

Title: Health Professionals' and Patients' Perceptions of Patient-Centered Care: A Comparison

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Abstract

This study aimed to compare health professionals' and patients' perceptions of patient-centered care (PCC) practice. PCC was operationalized into three components: holistic, collaborative, and responsive care. In a cross-sectional design, a sample of 401 health professionals and 500 patients in acute care settings, in Ontario Canada, completed a valid and reliable measure of PCC. The results showed that patients had lower ratings than health professionals, indicating that patients viewed their care as holistic, collaborative and responsive to a low-moderate extent; this contrasted with a more positive view by health professionals, suggesting a high level of PCC enactment (all p 's $\leq .05$; effect sizes range: .38 to .88). Although methodological, clinical and contextual factors have been suggested, additional research is needed to further explore the mechanisms underlying these differences. Collaboration among management, professionals and patients would promote a collective development of guidelines to deliver PCC.

1. Introduction

Patient-centered care (PCC) refers to care that is respectful of and responsive to patients' needs and preferences. [1] It is well recognized as an effective approach for delivering care because it contributes to beneficial outcomes for patients, health professionals, and the healthcare system. Through patients' engagement in treatment decisions and in their own care, PCC enhances their satisfaction with care and adherence to treatment, and improves outcomes. [2] It can promote health professionals' job satisfaction and reduce malpractice complaints, [3] and decrease healthcare costs. [4] PCC has been championed by the World Health Organization as a main component of high-quality care [5] and is identified as a priority for healthcare

improvement [6] across the continuum of care settings (i.e. primary, acute, rehabilitation, long term, palliative). The wide dissemination of PCC is clearly evidenced by the growing number of organizations incorporating patient-centeredness in their vision and mission statements, and embracing it in the design and delivery of services (e.g. Ministry of Health and Long Term Care in Ontario, Canada; Department of Veterans Affairs in the United States; National Health Services in the United Kingdom).

With its wide integration across healthcare settings, it is important and timely to explore the extent to which PCC is actually practiced. Examining processes of care, such as PCC, is an essential aspect of evaluating the quality of healthcare, providing evidence of the appropriateness and completeness of the care delivered, and its acceptability to recipients. [7] Such evidence informs further improvement in the implementation of PCC. Assessing health professionals' and patients' perceptions of PCC is one strategy to determine its delivery in practice. [8] As suggested by Roberge et al., [9] it is necessary to take into account the views of health professionals and patients when evaluating care processes. These two groups represent those who deliver and those who receive healthcare, and their combined perceptions offer a more comprehensive and accurate picture of PCC practice, as the bias inherent in one groups' perceptions is counterbalanced by the bias inherent in the other group's perception. [10] Further, the two groups often differ in their considerations of what constitutes high quality care and/or performance; such differences can incite health professionals to rethink their practices in order to improve the congruence between their practices and patients' views. This study aimed to describe and compare health professionals' and patients' perceptions of PCC.

2. Related Literature

The literature is replete with publications reporting on the evaluation of patient-centered interventions such as telephone counseling, [11] education [12] and handover. [13] Only a few studies examined patients' or health professionals' perceptions of PCC practice. Tsimtsiou et al. [14] investigated patients' (n = 454) attitudes toward PCC in Greece; the results showed that patients in inpatient and outpatient settings desired more information about their conditions and more involvement in decision-making. Tzelepis et al. [15] found that hematological cancer survivors (n = 545) perceived that staff frequently showed them respect (an indicator of PCC). de Boer et al. [6] reported that patients with various health problems (n = 1,416) rated PCC as an important process of healthcare. Slatore et al. [16] analyzed nurses' (n = 56) interactions with patients relative to five domains of PCC: biopsychosocial, patient-as-person, sharing power and responsibility, therapeutic alliance, and provider-as-person. They observed no interactions in the sharing power and responsibility and in the therapeutic alliance domains. Sidani et al. [10] findings indicated that nurse practitioners self-reported providing high levels of PCC.

