Gender Differences in Health Information Needs and Decisional Preferences in Patients Recovering From an Acute Ischemic Coronary Event

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Objective: This study examined gender differences in health information needs and decisional preferences after an acute ischemic coronary event (ICE). **Methods:** Patients with ICE, recruited in 12 coronary intensive care units, completed a questionnaire on demographic, disease-related, and psychosocial topics. Six and 12 months later, they completed mailed follow-up questionnaires. **Results:** Nine hundred six patients completed the baseline questionnaire, 541 (69%) completed the 6-month questionnaire, and 522 (64%) completed the 12-month questionnaire after hospital discharge. Men reported significantly more information received and greater satisfaction with healthcare practitioners meeting their information needs. Women wanted more information than men concerning angina and hypertension. Men wanted more information about sexual function and reported receiving more information about the role of each doctor, test results, treatments, cardiac rehabilitation, and how their families could support their lifestyle changes. Patients who reported receiving more information reported less depressive symptomatology and greater self-efficacy, healthcare satisfaction, and preventive health behaviors. Although most patients of both sexes preferred a shared decision-making role with their physician, the majority felt their doctor had made the main decisions. **Conclusions:** Patients after ICE, especially women, reported receiving much less information than they wanted from all health professionals. Most patients wanted a shared or autonomous treatment decision-making role with their doctor, but only a minority experienced this. Clinicians must do better, because meeting patients' information needs and respecting their decisional preferences are shown to be associated with better self-efficacy, satisfaction, and health-promoting behavior. **Key words:** information, decisional preferences, gender, ischemic cardiac events.

BDI = Beck Depression Inventory; **CICU** = coronary intensive care unit; **ICE** = ischemic coronary event; **MI** = myocardial infarction; **PIP** = perception of information provision.

INTRODUCTION

Most patients want more information about their health problems, and meeting this need is positively associated with global satisfaction, ratings of care, perceived health benefits, and quality of life (1). Although cardiovascular disease is the leading cause of death in Western industrialized countries, only a few studies have explored the effects of information on cardiac patient outcomes or satisfaction with care. One study that attempted to identify the needs of patients and spouses after an acute myocardial infarction (MI) found that they identified information as the most important need, but unfortunately, information requests were not well met by physicians and nurses (2). The two most important categories of information for cardiac patients and their partners appear to be symptom management and risk factors (3,4), confirming earlier findings that practical information pertinent to survival is of prime importance (5). Other investigators have also incorporated information about disease pathophysiology, diet, medications, stress, activity, family, and social aspects of cardiovascular disease, but they found that these factors may vary in importance over the course of recovery (4,6–8).

Although not all patients who want more information necessarily want to engage in more medical decision making (9), recent evidence indicates that active patient participation in decision making has also been associated with improved outcomes for a variety of diseases (10–12). Patients with recent severe heart disease were found to want more involvement in decisions than did patients with stable angina or no heart disease, indicating that patients want to share in major decisions with their physicians but prefer to be less involved in minor or hypothetical decisions (13). Earlier studies on information needs and decisional preferences did not differentiate patient characteristics associated with high information needs and decisional preferences. Although some studies have shown that preferring an active role significantly decreases with age and increases with education (14,15), there is contradictory evidence (11,16). The role of gender in medical information seeking and decisional preferences is largely unexplored, although a few studies suggest that women may to want to be better informed and more active in the decision process than men (14,17). A recent systemic review points out the absence of studies on the information needs of women with ischemic heart disease (4), whereas a survey of women with heart disease reports a high level of dissatisfaction with medical care and a lack of educational resources (18). A recent survey of 635 Canadian adults revealed that 59% of respondents reported conflict in making decisions about complex health conditions, which included cardiac risk factors. The greatest decisional conflict was reported in women who felt misinformed about their options, and this difference persisted when potential confounders such as age, education, and health status were controlled for (19).

Lack of information and less than desired involvement in treatment decision making may ultimately affect cardiovascular management and outcomes through negative affect or suboptimal adherence to preventative health behaviors, pre-

ferred investigation, and other recommended treatments (4,17–19).

In view of the demonstrated need for gender-specific data, this study was designed to contribute to our knowledge of information needs, satisfaction with information, and decision-making preferences by gender in patients 6 and 12 months after hospitalization for an ischemic cardiac event (ie, acute MI or unstable angina).

