Volume 47 Nº 2 CJNR June /juin 2015

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CJNR 2015, Vol. 47 Nº 2, 3–8

EDITORIAL

The Values of the Nursing Discipline: Where Are They in Practice?

Recently I was invited to give a talk on integrative oncology to university nursing students — some were generic students, others post-RNs returning for a BScN degree. One of the goals of the presentation was to highlight three concepts that lie at the core of integrative oncology and that also happen to be coveted values of the nursing discipline: *healing, health,* and *caring for the whole patient* (Skretkowicz, 2010). When patients suffer due to a life-threatening or chronic illness, their psychological distress is experienced throughout the whole being, from the molecular domain to the spiritual. Yet how that emotional distress affects the biological as well as the behavioural health and healing processes of the whole person remains to be clarified.

Although nursing and medicine share a general bio-psycho-social model as the basis for generating scientific knowledge about the human being, biological findings in particular have been filtered through a reductionist perspective, making it all but impossible to operationalize health and healing, in the context of an integrated whole person. But what if the biological and behavioural health of the person were to be examined from a slightly different perspective, one in which the whole being is understood in the context of resilience, a key property of health and healing? Resilience has been shown to be regulated by the neuroendocrinal and immune systems within a ubiquitous informational network of stress and other mediators that ensure cohesive and coherent functioning throughout the whole person.

Why is this conceptualization of the whole so important? Although nurses are knowledgeable about the patho-physiology and treatment of disease, the relationship between health (resilience) and illness has not been well elucidated biologically. Perhaps for that reason, nurses have tended to focus care on the illness and symptoms, overlooking the benefits of also promoting the patient's health. Yet research findings have shown that resilience and disease are inversely and intimately linked (McEwen, 2007).

Scientific knowledge about the toxic effects of stress on neuroendocrinal and immune structures, processes, and functions would help us identify the affected biological as well as behavioural targets and pathways that must be strengthened and or mobilized in order to support medical treatment and/or help the patient live well with the illness. These biological indicators would be used to assess clinical interventions designed to mobilize healing and strengthen resilience. Using both biological and behavioural indicators provides a more reliable measure of the overall adaptive capabilities of the patient and the multi-targeted effectiveness of our interventions. Finally, the nurse's scientific knowledge about the biological mechanisms of resilience, of which healing is an integral part, would provide an evidentiary-based rationale for promoting a person's health with or without the presence of illness.

Bringing the biology/behaviour of resilience into nursing practice would be a game changer — but in accordance with the values of the nursing discipline. There is growing evidence that when health- and healing-related processes are promoted before, during, and/or after medical treatment, the person's capacity to fight the illness or live well with it can increase. In this paradigm, nurses and physicians truly fulfil a complementary function in enhancing the well-being of the whole patient.

To return to my anecdote, the nursing students in the audience seemed to be aware of this neuro-endocrinal and immune regulator of the stress and adaptation response, having taken relevant courses in the neurobiological sciences. But several also vocalized the collective dismay of the many students who had tried to introduce new ideas and relevant research findings in their clinical rotations, only to be rebuffed, met with indifference, or dismissed, in keeping with the literature on the socialization of new graduates in the workplace (Feng & Tsai, 2012). Some students shared a belief that scientific knowledge was often "dumbed down" in their clinical settings. Standard procedures seemed to be more valued than cognitive-behavioural approaches. One student, by way of illustration, recounted how a master's-prepared nurse had been reproached by the head nurse for choosing to stay with a distressed patient after work — criticized for his apparent lack of organizational abilities and told that he should not expect overtime! The clear message, intentional or not, was that being fully present for the patient and providing emotional support were not the priority.

This is particularly disappointing to someone like me, who over many decades has had the privilege of occupying a number of leadership positions and has always assumed that the head nurse is the vanguard of and advocate for the nursing profession. Is it not the role of the head nurse to articulate, explain, guide, and ensure that nursing practice is carried out to the full, evidenced-based intent of the discipline? If so, an emphasis on skill formation would surely include competency in cognitive-behavioural strategies as well as procedures and techniques, all of which would be situated and indeed scientifically rationalized in the context of a nursing framework.

Imagine, if you will, the clinical possibilities had the head nurse been aware of the toxic effects of emotional stress on the whole person, and specifically the biological damage inflicted on neural cellular structures, neuro-endocrinal and immune pathways and functions. Would she have responded differently? Imagine that the head nurse had possessed the scientific knowledge that emotional distress is not only a significant promoter of chronic inflammation but a suppressor of normal immune-protective defences against viruses, bacteria, and even the proliferation of many forms of cancer, while also disrupting biorhythms vital for healing and contributing to cognitive and emotional difficulties. Being cognizant of these scientific findings, she might have addressed her staff nurse differently, and even made the defensible argument for actively changing nursing practice to a whole person model in which not only procedural competence but also the use of evidenced-based cognitive-behavioural skills and other stress-reducing mind-body techniques would be a clinical imperative.

As suggested so beautifully in this issue's Discourse on needless suffering, nursing students need to be mentored by both university professors and clinical nurse experts with a shared knowledge of the scope and science of practice, so that they will graduate with greater clinical competence while reflecting more credibly the goals and values of the discipline. For example, learning would undoubtedly be strengthened by daily clinical rounds led by a clinical expert with in-depth scientific and clinical knowledge about each patient based on a whole person perspective. Clinical rounds would expose students to a wider array of patient concerns and clinical factors to consider, drawing on relevant empirical findings in order to provide optimal care to patients and their families. Through these daily rounds, the clinical expert's expectations of the students would not only help to integrate the science with the art of nursing in the clinical field but also serve as an indispensable role model for clinical nursing practice.

Barriers to Change

We should not underestimate the formidability of hospital barriers to promoting a whole person approach. The clinical emphasis on tasks and procedures is consistent with the values of the medical paradigm, which, unfortunately for patients and families, fails to accommodate the growing body of research underscoring the potential scientific benefits to patients of promoting their resilience (McEwen, 2007). From a sociological perspective, the favouring of procedures over cognitive-oriented care in medicine, as in nursing, has been likened to what Link and Phelan (2001) describe as a system-wide "structural stigma" in which psychosocial and cognitive-oriented care is the least valued (Link & Phelan, 2001; Unger, 2015).

Nursing supports this institutional favouring of procedures by describing advanced practice nurses in terms of their coordinating functions (nurse navigators) rather than their scientific knowledge and clinical skills in providing expert care to patients and families and in mentoring nursing staff. Nursing also supports this institutional favouring of procedures in those hospitals that still maintain a hierarchical nursing administrative structure, which tends to defuse innovative ideas that might disrupt the status quo. Given this line of thinking, one can understand the frustration of new nursing graduates wishing to try the latest evidenced-based clinical approach or to work on more flexible decentralized nursing units. As professionals, nurses should have the option, indeed the right, to determine among themselves how their work will be organized, which conferences they will attend, and which invitations to lecture they will accept. As professionals, nurses need to be more accountable for their practice and to be free of seemingly patronizing clinical structures and processes that limit professional actualization.

The Future of Nursing

Happily, the winds of change are blowing across Canada. Planning for a new, countrywide, university-based nursing curriculum to meet the health-care imperatives of the 21st century will be a challenge. Among the myriad issues to take into account are a rapidly changing health-care system responsive to scientific discoveries regarding the genome and the patho-physiology of disease, both longstanding and emerging; the latest technological advances; new treatments in a world faced with increasing resistance to antibiotics; the rise in mental health problems; and an aging population often afflicted with more than one chronic illness. But of equal import is the growing body of scientific evidence indicating that many chronic illnesses, including rheumatoid arthritis, diabetes, some cancers, depression, anxiety, and post-traumatic stress disorder, are a function of prolonged psychosocial stress that undermines resilience capabilities and health across the lifespan.

Against this critical backdrop, the 2014 National Nursing Education Summit was convened to establish academic guidelines in accordance with the anticipated health-care needs in the 21st century. Four general domains to guide the development of a national education strategy for nursing were identified. Of the four, two domains seem particularly relevant to the topic of this editorial.

The first domain is the need, Canada-wide, to strengthen nurses' foundational knowledge. A proactive initiative of committed university-based and clinically based scholars and clinical experts to lay out the goals, values, foundational concepts, and desired outcomes of the discipline based on an integrated health and healing perspective of the whole person would finally, I believe, help to elucidate the three core values of the discipline in educational, clinical, and research spheres of practice.

Many university nursing programs enjoy close professional ties with their clinical affiliates. Yet the countrywide initiative described above will offer a real opportunity to delineate a foundational scope of practice that is shared across university and clinical settings, coast-to-coast, enabling all nurses to speak the same language of practice, perhaps for the first time. This groundswell of professional unity could also provide the impetus for us to create scientifically defensible conditions for practice. This shared understanding of what nursing is would go a long way towards addressing the disconnect between what nursing professes to value and what generally happens in the clinical world.