Three studies compared health professionals' and patients' perceptions of quality of care [9, 17] and PCC. [18] Roberge et al. [9] analyzed the two groups' responses to five items related to PCC that inquired about providing health status information within a reasonable time, obtaining patients' consent before beginning a treatment or a test, attending to all patients' needs, respecting patients' confidentiality, and encouraging the presence of their relatives. Patients (n = 1,379) and health professionals (n = 155) in an oncology clinic in Québec, Canada, had overall positive perceptions of PCC, although the health professionals' scores for the five items were slightly lower than patients' scores. Sossong and Poirier [17] found that nurses rated their caring behaviors (i.e. attending to patients' needs, showing respect, practicing knowledgeably and

skillfully, respecting autonomy, and supporting spiritual needs) consistently higher than did patients in rural hospitals in the United States. Poochikian-Sarkissian et al. [18] compared nurses' (n = 63) and patients' (n = 44) perceptions of PCC in cardiology, neurology/neurosurgery and orthopedic inpatient units. PCC was operationalized by the following domains: attendance to patients' needs, resolution of patients' health problems, involvement of patients in care, and provision of care according to patients' preferences. Between group differences were found in the ratings, implying that patients reported lower levels of PCC, particularly in the domains of provision of care according to patients' preferences and involvement of patients in care.

Variability in the target population and the context (e.g. clinical program, healthcare settings) accounts for the across-study differences in findings. Most importantly, the lack of a well-articulated conceptualization and a consistent operationalization of PCC limit the ability to meaningfully synthesize the findings and give directions for improving PCC practice. This study overcomes these limitations by 1) enrolling a large number of health professionals and patients, from a range of clinical programs at 18 healthcare facilities located in eight cities within the province of Ontario, Canada; and 2) administering a measure of PCC that was carefully derived from a clear conceptualization of PCC.

3. Conceptualization of PCC

Through a systematic review of conceptual, empirical and clinical literature, Sidani and Fox [19] identified three essential elements of PCC and respective activities that characterize each. The first element is holistic care, which refers to comprehensive care that covers all domains of health and involves illness management as well as health promotion. It consists of activities aimed at assessing patients' bio-physical, psycho-social and spiritual needs, and

delivering interventions to assist patients in meeting their needs, managing their illness, and promoting health. The second PCC element is collaborative care, which is the process of facilitating patients' participation in their own care and in treatment-related decisions. It entails activities to inform patients and their family of the patients' health problem and of alternative treatments for managing the problem, and to support patients and their family in treatment selection and application. The third element is responsive care, which reflects the individualization of care or treatments, with the goal of enhancing their fit with patients' characteristics and preferences. It involves the modification of treatments and arrangement of relevant services within the hospital and after discharge. This conceptualization informed the development of a measure, [10] which was adapted for use in this study.

4. Study Aims

The aims of the study were to 1) describe health professionals' and patients' views of the extent to which the three PCC elements (i.e. holistic, collaborative, and responsive care) and respective activities are actually implemented in day-to-day practice, and 2) compare the two groups' perceptions of PCC, operationalized in the three elements and respective activities. The ultimate goal was to delineate areas of discrepancy in perspectives that could be targeted for improvement.

5. Methods

5.1. Design

A cross-sectional design was used to collect data from health professionals and patients at participating hospitals. Participant recruitment started after obtaining approval for the study from the respective hospitals' research ethics board. All participants consented to the study.

Health professionals were informed of the study at regularly scheduled staff meetings, and through flyers posted on bulletin boards accessible to health professionals (e.g. boards in conference room, staff lounges). Those interested in the study contacted the research assistant, who explained the study purpose, activities, and risks; obtained written consent; and provided consenting health professionals a package containing the PCC measure and a return stamped envelope for mailing the completed measure. The research assistant contacted health professionals by email, telephone, or in-person, two and four weeks later to remind them to return the completed measure, as recommended by Dillman. [20]

Eligible patients were identified by nursing staff. The staff briefly described the study to patients, inquired about their interest in learning more about the study, and introduced the research assistant to interested patients. The research assistant explained the study purpose, activities, and risks; obtained written consent; and provided consenting patients a package containing the PCC measure and a stamped envelope for returning the completed measure. The research assistant made a phone call, two and four days later to remind patients to complete the measure within one week after discharge from hospital. This time frame minimized response bias or social desirability. Evidence shows that patients have a tendency to be more critical in evaluating care when responding to respective measures at home than during their hospital stay. [21]

5.2. Sample

Health professionals and patients were recruited from the same clinical programs (e.g. cardiology, endocrinology) within each of the 18 participating hospitals. Having participants from the same clinical programs was necessary for meaningful comparisons of their perceptions of PCC.