METHODS
Participants

In this prospective longitudinal study, consecutive patients from 12 coronary intensive care units (CICUs) across Ontario, Canada, who had a confirmed ischemic coronary event (ICE; MI or unstable angina) were approached on hospital day 2 to 5 for informed consent. Exclusion criteria included patients who were too ill to approach, who were unable to read or speak English, who had cognitive deficits that would interfere with questionnaire completion, or who were already participating in studies that would conflict with the current investigation. The study was approved by the University Health Network Research Ethics Board.

Measures

Consenting patients were given a questionnaire to complete in the CICU and a mailed questionnaire 6 and 12 months later. The CICU questionnaire consisted of demographic, disease-related, and psychosocial variables and the Beck Depression Inventory (BDI) (20). Depressive symptoms were assessed by the BDI (20), a reliable and well-validated 21-item scale using a forced-choice four-alternative response format that has been widely used in the general population and in chronic illness populations, including cardiac patients (21,22). Each item describes a specific behavioral manifestation of depression and lists a series of four self-evaluative statements that are graded to reflect the severity of the symptom. Scores range from 0 to 63 and are usually interpreted as follows: 0 to 9, nondepressed; 10 to 15, mildly depressed; 16 to 23, moderately depressed; and 24 or greater, severely depressed. The internal consistencies of the BDI for the present study were α = 0.87 at baseline and α = 0.88 six months later. The BDI was chosen for the present study because of its demonstrated predictive power for poor prognosis in cardiac patients (23,24) and because of its subscales, which allow examination of gender differences in different types of depressive symptoms (25).

At 6 months, self-efficacy was measured by a modified version of the Arthritis Beliefs Scale (26) in which the words *heart condition* were substituted for *arthritis*. The scale uses a 5-point Likert format, with higher scores indicating higher levels of self-efficacy. This scale measures the effect of self-efficacy on adaptation to chronic diseases and has been used in cardiac patients, with demonstrated reliability (27). The internal reliability of the scale was high (Cronbach α = 0.88 at 6 months). The 6-month questionnaire also asked how well-informed participants felt about their heart condition, topics on which they would like more information, the amount of information they preferred, and their preferred format for receiving information. They were also asked their preferred decisional role and the actual decisional role they thought they played during their hospitalization for the ICE.

At 1 year, participants were asked to rate their satisfaction with the medical care they received for their heart condition on a 5-point scale from very dissatisfied to very satisfied. They were also asked ("yes" or "no") whether they had engaged in a list of six preventive health behaviors (ie, reduced fat intake, losing weight, reducing calories, managing stress, exercising for at least 20 minutes three times per week, engaging in leisure time activities), which were summed to create a total health behavior score. The 12-month questionnaire also asked which health care providers had been helpful in the previous year in meeting a variety of information needs.

Statistical Analysis

The data were analyzed using Statistical Package for the Social Sciences 10.1.4. A descriptive examination of the variables was performed. Sex differences in the variables of interest were tested using χ^2 analyses and t tests

as appropriate. Analysis of covariance was used to examine differences in meeting information needs based on depressive symptomatology, self-efficacy, changes in preventive health behaviors, and global health care satisfaction, while controlling for severity of ICE (as measured by Killip class), gender, family income, marital status, education, and age.

Hypotheses

Based on several studies (4,17–19), it was postulated that women would want significantly more information about their condition than men, but would report receiving less information. In keeping with other literature (18), reporting more information received was expected to be significantly and positively related to greater self-efficacy, greater satisfaction with health care, and engagement in more preventive health behaviors.

RESULTS
Preliminary Analyses

Characteristics of participants and nonparticipants at baseline in the CICU and at 6 months and 1 year later are presented in Table 1. Of the 906 eligible patients (586 men, 320 women) who consented to participate in this study in the CICU (participation rate, 69%), 541 (64.4%) and 522 (63.8%) returned completed questionnaires after 6 and 12 months, respectively. Their ages ranged from 31 to 93 (mean, 61.9) years, 74% were married, and 45% had midlevel or upper level (>$50,000 Canadian) family income. Fifty-three percent had a confirmed MI, and 47% had unstable angina.