The second proposed domain of the National Nursing Education Summit that I wish to address is the need to develop leaders and change agents. Although developing change agents and nursing leaders has always been a part of curricula, I sense that the approach to this formidable challenge will be substantially different. If it is not, I submit, too much responsibility will continue to be placed on the new graduate, with predictable results. As we all have witnessed over the years, teaching our students to be change agents takes them only so far unless there is tangible support from the top nursing administrative echelons of a hospital. Conversely, our mission, as faculty, to form articulate, knowledgeable professionals capable of standing up to inequity and finding solutions to advance the profession has been confounded at times by the mixed messages that we send about "rocking the boat" (Day & Benner, 2015). As I reflect back on my own career, the changes in nursing's clinical practice that I happened to be part of were possible, ultimately, only because of the unwavering support of the medical director. The nursing directorate would step back, powerless against the intense emotional reactivity of many physicians to any shift towards a more comprehensive nursing practice — benefits to their own patients and families notwithstanding.

As the future of health care lies before us, it is becoming increasingly evident that nursing and medicine must share a greater depth of scientific knowledge about the human being at multiple levels, from the molecular to the behavioural and the spiritual in the context of the internal/external environment. At the same time, each profession must bring its unique perspective and empirical knowledge to the clinical care and treatment of patients and families.

But huge institutional inequities, with all their embedded biases, must also be confronted and addressed, in a manner that not only ensures patient safety — is that not a given? — but also recognizes the right of nurses to practise to the full extent and scope of their profession. Considering that nursing is one of the key health professions, should that not also be a given? We need to address these issues head on, in the realization that changing a university curriculum must take place in the context of clinical practice, and vice versa. Both university curricula and clinical practice must be predicated on shared scientific knowledge as well as the goals and values of the discipline, if we are to even hope for a fundamental change in how patients and families are cared for by university-prepared nurses.

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Editor-in-Chief

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CJNR 2015, Vol. 47 Nº 2, 9–17

Discourse

Needless Suffering

Kimberley Widger

> *We cannot keep them from suffering but we can keep them from suffering for the wrong reasons.*
>
> – Anonymous

I found this quote while completing my master's degree in nursing. I had been in practice only about 3 years and had provided care primarily to children with cancer. While the vast majority of children with cancer survive their disease, I provided care to many who had experienced a great deal of suffering throughout their treatments and to several who later died. Nothing in my undergraduate program prepared me for feeling completely overwhelmed and helpless while watching the suffering of the parents or the children who experienced uncontrolled symptoms or ultimately died from their disease. I went back to school to learn how to "fix" or take away all that suffering. Instead, I learned that unless I could wave a magic wand and tell parents, "This has all been a bad dream — go home with your healthy child and forget this ever happened!" there was absolutely nothing I could do to take away the pain that surrounded the death of a child. What I could do was make sure that nothing I said or did, or did not say or do, added needlessly to that suffering.

My practice, and, later on, my research, became focused on identifying causes of "needless" suffering for families and finding ways to prevent or address them. I practised with this idea of bearing witness to the suffering that I cannot fix, and doing my best to prevent or alleviate the rest. It served me well. However, in recent months, following the Supreme Court of Canada's decision on physician-assisted death (*Carter v. Canada,* 2015), I have spent considerable time revisiting my ideas of what constitutes needless suffering. While my clinical practice has all been in pediatrics and the new ruling does not apply to children under 18, in some jurisdictions euthanasia is allowed for people as young as 16 as well as for infants (Verhagen & Sauer, 2005). What follows are some of my musings on the subject, in particular on the very important role I see for nurses in ensuring that needless suffering is addressed in the midst of imminent changes to the way we practise and the options available to our patients.

The Supreme Court ruling (*Carter v. Canada,* 2015) identifies two options for adults "who are grievously and irremediably ill . . . : she can take her own life prematurely, often by violent or dangerous means, or she can suffer until she dies from natural causes." The first option seems to be that adults can choose to end their life prematurely in a more humane way, through ingestion of medications prescribed by a physician. However, if they do not take that option they are left with suffering until death from natural causes. Statistics from jurisdictions where access to physician-assisted death has been in place for a number of years show that only 0.21% of the population choose this option (Oregon Public Health Division, 2013). Interestingly, however, more people request physician-assisted death and receive a prescription for the medications than actually ingest them to end their life (Oregon Public Health Division, 2013). Maybe simply having the option available reduces some suffering due to fears about life and death and affords a measure of control, giving people the means to end their life on their own terms. For some, perhaps, the end-of-life experience is not as bad as they had imagined and death is dignified and peaceful without the need to exercise their right to physician-assisted death. Regardless, the fact remains that the vast majority of the population, even when they have the right to choose physician-assisted death, do not. So what are the options beyond "suffer until death"?

Under the Supreme Court ruling (*Carter v. Canada,* 2015), the informed consent process for physician-assisted death must include a description of all reasonable palliative care interventions. The assumption seems to be that all Canadians have access to all reasonable palliative care interventions, when in fact they do not. Recent estimates indicate that 16% to 30% of the adult Canadian population has access to high-quality palliative care (Canadian Institute for Health Information, 2007). In 2002 we estimated that only 5% of children in Canada accessed specialized pediatric palliative care services (Widger et al., 2007), though an update of that study, currently underway, finds that the proportion has increased to 17%. While significant improvements have been made, the vast majority of Canadians still do not have access to high-quality palliative care. In Canada, geography is a strong barrier to palliative care; specialized services are simply not available in many rural and remote areas. And even where palliative care *is* available, not everyone who might benefit is actually referred. Whatever the reason, lack of access results in needless suffering for our patients.

What can nurses do? Advocacy is one avenue for addressing needless suffering on a broad scale. Nurses can get involved both locally and nationally to support initiatives to improve provision of palliative and end-of-life services. The Canadian Hospice Palliative Care Association (CHPCA) and the Quality End-of-Life Care Coalition of Canada have led the development of a national framework for an integrated palliative approach to care. This framework is supported in a Joint Position Statement by the Canadian Nurses Association (CNA), CHPCA, and the Canadian Hospice Palliative Care Nurses Group (2015):

> The integrated palliative approach to care focuses on meeting a person's and family's full range of needs — physical, psychosocial and spiritual — at all stages of a chronic illness. It reinforces the person's autonomy and right to be actively involved in his or her own care, and strives to give individuals and families a greater sense of control. It changes the understanding of hospice palliative care from a service offered to dying persons when treatment is no longer effective to an approach to care that can enhance their quality of life throughout the course of their illness or the process of aging. (CHPCA, 2014, p. 14)

Contrary to what most people think, palliative care is about living rather than dying. The palliative approach to care is also not about specialized services but about all health professionals providing this approach to care in all settings. Every health professional can and should be able to talk with patients about their goals of care and ensure that treatment is aligned with these goals, as well as to provide basic symptom management and care that support the person's autonomy. Specialized services and health professionals with additional training and expertise can support this "frontline" palliative approach and become more involved when symptoms are particularly difficult to manage or when there are other challenging issues that need to be addressed. The Canadian Association of Schools of Nursing (2011) recently published entry-to-practice competencies to ensure greater integration of knowledge about palliative and end-of-life care into undergraduate curricula. Thus, new graduate nurses will be better prepared to provide a palliative approach wherever they practise. Also, specialty certification in Hospice Palliative Care Nursing is available through CNA to ensure that there are nurses with the knowledge to provide this specialized care when it is needed (CNA, 2015).

While involvement in advocacy and system-wide improvements, including the education of new and specialist nurses, is important and will reduce needless suffering in the future, these initiatives may not help the current patient. I still hear and read many more horror stories than positive stories about people's experiences with health care. Part of the problem, I sometimes think, is that we don't know what we don't know. I experienced this lack of knowledge firsthand when I went to work with a renowned pediatric palliative care physician, Dr. Gerri Frager, in Halifax. I came to the job a few years after receiving my master's degree, armed with a great deal of learning and what I thought was a great deal of experience in delivering good palliative care. What I quickly learned was how very little I actually knew. I had not seen uncontrolled pain treated as an emergency that included staying with the patient until medications were appropriately titrated with physical and psychological interventions fully incorporated, to ensure that the pain was truly under control. I had not learned how to take the time to really connect with patients or families, to find out who they were and what "little wishes" they might have to make a horrible situation a little brighter — having a favourite pet brought to the intensive care unit, taking a newborn transferred to the hospital at night out to see the sun and feel the breeze before discontinuing a ventilator, or taking a bed-bound teenager up an incredibly narrow flight of stairs so she could spend her last days at home in her own bedroom surrounded by friends and family. The more I learned, the more I thought of different patients I had cared for, and realized how much I may have contributed needlessly to their suffering because of my lack of knowledge. At the time, there was no specialist palliative care team to whom I could have referred my patients, but even if there had been I likely would not have done so, as I thought I was doing a pretty good job on my own. I encourage all nurses to increase their knowledge about the basics of palliative care and, where specialized services exist, find out more about what is offered so that they recognize when the situation is beyond their skills and specialists need to be added in order to ensure that the suffering of the patient and the family is minimized.