Health professionals were eligible if they 1) were members of the following groups: nursing (e.g. registered nurses, registered practical nurses); medicine (e.g. attending physicians, fellows); pharmacy; physical, occupational, massage, speech language or respiratory therapy; dietitian; psychology; or social work; and 2) provided direct patient care for more than 50% of their time. Across hospitals, 564 health professionals were approached to participate in the study. Of these, 550 health professionals consented, yielding a 97.5% enrollment rate, and 401 returned the completed PCC measure (after the two reminders), resulting in a 73.1% response rate.

Patients were eligible if they were 1) 18 years of age or older, 2) able to read and write English, which was required for obtaining informed written consent and for completing the PCC measure, and 3) cognitively intact, which was ascertained by nursing staff. The staff assessed patients relative to these criteria used in practice settings: ability to state their own name and to identify the season, the location (i.e. type or name of facility) and the city. Across all participating facilities, 1015 patients were deemed eligible and were approached for participation in the study. However, 181 patients declined enrollment for various reasons: no interest in the study (n = 27), feeling “too sick” (n = 23) or “too tired” (n = 15), wanting to focus on health (n = 14), being busy (n = 12); 76 patients did not give any particular reason. In total, 834 patients consented (enrollment rate: 82.2%) but 518 patients returned the completed measure (response rate: 78%). Of the latter, 500 had no missing data and were included in the analysis.

The numbers of health professionals and patients were not balanced within clinical programs and participating institutions, whereby in some settings, more patients than health professionals completed the PCC measure. There were no statistically significant differences in participants' responses across settings, above and beyond individual variability in responses. Therefore, the data were pooled for each group of participants across settings in the planned analysis. Accordingly, the sample size was adequate for descriptive purposes and for detecting small differences in PCC perceptions between health professionals ($n = 401$) and patients ($n = 500$), setting β at .80 and $p \leq .001$. [22]

5.3. Variables and measures

Personal characteristics. Health professionals indicated their current position and years of experience in this position. Patients reported on their age, gender, level of education and employment status, using standard questions.

PCC perceptions. The PCC measure was designed based on Sidani and Fox's [19] conceptualization of the three PCC elements (holistic, collaborative and responsive care) and Sidani et al.'s [10] operationalization of each element into respective activities. The measure contained 20 items that described activities reflective of the three PCC elements that health professionals perform and that patients can observe during healthcare encounters. The items were divided into four subscales (Table 1). Two subscales represented holistic care: attendance to patients' physical, emotional, social and spiritual needs (4 items) and provision of information and instructions to help patients address these needs and to promote self-management and health (5 items). The other two subscales measured 1) collaborative care, operationalized as involvement of patients in their own care and in treatment-related decision making, inquiring

about patients' treatment preferences and providing support in the application of the chosen treatment (7 items), and 2) responsive care, related to the delivery of care that is respectful of patients' individual needs and preferences (4 items). The same set of items was administered to the two groups of participants: health professionals rated the extent to which the care provided, collectively by all healthcare providers, in their respective units is holistic, collaborative and responsive to patients' needs and preferences, whereas patients rated the care they received during their healthcare encounter as holistic, collaborative and responsive to their needs and preferences. A six-point numeric rating scale, anchored with *not at all* (0) and *very much so* (5) was used in both groups' ratings.

Table 1: Health professionals and patients' perceptions of PCC

PCC subscales and items	Health professionals (n = 401)		Patients (n = 500)		Effect size (difference in groups' means)
	Mean (SD)	% with score ≥ 3	Mean (SD)	% with score ≥ 3	
1. Holistic care					
1.a. Attendance to patients' needs					
Attend to patients' physical needs	4.07 (1.27)	87.1	3.94 (1.41)	86.8	0.10
Attend to patients' emotional needs	4.14 (1.08)	91.2	3.61 (1.57)		0.39
Attend to patients' social needs	3.90 (1.20)	88.3	3.23 (1.83)	71.5	0.43
Attend to patients' spiritual needs	3.21 (1.42)	73.9	1.97 (1.93)	42.6	0.73
Overall - Attendance to needs	3.83 (1.43)		3.33 (1.11)		0.39
1.b. Provision of information / instructions					
Discuss things patient can do to improve health and prevent illness	4.42 (0.87)	96.6%	3.75 (1.49)	82.2	0.54
Teach patient how to care of self	4.02 (1.10)	92.2	3.43 (1.70)	76.1	0.40
Teach patient how to take medication	3.82 (1.22)	85.6	3.21 (1.88)	70.1	0.38
Teach patient how to manage	4.10	92.4	3.18	70.6	0.61