Sex differences in age, marital status, family income, and education were assessed among CICU participants. There was a difference in mean age for men (59.97 ± 11.67) and women (65.83 ± 1.80; t[648] = −6.62, p < .001). There was a significant sex difference in marital status (χ^2[3] = 128.41, p < .001), with more women widowed and more men married. Men had significantly higher annual family income than women (χ^2[3] = 73.61, p < .001). There was also a significant sex difference in level of education (χ^2[3] = 11.69, p = .009), with men more highly educated than women.

Information Needs

At 6-month follow-up, patients reported moderate levels of how well informed they felt about their heart condition (mean = 3.84 ± 0.91 on a scale from 1 to 5), and there were no sex differences. The top three topics about which they wanted more information were diet, high cholesterol, and exercise (Table 2). There were significant sex differences in preferences for more information on angina, because women were 1.77 times more likely than men to want this information (χ^2[1] = 14.21, p < .001; 95% confidence interval, 1.32–2.36). Women were also 1.57 times more likely than men to want information about high blood pressure (χ^2[1] = 8.56, p = .003; 95% confidence interval, 1.17–2.10). However, relative to women, men were 1.32 times more likely to want information about their sexual function with their heart condition (χ^2[1] = 13.52, p < .001; 95% confidence interval, 1.17–1.49).

When asked about the amount of information they wanted about the management of their heart condition on a 1 to 5 scale (5 = as much as possible), patients had a mean score of 4.34 ± 1.05 (no significant sex differences). However, when asked

TABLE 1. Characteristics of Participants and Nonparticipants

	Participants	Nonparticipants	Test statistic
Baseline in CICU			
Age	61.88 (11.96)	69.41 (12.26)	$t(1779) = -13.13$***
Gender (% female)	35.2%	44.0%	$\chi^2(1) = 14.47$***
Marital status (% married)	74.2%	63.9%	$\chi^2(1) = 22.15$***
Admitting diagnosis (% MI)	40.9%	44.4%	$\chi^2(1) = 2.01$
Six months later			
Age	62.88 (11.14)	60.15 (12.89)	$t(891) = 3.37$**
Gender (% female)	55.4%	44.6%	$\chi^2(1) = 4.83$*
Marital status (% married)	62.8%	37.2%	$\chi^2(1) = 6.83$**
Admitting diagnosis (% MI)	61.9%	38.1%	$\chi^2(1) = 1.06$
Education (% postsecondary)	65.9%	34.1%	$\chi^2(1) = 3.87$*
Killip class (% >1)	57.0%	43.0%	$\chi^2(1) = 0.86$
Family income (% >25000^a)	62.3%	37.7%	$\chi^2(1) = 2.50$
One year later			
Age	62.94 (10.90)	60.26 (13.10)	$t(893) = 3.34$**
Gender (% female)	54.8%	45.2%	$\chi^2(1) = 2.28$
Marital status (% married)	59.9%	40.1%	$\chi^2(1) = 3.67$
Admitting diagnosis (% MI)	61.2%	38.8%	$\chi^2(1) = 3.70$
Education (% postsecondary)	63.8%	36.2%	$\chi^2(1) = 4.04$*
Killip class (% >1)	62.2%	37.8%	$\chi^2(1) = 0.94$
Family income (% >$25000)^a$	59.0%	41.0%	$\chi^2(1) = 0.15$

* $p < .05$.
** $p < .01$.
** $p < .001$.
a Annually in Canadian dollars $\sim$ vs $15,500.

TABLE 2. Participants Want Information Regarding (6 Months After ICE)

	Males ($N = 277$)	Females ($N = 121$)	Total (%)
Diet	154 (55.6%)	62 (51.2%)	217 (54.3%)
High cholesterol	122 (44.0%)	55 (45.5%)	178 (44.5%)
Exercise	112 (40.4%)	56 (46.3%)	169 (42.3%)
Fatigue	102 (36.8%)	55 (45.5%)	157 (39.3%)
Medications	97 (35.0%)	48 (39.7%)	146 (36.5%)
Angina	79 (28.5%)	58 (47.9%)	139 (34.8%)**
Stress management	98 (35.4%)	36 (29.8%)	135 (33.8%)
High blood pressure	74 (26.7%)	50 (41.3%)	125 (31.3%)*
Heart tests	74 (26.7%)	25 (20.7%)	100 (25.0%)
Sexual activity	60 (21.7%)	8 (6.6%)	69 (17.3%)**
Diabetes mellitus	43 (15.5%)	25 (20.7%)	68 (17.0%)
Heart surgery	33 (11.9%)	9 (7.4%)	43 (10.8%)
Quitting smoking	24 (8.7%)	7 (5.8%)	32 (8.0%)
Other information	15 (5.4%)	5 (4.1%)	20 (5.0%)