While lack of knowledge on the part of health professionals can cause needless suffering for patients, even more fundamentally, I think, a lack of connection is at the heart of patient suffering. Maybe it is self-preservation on the part of health professionals to not connect with patients and families who are suffering, but I would argue that the opposite is true. I remember a particular day on a pediatric oncology unit when I ran the entire shift trying to get everything done. I had a long list of chemotherapies, medications, and blood products to administer, several patients needed frequent monitoring of vital signs and were located at opposite ends of the unit, and one child had a reaction to something. By the end of the day my legs were so tired I wasn't sure how I would even walk to my car. A patient's father stopped me in the hallway on my way out and asked if I was okay. He said, "I didn't see you smile once today." I went home physically exhausted. I had ticked off every last task on my "to do list" yet I felt horrible, burned out and ready to quit nursing. This kind of task-oriented nursing with no time to even smile at my patients was not what I had signed up for. But there were other days. I remember sitting with an incredibly angry young teenager who had just been diagnosed with osteosarcoma. He had a large tumour on his femur and more than 25 small tumours in his lungs. Up to that point he had allowed us to do only very basic care and had kicked anyone out of his room who even tried to talk to him about his diagnosis or treatment. I had looked after him nearly every day since his admission. Now I had to give him his first dose of chemotherapy. I told him he could be angry all he wanted but I needed to stay in the room to monitor him for a couple of hours. As the chemotherapy finished running and I was packing up to leave, he quietly asked what kind of cancer he had. His mom and I talked with him about his cancer and answered all his questions about the type and number of tumours, about the treatments he would be getting, and about dying. We cried together. I went home that day emotionally exhausted and worried that this boy would never want to see me again because I had given him such horrible news. As it turned out, he became much less angry and I remained one of his primary nurses. There were many more emotionally exhausting days caring for this patient and others, where there was so much suffering related to what they were facing, but after those days I never felt that I wanted to quit nursing; I felt I was making a difference. I developed strong connections to these patients and their families, which allowed me to bear witness to their suffering and understand what they did or did not want, to ensure that I was not adding to their misery.

Some may worry that really connecting with patients takes too much time. I agree that, while sometimes connections are made very quickly and naturally, other times they take a lot of time and work, as with the teenager described above. However, I would argue that it may not take as long as expected, and we may not be taking advantage of the time and opportunity to connect when it can really make a difference in the lives of our patients and their families. One mother who participated in some of my research described an interaction with health professionals when she took her daughter, who had cancer, across the country:

> I took [my daughter] on a trip and we ended up in emergency with a fever and I was trying to get her to a hockey game because she was a fanatic . . . And they were so amazing there. They gave her some fluids, they hired a taxi . . . they had her go to the game and brought her right back. And they kept her room and they said "We're so excited for her!" and joking with her. They made it such a special day. (Widger, 2012, p. 54–55)

The interaction with these health professionals lasted only a few hours, but there was a wonderful connection. They took time in a very busy emergency room to find out what was going on with this family and what needed to be done, and then they did it in a warm and supportive way. Contrast this experience with the same family's experience in an intensive care unit where they spent several days:

> It was two days before [she] died and [the doctor] came to do rounds . . . they were just outside the door; the door was open . . . she said to everybody, "Well, this one is circling the drain." And then she just carried on a conversation and I thought, [my daughter] doesn't even have a name. I don't even have a name. [The doctor] was so disconnected from my daughter. And all of a sudden my daughter's life was in her hands. (Widger, 2012, p. 54)

This health professional had plenty of time to connect with the family, but instead of alleviating suffering she inflicted it. I spoke with the mother a couple of years after her daughter's death and it was evident that both experiences had a significant long-term impact on her. I wish she had had more experiences like the first one and more health professionals had taken the time to get to know them as a family and find out what they wanted and needed. Health professionals may be afraid to ask what a family needs in case it is something that cannot be provided. However, in my experience families generally ask for little things that are very easy to do or just need some guidance on what to expect or what might be possible. It would help for health professionals to have some sense of the common things that people facing a terminal illness might want in order to be ready to offer suggestions and guidance when needed.

There are many resources and research studies addressing the needs of people facing death and their families, but I particularly like a book written by Dr. David Kuhl (2002) titled *What Dying People Want*. The author shares the stories and wisdom of his co-researchers — people who had been told they had a terminal illness and agreed to talk to him over multiple sessions about their experience. He certainly found commonalities in people's experiences and needs as they faced the end of their lives: the changing perceptions of time, the importance of effective communication with health professionals, physical pain, the importance of touch, the need to review one's life, the importance of being truthful, the need to belong, and the need to understand who one is as a person and to experience a sense of meaning in one's life. But Dr. Kuhl also found that each person was different in terms his or her story and the particulars of what was wanted — hence the need to really connect and to more fully understand who the person sitting in front of you *is*. Some patients might want a hug, some might just want a squeeze of the hand, and some might not want any physical touching at all. If we do not take the time to ask patients and their families what they want, we risk touching too much or too little and adding needlessly to their suffering. On the other hand, asking what people want can backfire, as described by a mother in my research who experienced the death of her infant daughter after a sudden illness:

> They're saying what do you want to do? Like I deal with [my child's death] everyday. Why don't you tell me what I'm allowed, give me some options. I don't think it should be up to me as a distraught, bereaved parent, to be trying to figure out what is okay and what's not; or what's available and what's not. (Widger, 2012, p. 57)

I am quite sure that the nurses caring for this family were trying to do their best in asking the mother what she needed. However, they kept repeating the question and caused more suffering, because the mother had no answer and was given no guidance in finding an answer that might be a fit for her. As nurses increase their knowledge about what might be helpful in such a situation — for example, by reading a book like the one cited above — and gain more experience with families in these situations, they will learn how to ask a family what might be wanted or needed. After allowing time for a response, they can move on to providing suggestions or examples in a tentative way: "Some families find it helpful to . . . I wonder if that is something that might interest you." A strong connection with and understanding of the family can help the nurse to narrow the list of options or suggestions to those that might be the best fit for that particular family.

Soon, one of the options for patients may be physician-assisted death. It is likely that nurses will have a role in responding to questions that families raise about this possibility as well as in ensuring that patients are aware of it. But this option will be a fit for only a very small segment of the population. The majority — even those who seek physician-assisted death — will benefit from a palliative approach to care and all the options that it can offer. As nurses, we must ensure that, from the time of diagnosis with a life-threatening illness, the physical, psychosocial, and spiritual needs of patients and families are met to the best of our ability. For those with needs beyond our ability, we must advocate for ready access to specialized services and expertise to meet those needs. We must respect and advocate for the autonomy of our patients and their right to be actively involved — to the degree that they want to be — in their own care. Nurses are in a position to identify, early on, those patients who may wish to explore the option of physician-assisted death. However, nurses must ensure that patients are aware of the other options and that patients receive the care they need to prevent them from feeling they have no alternative but to end their life.

Are we causing needless suffering when we fail to offer people the option of choosing the timing of their own death when faced with a life-threatening illness? Probably — but only for a very small proportion of our society. Far worse needless suffering is caused when people do not have access to other options, such as a palliative approach to care and specialized services when needed. Death is certainly one option for the relief of patient suffering, but it is not the only one.

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Promoting Cultural Awareness: A Faculty Development Workshop on Cultural Competency

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An interdisciplinary faculty development workshop on cultural competency (CC) was implemented and evaluated for the Faculty of Medicine at McGill University. It consisted of a 4-hour workshop and 2 follow-up sessions. A reflective practice framework was used. The project was evaluated using the Multicultural Assessment Questionnaire (MAQ), evaluation forms completed by participants, and detailed field notes taken during the sessions. The workshop was attended by 49 faculty members with diverse professional backgrounds. Statistically significant improvements were measured using the MAQ. On a scale of 1 to 5 (5 = *very useful*) on the evaluation form, the majority of participants (76.1%) gave the workshop a score of 4 or 5 for overall usefulness. A thematic analysis of field-note data highlighted participant responses to specific activities in the workshop. Participants expressed a need for faculty development initiatives on CC such as this one.

Keywords: cultural competency, faculty development, interprofessional, reflective practice, workshop

Résumé

Sensibilisation aux cultures : atelier de formation sur les compétences culturelles s'adressant au corps professoral

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Les auteurs ont présenté et évalué une formation interdisciplinaire sur les compétences culturelles (CC) s'adressant au corps professoral de la Faculté de médecine de l'Université McGill. Le projet consistait en un atelier de quatre heures et deux séances de suivi. Il a été évalué au moyen du Multicultural Assessment Questionnaire (MAQ), de formulaires d'évaluation remplis par les participants et de notes détaillées prises lors des séances. La formation a été suivie par 49 professeurs aux antécédents professionnels variés. Le MAQ a permis de relever une amélioration notable des compétences. Sur le formulaire d'évaluation, la majorité des participants (76,1 %) ont accordé à l'utilité globale de la formation une note de 4 ou 5 (sur une échelle de 1 à 5, 5 = *très utile*). Une analyse thématique des notes d'observation a permis de mettre en lumière les réactions à l'égard d'activités précises. Les participants ont exprimé le besoin de suivre des activités de formation professionnelle sur les CC comme celle-ci.

Mots clés : compétences culturelles, perfectionnement du corps professoral, interprofessionnel, pratique réflexive, atelier

Introduction

Cultural diversity is growing in many industrialized countries. For example, the 2011 *Canadian National Household Survey* revealed that 46% of the Toronto population and 40% of the Vancouver population were born outside Canada; Canada's foreign-born population represented 20.6% of the total population, the highest proportion among the G8 countries (Statistics Canada, 2011). A 2002 Institute of Medicine report highlighted racial and ethnic disparities as a serious concern for health care (Institute of Medicine, 2002). Research demonstrates that culturally competent health care improves health outcomes and reduces disparities (Flores, 2005; Kumagai & Lypson, 2009; Razack, Bhanji, Ardenghi, & Lajoie, 2011). As a result, cultural competency (CC) has become an important component of the training of health-care professionals (HCPs) (Azad, Power, Dollin, & Chery, 2002; Canadian Association of Schools of Nursing [CASN], 2014; Dogra, Giordano, & France, 2007; Wong & Agisheva, 2007) and the provision of health care (Frank et al., 1996; Taylor, 2003) in both Canada and the United States.