PCC comparison

PCC subscales and items	Health professionals (n = 401)		Patients (n = 500)		Effect size (difference in groups' means)
	Mean (SD)	% with score ≥ 3	Mean (SD)	% with score ≥ 3	
physical problem	(1.08)		(1.78)		
Teach patient how to manage emotional problem	3.55 (1.21)	83.5	2.34 (1.93)	51.6	0.71
Overall - Provision of information / instructions	3.99 (1.50)		3.27 (0.93)		0.57
2. Collaborative care					
Explain patient's condition in detail to reach common understanding of patient's concerns	4.45 (0.81)	97.3	4.00 (1.37)	97.7	0.39
Inform patient of treatments to manage problem	4.36 (0.88)	96.8	3.92 (1.40)	86.2	0.37
Provide information about type, risks, benefits of each treatment	4.24 (0.99)	95.0	3.74 (1.57)	82.9	0.37
Ask patient about preferred treatment	4.21 (1.01)	94.3	3.24 (1.87)	72.1	0.98
Support patient in carrying out preferred treatment	4.38 (0.86)	96.8	3.64 (1.71)	79.6	0.53
Involve patient and family in care	4.39 (0.94)	95.5	3.40 (1.83)	75.1	0.66
Keep patient and family informed of changes in patient's condition	4.38 (0.89)	95.8	3.54 (1.73)	78.3	0.57
Overall – Collaborative care	4.34 (0.78)		3.70 (1.35)		0.57
3. Responsive care					
Change aspects of treatment to fit patient's values and lifestyle	4.18 (1.06)	95.3	2.92 (1.90)	64.5	0.80
Help find solution to patient's problem	4.31 (0.92)	96.1	3.53 (1.72)	77.5	0.56
Arrange for special services within hospital	4.28 (0.96)	95.3	3.44 (1.81)	75.3	0.57
Facilitate access to community services	4.15 (1.05)	94.1	2.94 (1.97)	64.5	0.75
Overall – Responsive care	4.23 (0.85)		3.30 (1.52)		0.88

The four subscales demonstrated high internal consistency reliability in both groups of participants. The Cronbach's alpha coefficient was consistently greater than .80 (Table 2). The

items within each subscale loaded on one factor, with eigenvalues > 2.0 and accounting for $> 55\%$ of the variance in the items' responses. All item loadings were $> .60$ on the respective factor.

Table 2: Cronbach's alpha coefficients for the PCC measure subscales

Subscale	Number of items	Health Professionals (n = 401)	Patients (n = 500)
Holistic care			
Attendance to needs	4	.91	.83
Provision of information / instructions	5	.90	.90
Collaborative care	7	.94	.92
Responsive care	4	.88	.85

5.4. Data analysis

Descriptive statistics (distribution, measures of central tendency and dispersion) were used to characterize the two groups of participants. The mean and standard deviation were computed for each item and subscale of the PCC measure. In addition, the percentages of participants with scores ≥ 3.0 , which is the midpoint on the numeric rating scale were calculated to describe health professionals' and patients' perceptions of PCC. The independent sample t-test was applied to compare health professionals' and patients' view of the extent to which care was holistic, collaborative and responsive. The t-test was not used in the item level comparisons in order to reduce the potential for type I error. The effect size (Cohen's d) was estimated to determine the magnitude of the between-group differences in the mean scores for the subscales and the individual items. Effect sizes ranging from 0.20 to 0.30 indicated a small, 0.30 to 0.6 medium, and ≥ 0.60 large differences.

6. Results

6.1. Participant characteristics

As shown in Table 3, health professionals were affiliated with a range of clinical programs; more than 10% worked in oncology, dialysis, cardiology and neurosurgery. Although patients received care at the same clinical programs, most ($\geq 10\%$) were from oncology, dialysis, orthopedic and general medicine programs.

Participating health professionals were representative of healthcare team members commonly employed in various clinical programs. More than half of this participant group included nursing staff (58.8%); the remaining were physicians (10.4%), occupational/physical therapists (12.7%), dietitians (4.7%), social workers (3.7%), pharmacists (3.1%), radiation therapists (2.2%), and other therapists (1.2%) such as massage and speech language therapists. They had been practicing in their current position for an average of 14.5 years (± 11.0).