* $p < .01$.
** $p < .001$.

about their perception of the amount of information they actually received from healthcare providers about the management of their heart condition, their mean score was 3.63 ± 1.23, with men scoring significantly higher (mean, 3.71; SD, 1.17) than women (mean, 3.47; SD, 1.34; $t[279] = 1.99$; $p = .048$). On the same 5-point scale, there was no sex difference in how patients rated the information they wanted about physical effects (mean = 4.39 ± 0.98) or psychological effects (mean = 4.06 ± 1.26) of their heart condition. When asked to describe how well their health care providers had met their information needs overall, they gave a mean score of 3.76 ± 0.94, with men (mean = 3.83 ± 0.91) scoring significantly higher than women (mean = 3.64 ± 1.00; $t[287] = 2.041$; $p = .042$). There were no significant differences in perception of information provision by age ($r = 0.01$, $p = .81$), education ($t[508] = 6.97$, $p = .49$), or teaching vs. nonteaching hospital providing care ($t[517] = 0.75, p = .45$).

The 12-month survey asked which healthcare providers (ie, hospital doctors and nurses, family doctors, or cardiologists) had been helpful in the last 12 months in providing information from a list of topics (Table 3). Patients could also indicate, "I didn't receive enough information." The five most highly rated topics about which patients felt they had not received enough information were future treatment choices, how their family could support their lifestyle changes, the future course of their condition, the role of each doctor in treatment, and cardiac rehabilitation. Because family doctors are significant sources of information across the illness experience, sex differences in information provision were tested for this group (Bonferroni correction; $p = .05/11 = .005$). With respect to family doctors, men ($N = 184$, 55.3%) were 1.30 times more likely than women ($N=53$; 34.4%) to report they received helpful information about test results ($\chi^2[1] = 18.55, p < .001$; 95% confidence interval, 1.15–1.47). Men ($N = 105$, 31.5%) were also 1.23 times more likely than women ($N = 28$, 18.2%) to report that they received information about cardiac rehabilitation from their family doctor ($\chi^2[1] = 9.93, p = .002$; 95% confidence interval, 1.09–1.38).

In regard to the preferred source of health information, participants rated personal discussions with their physicians

	Hospital doctors and nurses	Family doctor	Cardiologist	I didn't receive enough information
Future treatment choices	37 (7.1%)	102 (19.5%)	140 (26.8%)	145 (27.8%)
How family can support lifestyle changes	89 (17.1%)	135 (25.9%)	85 (16.3%)	127 (24.3%)
Future course of condition	48 (9.2%)	126 (24.1%)	186 (35.6%)	120 (23.0%)
Role of each doctor in treatment	53 (10.2%)	161 (30.8%)	140 (26.8%)	116 (22.2%)
Cardiac rehabilitation	109 (20.9%)	133 (25.5%)	168 (32.2%)	107 (20.5%)
Side effects of medications	74 (14.2%)	215 (41.2%)	142 (27.2%)	86 (16.5%)
Risks/benefits of tests and treatments	112 (21.5%)	142 (27.2%)	195 (37.4%)	67 (12.8%)
Lifestyle choices	114 (21.8%)	231 (44.3%)	207 (39.7%)	59 (11.3%)
Explaining tests and treatment	129 (24.7%)	169 (32.4%)	215 (41.2%)	42 (8.0%)
Test results	78 (14.9%)	235 (45.0%)	244 (46.7%)	39 (7.5%)
General heart information	192 (36.8%)	287 (55.0%)	312 (59.8%)	36 (6.9%)

and secondarily their nurses as most desirable. Other highly rated sources included pamphlets, brochures, books or magazines, videotapes, or group discussions with providers and patients. Radio, television, audiotapes, the Internet, CD-ROMs, and telephone information lines were rated as neutral to disliked. There were no differences in preferences of source by sex.