CC training programs have been linked to improved outcomes. These include improvements in HCP–patient communication (Committee on Pediatric Workforce, American Academy of Pediatrics, 1999; Kagawa-Singer & Kassim-Lakha, 2003); HCPs who are better prepared to work with patients of different cultural backgrounds (Kagawa-Singer & Kassim-Lakha, 2003); reductions in health disparities (Anderson, Scrimshaw, Fullilove, Fielding, & Normand, 2003; Kumagai & Lypson, 2009; Razack et al., 2011); and improvements in health outcomes, such as better adherence to treatment (Schilder et al., 2001), improved pain management (Narayan, 2010), and better disease control (D'Eramo-Melkus et al., 2004; Metghalchi et al., 2008). As a result of these outcomes, professional licensing bodies have recognized CC. For example, North American accreditation requirements now include CC training curricula — for instance, Royal College of Physicians and Surgeons of Canada (Razack et al., 2011); Canadian Association of Schools of Nursing (2013); and Association of American Medical Colleges (Association of American Medical Colleges & Association of Schools of Public Health, 2012). Similarly, faculty development CC programs are gradually emerging (Ferguson, Keller, Haley, & Quirk, 2003; Kamaka, 2001).

CC training models are aimed at promoting the development of knowledge, skills, and attitudes to recognize and respond to different cultural perspectives on health and illness (Pedersen, 2008). These models commonly foster an in-depth understanding of the culture of medicine as well as the provision of care (Chin & Humikowski, 2002; Taylor, 2003; Wachtler & Troein, 2003). Key issues in the development of CC knowledge, skills, and attitudes are (a) how to foster a change in HCP attitudes towards CC, (b) how to increase HCP knowledge about different cultural groups (including an understanding of the inequities and adverse health outcomes among some marginalized populations) while avoiding stereotyping, and (c) how to facilitate HCP communication with patients from different cultural backgrounds (Betancourt, 2003; Webb & Sergison, 2003). Webb and Sergison (2003) argue that CC is a process beyond a simple increase in knowledge, whereby the individual also develops greater self-awareness.

Notwithstanding these efforts and outcomes, CC training is very limited in undergraduate and postgraduate training across the health professions (Azad et al., 2002; Peña Dolhun, Muñoz, & Grumbach, 2003; Wachtler & Troein, 2003; Webb & Sergison, 2003). There are many challenges in developing effective CC training programs. One is fitting new content into already overstretched curricula (Anderson et al., 2003; Azad et al., 2002; Betancourt, 2003; Chin & Humikowski, 2002; Crosson, Deng, Brazeau, Boyd, & Soto-Greene, 2004). Another is the fact that culture is seen by HCPs as both an obstacle and a challenge, a domain that is difficult to construe as a competency module to be readily added to existing medical knowledge (Macdonald, Carnevale, & Razack, 2007). This may be partly explained by research illustrating that cultural variation can fundamentally shift how health and medicine are understood across cultural groups (Good, 1994; Kleinman, 1988, 2004; Lindenbaum & Lock, 1993). Consequently, there is no standard model for CC training in health sciences education (Green, Betancourt, & Carrillo, 2002; Peña Dolhun et al., 2003). In the programs that do exist, there is often a lack of evaluation methods to assess their effectiveness (Crosson et al., 2004; Wachtler & Troein, 2003). Further, CC can never be a "one size fits all" approach to cultural groups; how one responds competently to one culture may not be sound for another (Kleinman & Benson, 2006; Taylor, 2003). An additional challenge is introducing an effective training program that meets the guidelines for good clinical practice and fits into current curricula (Anderson et al., 2003; Azad et al., 2002; Betancourt, 2003; Chin & Humikowski, 2002; Crosson et al., 2004).

In our own work we have found that HCPs feel unprepared to teach CC to medical trainees and desire faculty development training in this area (Macdonald et al., 2007). The present study was inspired by these findings.

The aim of the study was to develop, implement, and evaluate an innovative interprofessional faculty development CC workshop in the Faculty of Medicine at McGill University. The workshop was innovative in its use of reflective practice and action science as instructional and research methodologies for advancing CC. Although this interdisciplinary workshop is pertinent for nursing, the initiative is directed more broadly at the health professions in general. This article is addressed to an interdisciplinary audience.

Methods

Theoretical Orientation

A particular challenge in CC education is that culture is construed in many different ways (Macdonald et al., 2007). We drew on the work of the anthropologist Clifford Geertz (1973), who has defined culture as "a system of meaning shared by a group of people, learned and passed on from one generation to the next. Culture includes beliefs, traditions, values, customs, communication styles, behaviors, practices, and institutions. Culture has a significant influence on how the individual experiences both health and disease, influencing an individual's health beliefs, expectations, behaviours, activities and medical treatment outcomes" (quoted in Macdonald et al., 2007, p. 465).

There is no widely accepted definition for CC. For the purposes of this study, CC is defined as the knowledge, skills, and awareness required for attending to cultural components of clinical practice. The competency concept of "attitudes" is replaced by "awareness," as the latter is a central attitude of concern in CC education.

The research framework selected for the study was action research, an approach that employs an iterative, cyclical process of fact-finding, planning, action, evaluation, and revised planning (Argyris, Putnam, & McLain Smith, 1985; Peters & Robinson, 1984; Reason, 1994). In action research, *action science* is viewed as a methodology that incorporates *reflective practice* through self-aware double-loop learning as an instructional and analytical technique (Argyris et al., 1985; Argyris & Schön, 1974; Schön, 1983, 1987). The merits of reflective practice in fostering more effective practice in health care have been documented (Epstein, 1999; Frankford, Patterson, & Konrad, 2000; Lebensohn-Chialvo, Crago, & Shissiak, 2000; Shapiro & Talbot, 1991; Stange, Miller, & McWhinney, 2001).

Design

In our previous work we conducted a pilot project in the Department of Pediatrics at McGill University to identify CC training priorities using resident and faculty focus groups (Macdonald et al., 2007). A workshop for residents was then developed to promote cultural awareness, the aim being to increase residents' knowledge about local cultures and resources and encourage self-reflection and awareness of cultural issues in medical practice (Macdonald et al., 2007).

We then launched a faculty development initiative to build upon our main finding, namely that faculty do not feel prepared to teach CC to students and trainees. Potential participants for training were faculty members from all disciplines, departments, and schools within the Faculty of Medicine at McGill University, including medicine, nursing, and physical and occupational therapy. Potential participants were invited to take part through the Web site of the Faculty Development Office, on-campus flyers, and e-mail announcements.

In preparation for the workshop, we held training sessions for four faculty members, who then served as facilitators of small-group discussions in the actual workshop. The preparations included background reading and instruction to help orient the facilitators to our learning objectives and the reflective practice learning model described above.

We designed a 4-hour workshop, which began with a plenary presentation, Cultural Competency: Evidence, Models and Frameworks for Improved Health Outcomes. This described the importance of CC in clinical practice and discussed useful models and frameworks for teaching and evaluating CC, balancing cultural knowledge, skills, and awareness, and identifying tools to incorporate cultural awareness into one's day-to-day teaching. Subsequently, two 1-hour small-group activities introduced participants to ways of building skills for promoting CC in their work using reflective practice for both a teaching and a practice framework. The workshop ended with a large-group wrap-up. (See Appendix 1 for an overview of the workshop and small-group exercises.)

Two 90-minute follow-up sessions were conducted 3 and 6 months after the workshop. These sessions included advanced discussions of reflective practice strategies for promoting CC, participants' feedback on the workshop, and discussion of participants' experiences in supporting CC development among trainees.

Data Collection

We used a mixed methods design to collect and analyze data, using three primary data sources: the *Multicultural Assessment Questionnaire* (MAQ), an evaluation form administered at the end of the workshop and after each follow-up session, and detailed field notes.

The MAQ is a 16-item Likert-type scale designed to measure CC knowledge (six items), skills (six items), and attitudes (four items) (Culhane-Pera, Rife, Egli, Bake, & Kassekert, 1997). Respondents were asked to rate their mastery of different areas related to CC on a five-point scale (1 = *no mastery,* 5 = *excellent mastery*) (Crandall, George, Marion, & Davis, 2003; Culhane-Pera et al., 1997; Thompson et al., 2010). Ratings for each item are summed to provide a total MAQ score, with a range of 16 to 80. Examples of MAQ items include the following: Define culture and list various factors that influence culture; Discuss important cultural influences of particular patients; Inquire about beliefs, practices, and values for patients and families as pertinent to medical problems; Consider cultural information in making diagnostic and therapeutic plans; Work with interpreters in an effective manner; Appreciate the heterogeneity that exists within and across all cultural groups and the need to avoid overgeneralization and negative stereotyping; Be aware of own cultural beliefs, values, and practices that influence self as a cultural person. The MAQ is regarded as having face validity (Crandall et al., 2003). To date, more robust validity measures for the MAQ have not been reported. This tool has exhibited strong reliability, with Cronbach's alpha measures of internal consistency of greater than 0.88 (Crandall et al., 2003). The MAQ has effectively measured statistically significant changes in CC with sample sizes as small as 12 for trainee education programs (Crandall et al., 2003). Thus the MAQ is a reliable and valid instrument for measuring changes in CC in the context of an education program, although it has been previously used primarily for trainee education rather than for faculty development.