On average, participating patients were older adults with a mean age of 61 years (± 15.5). About half were women (53.3%). Most did not complete a college degree (69.3%) and were retired (64.6%).

Table 3: Distribution (%) of participants across clinical programs

Type of clinical program	Health Professionals	Patients
Cardiology	10.9	5.3
Cardiac surgery	8.0	8.9
Dialysis	14.2	12.8
Endocrinology	5.0	6.6
General medicine	4.9	10.0
General surgery	2.4	1.8
Geriatrics	4.0	1.4
Neurology	2.5	7.9
Neurosurgery	10.2	3.9
Oncology	18.7	19.6
Orthopedic	4.7	11.6
Stroke	5.0	2.1
Transplant	1.5	5.2
Vascular surgery	2.5	1.4

Wound care	1.2	1.6
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6.2. Participants' perceptions of PCC

Table 1 presents the mean scores on the individual items and the subscales of the PCC measure, as well as the percentages of health professionals and patients with respective scores ≥ 3.0 , reflecting a positive perception of PCC. Overall, health professionals indicated that they provided holistic care to a moderate-high extent, attending to patients' physical and emotional needs to a larger extent than social and spiritual ones, and providing patients information / instructions on how to manage their conditions and to promote their health more so than to address their emotional problems. Health professionals reported that they implemented high levels of collaborative and responsive care. Patients' mean scores on individual items and subscales of the PCC measure reflected perceptions of receiving low-moderate levels of care that was holistic, collaborative and responsive to their needs and preferences.

6.3 Comparison of participants' perceptions

In general, patients' mean scores on the individual items and subscale scores were consistently lower than the health professionals' mean scores. The respective effect sizes were of a moderate-to-high magnitude (Table 1).

There was a statistically significant, $t(899) = 6.02$ $p < .05$, and low-medium (effect size = 0.39) difference in the health professionals' and patients' ratings of the overall attendance to needs. The difference was minimal for attendance to physical needs, moderate for attendance to emotional and social needs, and large for attendance to spiritual needs. Similarly, a statistically significant $t(899) = 8.88$ $p < .05$, difference was found for the provision of information and instructions subscale, with a medium (0.57) effect size. Specifically, the effect sizes were high

for the items related to the management of physical and emotional problems, and medium for the remaining items.

The difference in the mean scores for the collaborative care subscale was also statistically significant $t(899) = 9.01$ $p < .05$, and of a medium magnitude (effect size = 0.57). The difference was of a medium size for most items but high for the items related to involvement of patient and family in care and inquiring about patients' preferences for treatment.

The two groups' mean scores on the responsive care subscale differed significantly $t(899) = 11.62$ $p < .05$, with a large effect size (0.88). The effect sizes were high for the items reflecting individualization of care (i.e. changing aspects of treatment and facilitating access to community resources) and medium for the remaining items.

7. Discussion

The results of this study were consistent with those reported by Sossong and Poirier [17] and Poochikian-Sarkissian et al. [18] in demonstrating differences in health professionals' and patients' perceptions of PCC. In general, patients had lower ratings than health professionals, indicating that patients viewed their care as holistic, collaborative and responsive to a low-moderate extent; this contrasted with a more positive view by health professionals, suggesting a high level of PCC enactment. Possible explanations of these differences relate to methodological, clinical and contextual factors.

Two methodological factors could have contributed to the differences in perceptions observed across studies. The first factor has to do with the time reference or frame that health professionals and patients take into consideration when responding to the items measuring PCC practice. Health professionals have the tendency to appraise their usual performance relative to

the PCC elements that transcends patients and contexts; whereas patients are likely to judge PCC practice on the basis of their personal experience during a particular encounter. The unique characteristics of this encounter (i.e. personal and clinical profile of patients, qualifications of the health professionals, and type of health care or services provided) may shape patients' experiences and perceptions. The second methodological factor is self-report bias associated with social desirability. In our study, health professionals could have over-stated their performance to depict themselves as embracing PCC; they may have been aware that this approach to care is highly valued by patients, professional organizations, hospitals, and healthcare funders. The likelihood of social desirability on the patients' part was low in our study, as patients completed the PCC measure after discharge from hospital, at their convenience. [21] Cumulating evidence clearly supports health professionals' self-report bias. Ethnographic observation suggests that health professionals' perceptions of the quality of their collaborative practices may not be always congruent with their actual collaborative behaviors due to recall bias or socially desirable responses. [23, 24]