Decision Preferences

With methods similar to those used by Degner and Sloan (15) and Deber et al. (9), patients were asked to describe their role preference with respect to treatment decision making about their heart condition. The five choices were, "I prefer to make the main decisions," "I prefer to make the main decisions after seriously considering my doctor's opinion," "I prefer that my doctor and I share the responsibility for making the main decisions," "I prefer that my doctor makes the main decisions after seriously considering my opinion," and "I prefer to leave the main decisions to my doctor" (Figure 1). They were then asked to answer these same questions based on their perceptions of their actual experience. An autonomous role was defined as the patient preferring to make the main decisions alone or after seriously considering the doctor's opinion. A shared role was defined as equal sharing of

decision making by patient and doctor. A passive role was defined as the patient preferring to leave the main decisions to the doctor alone or to the doctor after the doctor seriously considered the patient's opinion. Overall, 144 patients preferred to have an autonomous role, and 123 reported that they experienced this; 181 preferred a shared role, and 117 reported that they had experienced this; and 164 preferred a passive role with the doctor making the main decisions, whereas 274 reported that they had experienced this.

Effect of Information Needs on Self-Efficacy, Preventive Health Behavior, and Satisfaction With Health Care

In the CICU, the mean BDI score was 8.68 ± 7.49, with scores ranging from 0 to 58.80. Self-efficacy scores ranged from 16 to 80, with a mean score of 69.76 ± 7.31 six months after the coronary event. On a scale from 1 to 5, participants were highly satisfied with their healthcare (mean, 4.17; SD ±1.18). Of a total of six preventive health behaviors, the average number of behaviors patients were engaging in at 1 year was 1.97 ± 2.11. The Pearson correlations are shown in Table 4.

An analysis of covariance was performed to test for significant differences in perception of information provision at 6
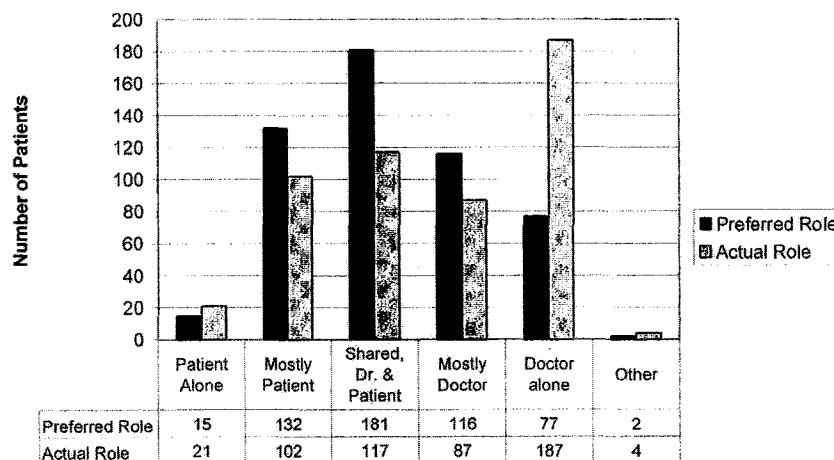

	Patient Alone	Mostly Patient	Shared, Dr. & Patient	Mostly Doctor	Doctor alone	Other
Preferred Role	15	132	181	116	77	2
Actual Role	21	102	117	87	187	4

Fig. 1. Patient preferences and perceived roles in decision-making (6 months after ICE).

TABLE 4. Pearson Correlation Table

	PIP	Age	BDI	Self-efficacy	Health behavior	Healthcare satisfaction
PIP						
Age	.01					
BDI[††]	−.19***	−.08*				
Self-efficacy	.23***	−.10*	−.35***			
Health behavior	.13**	.00	−.12***	.14**		
Healthcare satisfaction	.22***	.08	−.16***	.09	−.02	

*p < .05.
**p < .01.
***p < .001.