The MAQ was administered before the workshop and 3 months after the workshop to assess the development of CC. Post-workshop measures were obtained by mail before the first follow-up session was conducted.

An evaluation form was administered at the end of the workshop and after each follow-up session for participants to rate how well the activity fulfilled the stated objectives as well as particular learning needs.

Detailed field notes were taken by four research assistants during the workshop and the follow-up sessions to identify participants' beliefs and values related to CC. Field notes are extensive records of observations, written in a journal, noting themes that are verbalized, non-verbal expressions, interactive dynamics, and other contextual phenomena relevant to the study (Emerson, Fretz, & Shaw, 1995).

Ethical Considerations

All participants consented to take part in the study. While the workshop was part of our research study, participants who did not wish to contribute to the research could choose not to complete the study instruments. Voluntary participation and confidentiality were respected. Ethical approval was obtained from the Institutional Review Board of the Faculty of Medicine at McGill University.

Data Analysis

All qualitative data from the evaluation form and field notes were examined using thematic content analysis (Denzin & Lincoln, 2005) to identify the principal themes underlying the data. The quantitative data from the MAQ and the evaluation forms were analyzed using non-parametric statistics. To validate the preliminary findings, member checking was conducted with three senior faculty members (a 90-minute group meeting was arranged with a convenience sample of three senior faculty members who participated in the workshop), during which preliminary themes were critically examined and integrated into the quantitative results.

Results

The workshop was attended by 49 participants: 25 physicians, 10 nurses, and 14 other faculty members with backgrounds in education, counselling, nutrition, sexology, and physical/occupational therapy.

Multicultural Assessment Questionnaire

All participants completed the MAQ before the workshop (i.e., pre-workshop). Of these, 26 (53.1%) returned completed MAQ forms sent to participants 3 months after the workshop (i.e., post-workshop). Of the 26 completed pre- and post-workshop MAQs, *t* test analyses revealed that there was a statistically significant increase in post-workshop scores ($p < 0.001$) (Table 1).

Table 1 ***Statistical Analysis of MAQ Scores***

Pre- and Post-workshop MAQ Scores ($N = 26$)

	Pre-workshop	**Post-workshop**
Mean	43.3	48.4
Median	44	49
Range	25–55	27–60

Paired-Samples *t* Test ($N = 26$)

Variable	***N***	**Mean**	**Standard Deviation**	**Average Standard Error**	
Difference in score	26	5.11	5.35	1.05	
H_0: difference in score = 0	***T***	**Df**	**Significance (bilateral)**	**Average Difference**	**Confidence Interval (95% Difference)**
Difference in score	4.87	25	0.000*	5.11	[2.95, 7.27]

* Binomial test (bilateral): sign 0.000

Table 2 ***Reasons for Participating***

Theme	**Data Exemplars**
Thematic category I: To improve own clinical practice	
To learn how to be culturally sensitive	To integrate cultural competency into my practice and teach peers and students
To learn what other HCPs think about culture and diversity	Discussion on how to decrease cultural misunderstanding between HPCs
To better understand patients' needs and provide better care	Patients' cultural background affects their understanding of health concepts
Thematic category II: To improve teaching	
To learn a cultural competency teaching model/framework	I've had to learn about culture in my career on a case-by-case basis, through trial and error. Now, I'd like to be able to guide students in this. I'd like a model or framework to help me do this.
To learn how to teach learners from abroad	Part of this process is explaining Canadian culture to trainees from abroad. We also have to be aware of why they are here. Often, it is to get the training to go back to their country to be a neurosurgeon there, so this means that they are not interested in any kind of assimilation. They do not want their wives to go through any acculturation process because they are just going to go back to their country, so this means that their wives do not drive, often do not learn our languages . . . they are basically stuck in the house. Therefore, these residents have to tend to their families quite a bit.
Important to learn from one another and from learners too	I learned a lot from residents from different cultures. Important to tap into staff and to recognize what we can learn from each other.
Various teaching aims	To learn about how culture influences patient encounters and how I can help students work in a culturally sensitive way. We need leaders who are comfortable being challenged to set examples for students and residents.

Table 3 ***What I Am Currently Doing***

Theme	**Data Exemplars**
Case-by-case/informal	Reflecting, discussing case-by-case, making the students aware with case studies
Challenging stereotypes	Challenging stereotypes — try to discuss alternative perspectives of doctors
Interpretation practices	Often, family members are doing the translation — not appropriate — should use an interpreter.
Various other practices	The interpreter should not only translate but also function as a cultural broker. We're always looking to integrate culture in our interactions. Don't always have very much time and it takes a lot of time to listen and be culturally sensitive. Tolerance; students should be able to pronounce their patients' names, be able to adapt to the culture, including the food. *The Canada Food Guide* . . . now you can get a personalized food guide on the Internet.

Evaluation Form

Of the 49 participants, 46 completed a workshop evaluation form immediately after the workshop. On a five-point scale (5 = *very useful,* 1 = *not at all useful*), the majority of participants (76.1%) indicated an overall score of 4 or 5. Most participants (84.8%) indicated that they would recommend the workshop to their colleagues. Positive comments included "thought provoking," "eye opening," and "good framework." Participants indicated that the workshop motivated them to "learn more about different cultures," "inform [myself] and colleagues about resources, readings," "prepare case reports for discussion/teaching purposes," "read more about culture and discuss this with residents," and "look out for strategies to incorporate in teaching, mentoring, clinical practice and test them." Only one participant provided negative comments.

Field-Note Data

From our field-note analysis, it is clear that participants had two main motivations for attending the workshop: (1) to improve their own clinical practice, and (2) to improve their teaching (Table 2). Faculty acknowledged that to promote CC in their teaching, they needed to first develop

Table 4 ***Experiential Exercise: Who Am I? The Complex Nature of Identity***

Theme	**Data Exemplars**
Diversity of individual identities	How complex we are — people may actually define you by only one of those labels. We identify with so many different groups and we don't know how that affects our practice.
Religion and identity	Important not to be judgemental about other people, especially Muslim people. Not all Muslims are the same.
Gender and identity/ default identities	How many women put down "woman" as an identity? Most women raised their hand. How many men put down "man"? No men raised their hand.
Demonstrates profound impact of culture on behaviour	The behaviour of foreign residents is not due to a lack of awareness about Canadian culture but is associated with the structure of their entire belief system. Addressing cultural insensitivity appears to be an ethical imperative.
Seeing the familiar in the unfamiliar	Got to see what was similar between us — helps the other person to relate to you and see things through your eyes.
How do we relate to this practically?	Good exercise to use with students to sensitize them to culture and their own culture.
Education is key in promoting openness to culture	The most important thing is education — allows people to become open to others, to different cultures.
Importance of context	Identity is contextual and also changing over time.
Motherhood and identity — seeing the familiar	In many cultures a woman's main identity is being a mother. If you have children, the person knows that you understand them.
Other	Professional arrogance — that is common among HCPs. Feeling stereotyped by my language — made to feel different from the majority culture.

their own CC in clinical practice, as this is a recently recognized competency that they did not learn in their professional education. To develop CC in their own practice, participants reported, they needed to learn how to be culturally sensitive, learn what other HCPs think about culture and diversity, better understand the cultural basis of patient needs, and provide better care. To improve their teaching, participants stated, they had to learn a CC teaching model/framework, learn how to teach learners from abroad, and learn from other faculty and learners.

When asked to describe how CC was currently addressed within their curriculum, participants reported that it was informally, on a case-by-case basis, in clinical teaching (Table 3). A principal aim in their teaching was to challenge cultural stereotyping. A common clinical practice examined in their teaching related to working with interpreters, examining the issues that need to be considered in the context of linguistic barriers.

Several themes were identified from participants' responses to the small-group exercises (Tables 4 and 5). Participants described their

Table 5 ***Experiential Exercise: Making the "Strange" Familiar***

Theme	**Data Exemplars**
Our lack of awareness of problematic assumptions about patients	We assume that patients want information about their care, condition, and that they want to do whatever they can for their health, but I don't know. Can we always assume that? I don't think so.
We need to be more aware of the patient's perspective	I had an experience with a Jehovah's Witness. That experience really changed me. I really was able to see their perspective.
Our understanding of others (patients) is affected by our own views/identities	Helped me realize that we all have identities and that even the way we understand other identities is affected by our own identity.
Complexity of culture (beneath the surface)	You realize the impact of culture on practice. It's important to look beyond, under the surface. I don't think it takes that much more time.
Other	How can we find a common ground? It's important to realize that we may fumble at times but we can learn from that. Listening skills are important — really listening.