The clinical factors accounting for differences in perceptions of PCC include health professionals' value of and training in the practice of holistic, collaborative and responsive care; patients' characteristics; and dissociation in perceptions of patients' needs. Health professionals value PCC as a philosophy that informs their practice, and place greater emphasis on some elements of PCC than others. For instance, physicians expressed the importance of a holistic approach to care and good communication to their practice; social workers put high emphasis on patient autonomy and empowerment; and nurses valued rapport-relationship with patients as the principle informing their practice. [25] Variability in perspectives could have hampered inter-professional efforts at generating a common understanding and collective implementation of the

PCC elements; this translated in patients' perceptions of less than optimal performance, on average, across professionals who provided healthcare during an encounter. Concurrently, health professionals may not have received training in practicing the three elements of PCC examined in this study and/or in other studies. For many health professionals, lack of extensive training and subsequent lack of incentives to attend to patients' emotional, social and spiritual needs [26] contribute to the view that these needs are less vital than physical needs to patients' recovery from an acute condition. This view is often reinforced by the culture prevailing in acute care hospitals, where priority is still given to the physical domain of health and the biomedical model of care is still the norm. [27, 28] In particular, health professionals may not have learned how to assess and address patients' spiritual needs, as illustrated with the findings of Hasnain et al. [29] These findings identified health professionals' lack of understanding of Muslim women's religious beliefs as factors contributing to the lack of sensitivity and accommodation to the women's religious needs.

Health professionals may not have had adequate training in the collaborative elements of PCC and in the communication style most suitable to facilitate patients' involvement in decision making. Although patients repeatedly express the desire to be involved in their own care and in making decisions about their treatment, [30, 31] post-secondary educational programs have not extensively incorporated courses focusing on developing partnerships between health professionals and patients for successful or effective decision making. Therefore, health professionals are socialized within a patriarchal model of care that highly values their expert knowledge; [27] they have difficulty letting go of their expert role, which limits the development of partnerships with patients in planning and carrying out care. [32] Even when health professionals attempted to involve patients in decision making, they were found to use a

communication style which focuses on increasing the chances that patients accept the professionals' choice of treatment, [33] rather than informing patients of alternative treatments, eliciting and validating patients' preferences, and providing the selected treatment. [34] Limited involvement of patients in the process of making decisions about their care in acute care settings has been reported previously. [16, 35, 36] Papostavrou et al. [36] noted that patients feel that they are not active partners in their care and their wishes about care and opinions are not taken into consideration.

The acknowledgement of health professionals' expert knowledge creates an unequal or hierarchical professional-patient relationship. This relationship has the potential to reinforce a patient compliance model by shifting responsibility to patients to do the "right thing". [37] Patients feel uncomfortable voicing their expectations and desires to be involved in decision making, expressing their needs and engaging in a discussion to reach a common understanding of the pressing needs, and questioning the health professionals' recommendations. Patients feel compelled to conform to socially constructed or sanctioned roles; they defer decisions to health professionals for fear of being perceived as "difficult", "complainer", or "whiny". [34, 35]

Providing responsive care appears to contradict the emphasis on evidence-based practice that permeates the training and practice of health professionals, resulting in a tension between fidelity and flexibility. Evidence-based practice encourages fidelity or adherence to treatment protocols, whereas responsive care promotes the customization of treatment. Customization involves modification of some aspects of treatment to fit the needs and characteristics of individual patients. However, there are no clear guidelines for customizing many treatments delivered in acute care settings, to address patients' physical, emotional, social and spiritual needs, [38] leaving health professionals ill-equipped to implement this element of PCC.

The characteristics of patients admitted to acute care hospitals have been mentioned as factors affecting PCC practice. High acuity and complexity of patients' condition forces health professionals to prioritize their care and focus on managing the patients' physical needs. The patients' cognitive status, compromised by the pathology underlying their presenting condition, the intensive and invasive nature of some treatments, and the emotional distress experienced with hospitalization, as well as low level of health literacy can interfere with patients' engagement in decision making. That is, these patients may not fully understand the information on their health condition and the benefits and risks of alternative treatments; [39] therefore, they are not in a position to make well-informed choices. In addition, these patients may have less desire to be involved in treatment decisions. [40]

Dissociation in the identification of the needs to be addressed generates differences in health professionals' and patients' perceptions of the extent to which care is holistic. As shown in this study and others, health professionals prioritize physical needs, whereas patients want to discuss their feelings and manage their psychosocial concerns. [40, 41] Patients with unresolved needs and unmet expectations would be dissatisfied with care.