months after ICE based on self-efficacy, preventive health behavior at 1 year, and overall satisfaction with health care received, after controlling for depressive symptoms, sex, age, family income, marital status, and severity of coronary event at baseline. The Statistical Package for the Social Sciences GLM UNIANOVA (SPSS, Chicago, IL) was used, with type 1 sums of squares to control for unequal cell sizes. After adjustment for covariates, a significant difference in perception of information provision was found ($F[10] = 3.25, p = .001$) based on self-efficacy, preventive health behaviors, and satisfaction with health care received (Table 5). Baseline depressive symptomatology was predictive of less satisfaction with information provision at 6 months. No statistically significant main effect for sex, marital status, family income, Killip class, or age was found, nor were any significant interactions found; therefore, these terms were removed from the model for parsimony. These results suggest that after controlling for baseline differences in sex, family income, marital status, age, and severity of coronary event, those who perceived that their information needs were met at 6 months after ICE had significantly greater self-efficacy, were more satisfied with their overall health care at 1 year, and were engaging in significantly more preventive health behaviors than participants who perceived less health information provision.

TABLE 5. Analysis of Covariance for Variables Predicting Perception of Information Provision (6 Months After ICE)

Source	df	F	p	η^2
Corrected model	10	3.245	0.001	0.092
Gender[a]	1	1.073	0.301	0.003
Marital status[a]	1	0.189	0.664	0.001
Education[a]	1	0.021	0.884	0.000
Depressive symptoms[a]	1	8.253	0.004	0.025
Family income[a]	1	0.768	0.382	0.002
Killip class[a]	1	1.043	0.308	0.003
Age[a]	1	0.657	0.418	0.002
Self-efficacy[b]	1	4.858	0.028	0.015
Preventive health behavior[c]	1	5.348	0.021	0.016
Health care satisfaction[c]	1	10.238	0.002	0.031

[a] Measured at baseline in CICU.
[b] Measured at 6 months after ICE.
[c] Measured at 1 year after ICE.

DISCUSSION

Our findings show that patients recovering from ICE at 6 and 12 months feel only moderately well informed about their disease and that they would like more information about many topics. Information provision regarding diet, high cholesterol, and exercise may result in behavior changes that could significantly reduce their chance of suffering a recurrence. The majority of our patients wanted a great deal of information about the management of their disease and quite consistently endorsed the statement "I want as much information as possible. Unlike the results of some previous studies (14,15), these responses were not different with age or education. Although both men and women wanted information about these topics, it was clear that women wanted more information overall, but also about specific topics such as angina and high blood pressure, whereas men wanted more information about sexual functioning. Because more women than men suffer from angina (28) and hypertension (29), and men have been found in other studies to be more interested in how their illness will affect their sexual function, it is not surprising that people want more information about topics that are most salient to them.

However, the amount of information the patients perceived that they had obtained from their healthcare providers about the management of their heart condition revealed a significant gap between what they wanted and what they perceived they received, with women wanting more information than men. This finding was again reflected in the ratings of how well patients reported that healthcare providers had met their information needs, with men scoring significantly higher than women. This finding is surprising considering that there were only a few gender differences in their specific preferences for more information. Considering that women patients on average are slightly older than their male counterparts makes this result all the more difficult to explain, because some studies (although not ours) show that desire for information decreases with age (14,15,30).

Whatever the explanation for this perceived gap in information provision, it is clear that healthcare professionals need to understand this problem better and provide better information, especially for their women patients (4,17–19). Although audiotapes, internet sites, CD-ROMs, and telephone lines are

increasingly being used by healthcare providers and hospitals, these are definitely not the preferred sources of information at this time for most of these elderly patients; such patients still prefer direct discussion with physicians or nurses on an individual or group basis, written take-home information, or videotapes. This may suggest that patients desire another person with socially sanctioned expertise to assess them and give them personal information, which is more reassuring and allows them to take some control over their health.

In looking at the roles of hospital doctors and nurses, family physicians, and cardiologists in providing specific information (Table 3), it is appropriate that information about test results, the likely course of the condition, risks and benefits of treatments, and future treatment choices were best addressed by cardiologists; family doctors were better at addressing lifestyle choices, how the family could support lifestyle changes, side effects of medications, and the role of each doctor in treatment. Hospital doctors and nurses were perceived to be less helpful on every topic, perhaps reflecting their focus on acute care and time-limited contact. However, it is clear that none of the health professionals adequately addressed information about cardiac rehabilitation, because less than one third of patients felt they had received information about this topic from any physician or nurse. Because it has been previously shown that cardiac rehabilitation improves outcomes after acute MI (31–34), and because the doctors' recommendations are the strongest predictor of attendance (35–38), our finding reiterates the importance of addressing this topic. Again, there were significant sex differences in the information patients reported that they received from physicians. Overall, it is clear that women patients did not feel that they had received enough information from any health professional about the role of each doctor in their ongoing treatment, how the family could help support their lifestyle changes, and cardiac rehabilitation.