"discoveries" regarding personal identity (e.g., individual identities are inherently diverse; gender and religion influence personal identity; culture has a profound impact on behaviour; it is important to seek the familiar in the unfamiliar and vice versa; education is key in promoting openness to culture; examining context is important in understanding culture) as well as patients' cultural perspectives (e.g., we are unaware of problematic assumptions we have towards patients; our understanding of others is affected by our own views/identities; culture is complex — there is much more to it beneath the surface).

Participants reported that the workshop helped them to better understand the impact of ethnocentric assumptions and to listen more openly (Table 6). They had a greater appreciation of how culture affects the way that people view things and the impact of clinicians' use of language, terms, or labels. Participants described how some simple symbols (e.g., white coat) can perpetuate complex power dynamics. They questioned how and when to accommodate cultural differences. Participants also reported that the presence of other health professions affected the workshop discussion (e.g., illuminating the nurse's role in communicating with patients).

Table 6 ***Identifying Teachable Moments***

Theme	**Data Exemplars**
I: Dr. Armstrong Scenario	
Impact of ethnocentric assumptions	Dr. Armstrong's viewpoint was ethnocentric. He made a lot of assumptions.
Need to listen/attend more openly	Always be open and prepared to deal with diversity. Emphasize listening and communication.
Realizing how culture affects the way people view things	People from different cultures see things differently; things mean different things to different people.
Impact on generational differences (between teacher and learner)	Appears to be a generational issue with Dr. Armstrong; he seems "old boy." Standards must be founded on principles, many of which are changing. The younger generations do not see wearing a tie as important for professional decorum.

Continued on next page

Theme	Data Exemplars
I: Dr. Armstrong Scenario *(cont'd)*	
White coat – complex power dynamics	I don't like the white coat but I want them to see me as professional. I decorate the lab coat to seem less "doctor." Sometimes the white coat is expected by the patient and he can be offended if you're different.
How/when to accommodate differences?	Tense discussion about how much HCPs need to accommodate the needs of their patients.
Other	It's important to learn from students. How to evaluate students on cross-cultural competency — which standards to teach?
II: Dr. Butterfield Scenario	
Impact of language/ labels	Find out why he used those labels. Regarding the students in his class who were upset, maybe, being the children of immigrants, it was because they were insulted.
Other	The language used in the examples can be seen as degrading. Stereotyping can be pervasive; we readily take our assumptions for granted. Given the difficult nature of the job, factoring in variables such as culture can be overwhelming.
III. Nursing Student Scenario	
Physician-centredness of workshop participants	Physician-centredness of the group begs the question: would they have seen merit in the scenario had there been no nurses present?
Seeing nurse's sense of duty to patient	Respect the nursing student for feeling a sense of duty towards the patient.
Questioning extent of nurse's role in communicating with patients	Physicians find it controversial for anyone other than doctors to decide what information patients receive.

In describing the lessons drawn from the workshop, participants referred to the need for more teaching about culture and further discussion to determine how to teach CC in their own context (Table 7). They also highlighted the benefits of teaching with cases, cross-cultural clinical practices that need to be reviewed, and the need for CC to be addressed early in education.

Table 7 ***Lessons Learned***

Theme	**Data Exemplars**
Need to direct more teaching towards culture	Cultural misunderstanding among HCPs is a priority. We need to place more emphasis on cultural diversity when we teach.
Need to further determine how to teach cultural competency in one's own context	We need more understanding and preparation on the topic before we feel confident to move to a teaching role. Further curriculum development and more scenarios for teachable moments seen as useful. Can be done when sitting with residents, to clarify that they can't be making assumptions.
Benefits of teaching with cases	Prefer to teach students about CC with scenarios or case-by-case, looking for the teachable moments.
Reviewing specific cross-cultural clinical practices	Would like to use interpreters as cultural brokers. Patients need to know the alternatives — that they will die if they don't agree to treatment.
Realizing how much I (still) have to learn about CC	I realize how much I don't know about different cultural groups and how much I have to learn.
Needs to be addressed early in education	Introduce the idea of cultural competency early in the curriculum.
Principles to take home	Respect — with respect come openness, understanding, and being open to differences.
Other	It's important for program directors and people who have influence to be involved in this. Students can teach us so much about how this can be facilitated.

Follow-up Sessions

Few participants attended the two follow-up sessions. The principal reason given for this low response rate was time constraints. Six participants (five nurses and one sexologist) attended the first follow-up session and three (all nurses) attended the second. Participants in these follow-up discussions said that they realized how unaware they had been of different cultures and identities. They appreciated the value of role-play exercises in education and the importance of interpreters in facilitating communication with patients in their practice. They also discussed concerns about whether formal training might be perpetuating stereotyping as well as difficulties in using "teachable moments" in practice to impart culturally important messages to students. These data supported the findings from the CC workshop.

Discussion

The importance of CC training in health sciences education is being increasingly recognized (CASN, 2013; Taylor, 2003). While it is well demonstrated that faculty have a significant impact on trainees' awareness, knowledge, and understanding of cultural issues (Dogra et al., 2007; Wong & Agisheva, 2007), the translation of complex theoretical and empirical CC knowledge into culturally competent clinical education continues to pose instructional design and implementation challenges (Engebretson, Mahoney, & Carlson, 2007). Promoting faculty development in CC is thus a priority.

Our study succeeded in a number of important areas. First, it confirmed the need for CC training, evidenced by 49 faculty members devoting a half-day of their time to attend the workshop. Second, participants' learning appeared to be enriched by the use of a reflective practice framework and an interprofessional design, evidenced in the overwhelmingly positive workshop evaluations. Third, we were able to achieve statistically significant improvement in CC mastery in a relatively small time frame (i.e., a 4-hour workshop). Where we were least successful was in attracting participants to the subsequent sessions; the main reason given for non-attendance was "lack of time." We speculate, based on the highly positive feedback regarding the workshop, that participants also did not perceive a need for further instruction at this time. Finally, our data demonstrate that the workshop advanced participants' understanding of their own clinical practice as well as how they might strengthen their teaching of CC.

The interprofessional design of this program fostered insight into the ways in which various health professions relate culture to practice and education. As participants disclosed their views and practices related to culture, they learned about the commonalities and differences faced by participants from other professions, increasing their understanding of how CC education and practice can be promoted. Moreover, the meaningful exchanges among participants suggest that CC education can also serve as a focus for promoting interprofessional education among faculty and students. In fact, we subsequently organized a series of interprofessional education workshops for undergraduate students in all our programs for health professionals, which fostered strong exchanges among students as well as faculty members who participated as facilitators.

The relation of reflective practice to CC education was particularly innovative. Reflective practice is an effective framework for operationalizing knowledge, skills, and awareness about culture in clinical education. Participants demonstrated significant engagement in advancing their own CC by examining their particular understandings of culture, as well as critically reflecting upon their current teaching practices to identify ways in which the CC of their students might be better developed.

The limitations of the study should be acknowledged. Our study was based on one specific educational initiative in one academic setting. Multisite studies comparing different educational approaches should be conducted. Participation was voluntary. It is possible that faculty who attended the workshop were more committed to CC education than those who did not. Also, the small number of participants in the follow-up sessions limited the study's examination of this initiative's impact over time. Finally, although a difference was observed between pre- and post-workshop scores, it should be noted that this was not a randomized controlled trial or an experimental study with a control group. Therefore, it is difficult to ascertain the degree of change in the score that can be uniquely attributed to the workshop. We acknowledge the possibility that the change could be partly due to maturation and history.

In designing this faculty development initiative we sought to balance depth with feasibility. Our multi-session program was compromised by participant retention. Future research should examine the merits of extended CC faculty development programs and corresponding strategies for ensuring participant retention. Future research should also examine the impact of faculty development programs on the development of CC among trainees of faculty participating in such programs.

Conclusion

This article has described an innovative faculty development workshop and its favourable impact on CC, evaluated through diverse types of data. The workshop was particularly innovative in its interprofessional design and underlying reflective practice framework.

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Acknowledgements

This study was funded by a Faculty Development Grant from the Royal College of Physicians and Surgeons of Canada.

We gratefully acknowledge the contributions of our research assistants: Stephanie Bouris, Samantha LaRue, Ebba Oloffson, Melanie Sabbagh, and Javad Shahidi.

Declaration of interest: The authors report no conflict of interest.

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Appendix 1 ***Educating for Cultural Awareness: Description of Workshop***
8:30 Interactive Plenary **CULTURAL COMPETENCY: EVIDENCE, MODELS, AND FRAMEWORKS FOR IMPROVED HEALTH OUTCOMES**
9:30 Small-Group Session I **SKILL BUILDING FOR TEACHING CULTURAL AWARENESS** *Activity:* **Introduction of Participants**

Activity: **Reasons for Participating**
Participants were asked to describe why they chose to attend this workshop.

Activity: **What I Am Currently Doing**
Participants were asked to describe what they were currently doing to teach CC.

Experiential exercises: to enable participants to *experience* exercises that they may wish to use with their students and to *reflect* upon their utility.

Activity: **Who Am I? The Complex Nature of Identity**
Participants were asked to (a) write four or five groups to which they felt the most sense of belonging and shared identity, (b) consider the ways in which they were stereotyped and viewed as "different" by the majority culture within each group, (c) examine the ways in which each identity predisposed them to positive and negative social discrimination.