Several contextual factors could limit health professionals' ability to provide the three elements of PCC. Those commonly identified in the literature and of relevance to the acute care setting selected for this study, are briefly reviewed. The practice of PCC is demanding because health professionals need to take time to learn about patients' experiences and expectations, to identify their pressing needs, to inform them of the benefits and risks of alternative treatments, and to discuss and customize treatment to their life circumstances. [19] Workload issues, understaffing and lack of time prevent professionals from completing these PCC practices; [26, 28, 37, 42] therefore, care decisions are not always made in collaboration with patients. [40, 43]

Also, patients' expectations, wishes or treatment preferences may conflict with hospital priorities imposed upon health professionals that limit their ability to customize care, [40] resulting in differences in perceptions of responsive care observed in our study. In effect, whereas health professionals may have believed that they provided care that is responsive to patients' needs and preferences within the confines of what is permitted within the hospital, patients may have perceived that the care they received was not congruent with their needs and preferences.

Patients receive care from multiple health professionals in a hospital. Patients may have limited opportunity to make their needs and preferences known to all professionals involved in their care. When they do have the opportunity, this information may not have been transferred or communicated in a timely manner among health professionals. With the focus on shorter hospital stays, health professionals see numerous patients in a very short period of time and patients receive care in a very short period of time from health professionals who do not know them very well. [40]

8. Implications

This study's findings confirm previously reported differences in health professionals' and patients' perceptions of PCC practice and of care quality. Although methodological, clinical and contextual factors, as identified in the literature were proposed as possible explanations for the differences, additional research is in order to further explore the mechanisms underlying these differences. Multi-methods studies would be useful to achieve this goal. The studies could be designed to obtain: 1) quantitative ratings of PCC practices given by patients, significant others and health professionals; 2) qualitative data that extend and expand on the ratings, clarify care-related expectations, and point to factors that underlie unmet expectations; and 3) observational

data that describe the nature of the professional-patient interactions in a range of circumstances from admission to discharge.

The results highlight the importance of validating the appropriateness of the approach to care followed by health professionals with their patients, and of re-designing the processes of care to facilitate PCC. The validation can be accomplished by surveying patients following discharge, as is done by many hospitals to assess patients' satisfaction with care. The PCC measure used in this study can be administered in practice; the patients' responses are analyzed; and the results shared with health professionals to identify areas for improvement and strategies for changing PCC practices in order to meet patients' expectations. Re-designing care processes is a collective responsibility of hospital administration, health professionals and patient representatives. [44] PCC is not only embraced in the vision and mission of the hospital, and as a philosophy guiding health professionals' practices, but is translated into clear guidelines for delivering care. Collaboration among health professionals, patients, social workers, and philosophical therapists/clergy is essential to ensure comprehensive and accurate assessment and accommodation to all patients' needs, during and after hospitalization.

Adequate resources are made available to facilitate the practice of the collaborative care element of PCC. The resources entail not only relevant written materials to inform patients of their health condition and of the benefits and risks of alternative treatments (e.g. decision aids), but most importantly a health professional or educator who is responsible for helping patients navigate the system, [35] answering their questions, and supporting them in selecting treatment. Implementation of the collaborative element of PCC also requires the availability of alternative treatments and a policy that acknowledges patients' experiential knowledge, recognizes their

autonomy, encourages patients' involvement in well-informed decision making, and respects patients' choice.

Health professionals and clinical researchers have to work together in developing and testing protocols and/or algorithms to guide the customization of treatments or services, which is the essence of responsive care. These protocols should address the clinically relevant questions: Which patient subgroups, presenting with what personal and health/clinical characteristics, would benefit, from what treatment, delivered in what format, and at what dose.

In conclusion, the results of this study demonstrated differences in health professionals' and patients' perceptions of the extent to which hospital care is patient-centered. Collaboration among hospital management, professionals and patient representatives would promote a collective understanding of PCC and development of guidelines for delivering care that is holistic, collaborative, and responsive to patients' needs and preferences.

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