The largest number of our patients preferred a shared decision-making role with their doctor, but this role was reported by less than one quarter of patients. Despite their preferences for shared or autonomous decision making, more than 50% of patients reported that the doctor made the main decisions, and 35% of patients perceived that the doctor had not seriously considered their opinion. The beneficial effects of patient involvement in decision making on health outcomes need to be widely disseminated to motivate authoritarian doctors to accept a more active patient role (14). It is unclear whether physicians are cognizant of a patient's role preferences regarding treatment decision making. In support of other investigators, we find a need to understand better the dynamics of the physician–patient relationship, physician style, trust in physicians, and the impact of these factors on patient preferences and outcomes (14,39–41). Surprisingly, given the sex differences in information needs, we found no sex differences in decision making, confirming that wanting more information does not necessarily equate with wanting a greater role in decision making.

After controlling for baseline factors such as age, marital status, severity of illness, family income, and sex, those who were more satisfied with health information provision had greater self-efficacy, engaged in more preventive health behaviors, and were more satisfied with their health care. These relationships were significant over and above the relationship between baseline depressive symptomatology and perception that information needs were met 6 months later. Because the direction of the relationship between self-efficacy and satisfaction with information is unknown, we cannot assume causality. However, considering that satisfaction with care and engaging in more preventive health behavior are highly desirable outcomes, future research should examine the effects of increased self-efficacy on inpatient provider communication, especially because information provision is relatively low-cost compared with medical intervention.

The generalizability of our findings to other populations is somewhat limited by a 69% response rate and the fact that most of our patients were English-speaking Canadians of European ancestry. Because we do not have information or decisional preferences for the participants who refused follow-ups at 6 months, it may be that patients who were more motivated to participate in their care were more likely to consent to this study and participate in follow-up. We acknowledge that recall bias may have affected our results, but a design to control for this was not feasible given the scope of the study. Continuity-of-care issues may have led to dissatisfaction with health information provision through the disconnect between hospital-based physicians and nurses and physicians providing ambulatory care follow-up, although this was not explicitly measured. Nor do we know the amount of information provided to patients by various healthcare providers involved in their care (ie, information may not have been assimilated by patients who were overwhelmed with health concerns). Given that depressive symptomatology at baseline was significantly related to satisfaction with information provision at 6 months, we must consider that information processing deficits may be at play. This also raises the possibility that depression may lead to less adherence to illness management instruction. Given the poorer outcomes after ICE associated with depression, this is a fruitful area for future research (23). With regard to measurement, we concede that the measurement of preventive health behavior was not sufficiently detailed to know how participants quantified or interpreted reduction in fat intake or amount of exercise (6).

There appear to be major issues with the information and decisional choices given to patients after a coronary event. Strategies must be found to individualize patient care by ascertaining their information needs and how they prefer to receive this information. Special efforts must be made to address information gaps reported by women patients, because heart disease is the leading cause of their mortality and morbidity. Patients' preferred roles in decision making should be ascertained, and they must be supplied with the best information available to facilitate their decision making. The perceived gap between preferred and experienced decision making should be closed. Because providing more information and

meeting preferences for decisional roles may result in better self-efficacy, patient satisfaction, and health behavior in the year after an ICE, clinicians must do better.

CONCLUSIONS

In general, our findings substantiate our study hypotheses by demonstrating a strong desire for information by patients, especially women, after acute coronary events. We have shown specific deficits of healthcare providers in meeting information needs in several areas. Our findings also show that most patients with ICEs prefer to share treatment decision-making roles, but this is not their actual experience, because the majority think their treatment decisions were primarily made by physicians. We show that after controlling for sociodemographic and medical factors, information provision is related to greater self-efficacy, health care satisfaction, and health behaviors such as diet, exercise, and stress management. Further studies will be required to replicate the observed relationship between information provision and health behavior change.

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