Activity: **Making the "Strange" Familiar**
Exercise 1: Participants were asked to construct a list of features of the "culture" of an inpatient Clinical Teaching Unit (e.g., norms, meanings, beliefs, customs, traditions, practices) and formulate strategies to make their culture better understood by outsiders.

Exercise 2: Participants were asked to describe a medical situation where they were (a) practising within a familiar setting but encountered a person or persons who were strange to them, or (b) in a medical situation where they were seen as strange. What was strange? What was familiar? Participants then prepared a synthesis that outlined the types of differences reported and the similarities between them and others.

10:45 Small Group Session II

BECOMING AGENTS FOR CULTURAL CHANGE

Teaching and Learning Exercises: To *identify* teachable moments and to *find* new opportunities for teaching and learning CC

Activity: **Teachable Moments**
For each of the three scenarios below, participants were asked to (a) identify the "teachable moment" from the point of view of cultural awareness, and (b) discuss how they might positively contribute to trainees' growth as a professional around these issues by helping them identify the "strange and the familiar" in the patient/family perspective and to find common ground with which to develop a therapeutic alliance.

I. Dr. Armstrong scenario. A noted physician and scholar gave a lecture on professionalism to residents during which he presented a list of "professional attributes" relating to appearance (e.g., white coat, tie, clean-cut); decorum (e.g., language, confidence, eye contact); integrity (e.g., honesty, directness, sincerity); and humanism (e.g., caring, empathy, concern). Continuing with the scenario, several residents questioned the "appropriateness" of these attributes across diverse cultures and religions. Dr. Armstrong was unprepared for the comments that were made and felt disconcerted, as he had not intended to raise such concerns (adapted from Thille & Frank, 2006).

II. Dr. Butterfield scenario. An instructor asked participants to work on various case studies, including "treating an HIV-positive gay man," "effectively dealing with an illiterate black patient," and "language difficulties with uneducated immigrant patients." Several gays/lesbians, African Canadians, and children of immigrants were represented in the classroom and were upset by the stereotypical nature of the case studies used. Dr. Butterfield responded to the complaints saying that the students were being too sensitive (adapted from Thille & Frank, 2006).

III. Nursing student scenario. Diane is a nursing student who is concerned about Mrs. S., a 65-year-old immigrant Greek woman who has metastasized breast cancer that has been resistant to treatment. The treating team concluded that palliative symptom control is the only reasonable option to be considered. Mrs. S. knows very little about her condition. Her husband and son have insisted that all information be provided only to them, indicating that it is common in their culture to protect patients from bad news. Diane is shocked that the treating team has gone along with this and has indicated to her instructor that she feels an obligation to talk to her personally about her condition.

11:45 Small-Group Discussion

SUMMARY OF LESSONS LEARNED

12:00 Wrap-up Plenary

SYNTHESIS OF PRINCIPAL LEARNING POINTS

Activity: Open discussion with participants about how they planned to promote CC education. Participants were asked to identify "take-home messages" and how they could take these back to their own settings.

12:30 Adjournment

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Reality Check: Are We Truly Preparing Our Students for Interprofessional Collaborative Practice?

Jenn Salfi, Jennifer Mohaupt,
Christine Patterson, Dianne Allen

Many academic settings offer interprofessional education (IPE) experiences that are of short duration and situated in safe, controlled environments such as classrooms or simulation labs. The purpose of this study was to examine the effects of a 10-week IPE strategy that was incorporated into the final clinical practicum of a BScN program. A mixed methods design was chosen, in the belief that qualitative data would help explain quantitative data from pre-test/post-test design (n = 268). Quantitative results revealed that participants disagreed more with statements on interprofessional collaboration (IPC) after completion of the strategy ($p = 0.00$). Qualitative findings reinforced these results, revealing a theme of *common sense is not so common* when it comes to IPC in the health-care setting. When student nurses are being prepared for IPC, IPE strategies should be as "real" as possible, with exposure to some of the realities of interprofessional team functioning.

Keywords: interprofessional education, nursing education, collaborative practice

Résumé

Leçon de réalisme : nos méthodes préparent-elles vraiment nos étudiantes à la collaboration interprofessionnelle?

Jenn Salfi, Jennifer Mohaupt,
Christine Patterson, Dianne Allen

De nombreux milieux universitaires proposent des expériences de formation interprofessionnelle (EPC) de courte durée qui se déroulent dans un cadre sûr et contrôlé comme une salle de classe ou un laboratoire de simulation. Notre étude avait pour but d'analyser les effets d'une stratégie de 10 semaines intégrée au stage clinique final d'un programme de baccalauréat en sciences infirmières. Nous avons eu recours à des méthodes mixtes, estimant que les données qualitatives nous aideraient à expliquer les données quantitatives recueillies pendant l'étude prétest/post-test (n = 268). Les résultats quantitatifs révèlent un désaccord plus grand des participantes avec les énoncés sur la formation interprofessionnelle une fois la stratégie terminée (p =0.00). Les résultats qualitatifs appuient ce constat, ce qui laisse entrevoir que *le sens commun n'est pas aussi commun qu'on le croit* quand on parle d'EPC dans un milieu de soins. Il importe donc de faire en sorte que les stratégies s'adressant aux élèves-infirmières en matière d'EPC collent le plus possible avec la « réalité » et les exposent notamment à certains aspects du fonctionnement des équipes interprofessionnelles.

Mots clés : formation interprofessionnelle, formation infirmière, pratique collaborative

As the delivery of health care becomes more complex and challenging, all professionals need to collaborate as members of a team. Interprofessional education (IPE) is an essential step in preparing a "collaborative practice-ready" workforce that is able to respond to and meet the health-care needs of the population (World Health Organization, 2010). IPE occurs when students in two or more professions learn with, from, and about one another, with the ultimate goal of cultivating trust and respect between professional groups and dispelling prejudice and rivalry between professions to improve collaboration and the quality of care (Centre for the Advancement of Interprofessional Education, 2010).

Registered nurses are an integral part of the health-care team, so it is critical that their education prepare them for interprofessional collaboration (IPC). According to the Canadian Interprofessional Health Collaborative (CIHC) (2010), IPC occurs when "learners/practitioners, patients/clients/families and communities develop and maintain interprofessional working relationships that enable optimal health outcomes" (p. 6). Several key documents have been drawn up to assist educators with the development, implementation, and evaluation of IPE in the field of health. These include two national resources, the *Interprofessional Health Education Accreditation Standards Guide* (Accreditation of Interprofessional Health Education [AIPHE], 2011) and the *National Interprofessional Competency Framework* (CIHC, 2010). More specific to the profession of nursing, in the province of Ontario a number of interprofessional competencies are expected of RNs, upon entry and ongoing registration with the regulatory body of nursing (College of Nurses of Ontario [CNO], 2014). All of these documents outline essential interprofessional competencies, such as role clarity, team functioning, client-centred care, collaborative leadership, conflict management, and interprofessional communication.

Hudson, Sanders, and Pepper (2013) conducted an integrative review to examine how IPE is being integrated into baccalaureate nursing programs. Three databases (CINAHL, MEDLINE, and Cochrane Library) were thoroughly searched by a medical librarian at three time points over the course of 7 years. Studies were retrieved if they met specific inclusion criteria and were included in the study if consensus was reached by all of the authors. The findings from the review of 13 studies revealed that the most frequent strategies were simulation sessions or seminars, typically of "shorter duration," defined as 5 hours or less. IPE is generally structured this way to overcome the common challenges and obstacles associated with implementing IPE initiatives, such as limited financial and personnel support, difficulty arranging and sustaining IPE initiatives due to incompatible clinical shifts and timetables, and rigid curriculum schedules (Morison, Boohan, Jenkins, & Moutray, 2003). Hudson and colleagues

(2013) found that IPE in community and clinical practice settings was seldom used as a strategy for IPE, and therefore the competency of interprofessional communication was the least evaluated in these forms of IPE — which is a critical component of collaboration. The ability to communicate in a respectful manner is critical in collaborative efforts, as it facilitates connectedness between team members and fosters shared decision-making, responsibility, and authority (Sele, Salamon, Boarman, & Sauer, 2008). We need to capitalize on the opportunities for IPE within community or clinical practice settings, as there are frequent occasions for interprofessional communication and team functioning in these environments.

Another key component of effective IPE is that it is viewed not in isolation but as a continuum over a pre-licensure curriculum (Thibault, 2011). Hammick, Freeth, Koppel, Reeves, and Barr (2007) conducted a review and concluded that the majority of IPE initiatives were isolated events primarily undertaken on a voluntary versus mandatory basis. IPE experiences outside of the core curricular objectives may contribute to the perception that IPE competencies are less valuable than profession-specific skills (Brashers, Owen, Blackhall, Erikson, & Peterson, 2012). The literature stresses the need for intentional integration of IPE across a curriculum. Embedding IPE in the content and learning processes of a pre-licensure curriculum gives students a variety of opportunities to accumulate essential knowledge and skills, as well as some of the attitudes, behaviours, and confidence necessary to become effective members of a health-care team (Hudson et al., 2013; Salfi, Solomon, Allen, Mohaupt, & Patterson, 2012; Sullivan & Godfrey, 2012).

