondents who practiced somatic MBTs found they were comparable to other conventional exercises in terms of exercise intensity and relaxing quality.

> 765 F: The most beneficial thing is that it doesn't cost anything. You can do it when you are lying down and relaxing.

In terms of gender differences, females saw MBT as a great exercise alternative. First, females were pleased about the low cost to participate in MBTs. Second, they found that MBTs were a low-impact and non-strenuous physical activity. Third, they expressed that there were no health barriers or side effects to MBT practice. Finally, they reported that MBT practice was enjoyable which involved social interactions with others.

Offering MBTs may increase interest in cardiac rehabilitation

This subtheme included references to integrating MBTs into conventional treatment and secondary prevention such as CR programs. Respondents perceived that a greater number of cardiac patients should be exposed to MBTs. Most respondents agreed that introducing MBTs into CR programs would increase interest of cardiac patients. Females wanted to see MBT incorporated into conventional CR programs.

> 1197 F: Yes, I would probably do more than my share [if MBT was introduced to CR]. I think it [CR] was a 4-month program that we did, and I would have loved to do another 4 months.

Discussion

This study was designed to qualitatively explore the motivations and perceived effects of MBT practice among male and female ACS patients, and to examine gender differences in these perceptions. Essentially, our findings show that both female and male respondents perceived substantial physical and psychosocial benefits from MBT practice, citing improvements in angina symptoms, breathing, relaxation and positive mood, which consequently foster a greater sense of control during recovery. While some respondents used MBT as a mechanism to reduce negative emotions, many were motivated to discover ways to improve their heart condition by keeping themselves fit and being active.

Psychosocial effects of MBT practice

Confirming previous research, our findings reveal that respondents used MBT as a way to increase their self-efficacy. Similarly, an epidemiological study shows that breast cancer patients used MBTs to improve quality of life, provide a sense of control over life.[22] Ai et al. found that using prayer (another form of MBT) as a coping mechanism on the day prior to open heart surgery was also positively related to greater internal control among cardiac patients.[23]

Research suggests that self-efficacy is a key construct affecting exercise adherence and physical activity,[24] and there is a strong causal link between self-efficacy and health behavior change.[25] Many participants reported that practicing MBTs enabled them to increase their stamina and fitness level, which ultimately enabled them to engage in and enjoy conventional physical activities. MBTs were also attributed to increases in self-esteem, sense of achievement, and overall well-being.

Gender differences in MBT practice

One of the goals of this study was to explore reasons for greater use of MBTs among women. Several arose. First, coping with emotional distress and stress reduction were frequently reported as MBT motivators by females. Indeed, much research reports that female cardiac patients experience significantly greater emotional distress than male patients.[26–28] Many females expressed that they had experienced stress and anxiety during their cardiac recovery. All females perceived that engaging in MBT reduced stress and increased positive emotions. Given that depression and anxiety have negative prognostic effects,[29,30] MBT practice may serve as a buffering mechanism against these psychological threats among women.

Second, females perceived logistical benefits of MBT practice. They expressed that MBTs were practiced because of their non-strenuous and low-impact properties, which is compatible with arthritis, joint stiffness and muscle pain which they more often experience than males.[31,32] Given women's lower participation in physical activity,[33,34] MBT may be an appealing physical activity for women.

Third, females perceived that MBTs could increase their self-efficacy and sense of achievement following a cardiac event. Women experience lower self-efficacy and self-esteem after a first cardiac event,[35] and thus these effects are noteworthy. Further gender differences in relation to integrative CR preferences are outlined below.

Views on integrative CR

CR programs are evidence-based means to reduce mortality and morbidity, increase exercise behavior and well-being.[36,37] However, these programs are grossly underutilized, particularly by women.[38–40] Previous research[41] shows that integrative CR programs with MBTs significantly improve outcomes, such as increases in exercise tolerance, reductions in state anxiety and depression, reoccurrence of cardiac events, and cardiac death when compared to non-integrative CR.

This study examined whether ACS patients may be interested in attending such programs when they incorporate MBTs. Overall, females preferred to see MBT in CR curriculum compared to males. Previous research reveals gender differences in patient preferences for CR, such that women dislike treadmill exercise, experiencing pain or fatigue due to exercise, and prefer more opportunities to socialize.[42–44] Females' preference for socializing opportunities offered by MBT was evident in our findings. Since MBT can be practiced either in group or privately, CR participants can choose to attend some group sessions and then practice MBT at home. This is central given women often cite transportation as a barrier to CR participation.[45] The incorporation of MBT activities into CR may also ensure less pain and fatigue, as reported by females. Finally, given women's greater psychosocial distress, MBTs may address both their physical and mental recovery needs.

Indeed, there are some preliminary research on the integration of MBT into CR programs.[46,47] Such integration would certainly increase the 'reach' of MBT to more cardiac patients, and as our results suggest, may even increase the acceptance of CR by female patients. Literature shows that significantly fewer women than men attend CR programs,[38,48] so our findings make a significant contribution to the literature in revealing women's desire for integrative CR. Further studies into women's preferences for integrative CR are needed. Studies should assess whether integrating MBT as part of secondary prevention programs may be more effective than conventional CR with respect to stress reduction, self-efficacy, sense of control, and in physical recovery.

Limitations

Qualitative designs may be susceptible to self-selection bias, since respondents who agreed to participate in an interview may be more likely to perceive positive effects of MBT. Moreover, characteristic discrepancies between genders such as participants' income and education levels may have impacted our findings. For example, we report that women perceived the low cost as a benefit to MBT, such difference may be due to the lower income of the females in general as opposed to their sex or gender. Finally, due to the nature of the study design, results do not infer quantitative differences between the genders.

In conclusion, respondents reported many physical and psychosocial benefits from MBT practice. They stressed MBT as a simple, low-impact, and relaxing physical activity for cardiac patients. Women's motivations for MBT use included increases in self-efficacy and positive mood, sense of enjoyment and achievement, the lack of health barriers, stress reduction, the opportunity for socializing, as well as the lower cost when compared to conventional activities. Moreover, women were highly supportive of incorporating MBT into CR programs to enhance cardiac recovery.

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