As a strategy for preparing nearly 2,000 undergraduate nursing students (dispersed across three different academic sites) for IPC, a framework was developed to guide the intentional integration of a variety of foundational and relational IPE activities and experiences throughout a nursing curriculum (Salfi et al., 2012). Based on the work of Vygotsky (1978), which found that cognitive processes associated with collaboration and communication can be effectively developed in clinical settings to promote higher-level learning among students, the framework suggests the placement of a variety of interprofessional clinical experiences, scaffolded appropriately to each developmental level of the program. The framework is substantiated by Miller's (1990) four levels of competence (knows, knows how, shows how, does), in that levels of competence are much like steps — each level is the building block for the next. The idea behind weaving "threads" throughout a curriculum is that every student will accumulate essential knowledge and skills, as well as some of the attitudes, behaviours, and confidence necessary to become an effective member of a health-care team.

Overall, there are a limited number of studies reporting on IPE initiatives in pre-licensure baccalaureate nursing education. Of the 13 studies reviewed by Hudson and colleagues (2013), the majority had small sample sizes and used self-reported data, which raises concerns about participant bias and memory. Hudson and colleagues stress the need for more research in the area of IPE strategies in nursing education, with larger sample sizes and use of valid and reliable measures to assess the effectiveness of the strategies. This article will address the above needs and will present the findings of a mixed methods study evaluating the effectiveness of one IPE strategy that was embedded into the final clinical practicum of a BScN program.

IPE Strategy

One of the IPE strategies incorporated into the final year of the BScN curriculum was a three-part assignment: some preliminary readings to provide context, a 10-week term as a contributing member of a health-care team within the clinical practicum, and a written analysis of the student's experiences as a team member. In the written component, students were required to assess and describe their contributions to the health/social care team throughout the term and formulate a plan for ongoing professional development as an effective member of a team; they were instructed to make reference to a variety of documents (i.e., AIPHE, 2011; CIHC, 2010; CNO, 2014) in the plan, to reinforce the importance of the assignment to their development as a health professional. The IPE strategy (assignment) was integrated into the final year of the BScN program, as most students are immersed in the clinical setting at this time and it was expected that they would be participating and contributing to the overall effectiveness of their health-care team. This strategy was preceded by other IPE activities and experiences in the first few years of the program, aimed at increasing students' knowledge about other providers' roles and the elements and importance of effective IPC practice. The overall goal of the framework and this final IPE strategy was development of the "healthy" attitudes and behaviours required for effective collaborative practice, due to active and consistent participation in a health-care team.

Methods

Design

A sequential explanatory mixed methods design was used to assess what students had learned about IPC and their role within the team while completing the assignment. This design was chosen in the belief that the qualitative data collected would help to explain and interpret the findings from the primary (quantitative) data. By collecting both quantitative and qualitative data, one can develop a more complete picture of the phenomenon under study (Creswell, 2008).

Recruitment and Sample

Students were recruited from all three sites (one university and two colleges) of the BScN consortium. Ethics approval was obtained from the university ethics committee and the ethics boards of both colleges. For the quantitative component of the study, students in the final term of their fourth year received an e-mail invitation during week 1 of the term, delivered via the BScN program's communication portal. This was followed by an oral in-class invitation delivered by student research assistants assigned to each of the 33 classes. Student research assistants were used instead of faculty researchers to minimize any sense of bias related to coercion or fear of punishment. The student research assistants also reviewed information about the study and presented an overview of the pre/post-assignment design. They were responsible for administering the questionnaires and collecting and returning the completed questionnaires to the research team. Consent to participate in the study was implied if students agreed to complete the pre-assignment questionnaire.

The post-assignment questionnaire was administered in the same fashion as the pre-assignment questionnaire, 10 weeks later, after completion of the IPE assignment. The response rate was 97% (314/329) for the pre-assignment questionnaire and 89% (292/329) for the post-assignment questionnaire. As the purpose of the questionnaire was to assess for changes in attitudes and perceptions about IPC practice before and after the 10-week IPE strategy, only pre-assignment/post-assignment matches were considered in the analysis. The quantitative data analyzed in the study involved 268 pre/post-assignment matches, with fair distribution across the three sites.

For the qualitative component of the study, convenience and criterion sampling strategies were used to recruit students from all three sites, as the researchers wished to determine if geographical location had an impact on the overall learning experience. A convenience strategy of first come, first served was used to recruit students who were willing to participate and who were available at one of the three locations at the specified times. A criterion strategy was employed to assemble focus groups that included at least one student from each stream of the BScN program to determine if there were any differences in the experiences of students from different streams. "Streams" are the different curriculum pathways to the BScN program. The *basic* stream is the pathway for students straight from high school; the *accelerated* stream is generally reserved for students who already hold a science degree and/or who wish to complete the program in a contracted amount of time; the *post-diploma* stream is for students who have earned their RN diploma through a college program and have returned to school for a BScN; and the *RPN to BScN* stream is the pathway for students who are currently registered practical nurses (RPNs) and wish to obtain their BScN. The four streams differ in course requirements and time to completion.

Three focus groups were assembled, with five students in two of the groups and four in the third (*N* = 14). Students were recruited through an e-mail invitation from the principal investigator specifically seeking representation from each stream of the program and from each site. Messages for recruitment were repeatedly sent out until the criteria for representation for each focus group were met.

Data Collection

Quantitative measures. Four demographic questions and a questionnaire were administered before and after completion of the assignment (i.e., at weeks 2 and 12). Since the questionnaire was administered at the beginning and end of the students' clinical practicum, their responses were based on a 10-week clinical experience. The questionnaire was administered in the students' theory class by the assigned student research assistant. The demographic questions collected information on age, gender, BScN stream, and site (as these variables were thought to affect students' perceptions of and attitudes towards IPC).

The questionnaire chosen for the study was the modified Interdisciplinary Education Perception Scale (IEPS) (McFayden, MacLaren, & Webster, 2007), which has been commonly used to monitor changes in the attitudes and perceptions of undergraduate students in health and social care, including nursing students. The revised version of the IEPS consists of 12 items and three subscales: Competency and Autonomy, Perceived Need for Cooperation, and Perception of Actual Cooperation (Appendix 2) (McFadyen et al., 2007) — all of which are attitudes that are considered important in interdisciplinary settings. The Competency and Autonomy and Perception of Actual Cooperation subscales each contain five items. The Perceived Need for Cooperation subscale contains two items. A six-point agreement scale is used to maximize response variance (1 = strongly agree; 6 = strongly disagree), without the option of a median (neutral) response. The dichotomization of agreement/disagreement responses forces variance onto the scale (Luecht, Madsen, Taugher, & Petterson, 1990).

Reliability and validity of this tool have been established by a number of researchers, with alpha values in excess of 0.80 on two of its subscales. All three subscales either achieve or approach the 0.60 level for total testretest reliability. It has been recommended that researchers consider choosing the revised IEPS instead of the original version (McFadyen et al., 2007).

Qualitative measure. The key purpose of the qualitative component, which was comparable to a small descriptive study, was to gather information on the students' learning experiences with the IPE assignment. Qualitative descriptive research is ideal when descriptions of a phenomenon or experience are desired (Sandelowski, 2000).

Focus group sessions at each site ran for approximately 45 to 60 minutes and were audiorecorded. These were semi-structured, guided by four central questions aimed at understanding the students' experience with the assignment, as well as their perceptions of the value of that particular interprofessional experience (Appendix 1). Two investigators attended each focus group, one observing and recording notes, the other facilitating the interview process. The principal investigator was not involved in the focus group sessions due to conflict of interest. Although the research team was initially aiming for six to eight participants in each group, a decision to terminate recruitment was made once analysis revealed that data saturation had been reached and there was no need for additional participants.

Data Analysis

Quantitative. As is typical with a sequential explanatory design, quantitative and qualitative data were collected and analyzed separately, as the two data sets reflected different questions (Creswell, 2008). Pre-assignment and post-assignment IEPS scores were matched (by student) and subscale scores were compared using a paired samples test. Subscale data were also compared by BScN stream (basic, accelerated, post-diploma, RPN to BScN) via paired samples test. One-way ANOVA was used to test for differences among subscale mean baseline scores, as well as for site comparisons.

Qualitative. The recordings were transcribed and members of the research team were responsible for checking and cleaning their data for accuracy. Thematic analysis began with reviewing and coding of the transcripts independently by four members of the research team, with each investigator assigning codes — words or phrases representing sections of the qualitative data. Preliminary themes were then generated and it became apparent that saturation had been achieved with the qualitative data collected from the focus groups. To gain consensus or intercoder agreement (Creswell, 2009), members of the research team met to cross-check codes and collapse and refine the total number of themes, thus enhancing the dependability of the qualitative findings. Credibility of the data collected was established through data triangulation strategies (participants from different sites and streams, digital recordings, notes); method (quantitative and qualitative methods); and investigator (multiple investigators involved in both collection and analysis of data).

Findings

Quantitative

The demographic questions revealed that the sample was 92% female ($n = 247$), with an average age of 22 years. Most participants (77%; $n = 206$) lacked prior clinical experience, as they had entered the program directly from high school. The numbers of participants from two of the sites were closely balanced ($n = 102$; $n = 104$), with a smaller sample recruited from the third site ($n = 62$), which was proportionate with the number of eligible participants at that site. The three sites followed the same BScN curriculum for all 4 years of the program; thus the students had had similar clinical experiences and IPE exposure at the time of the study.

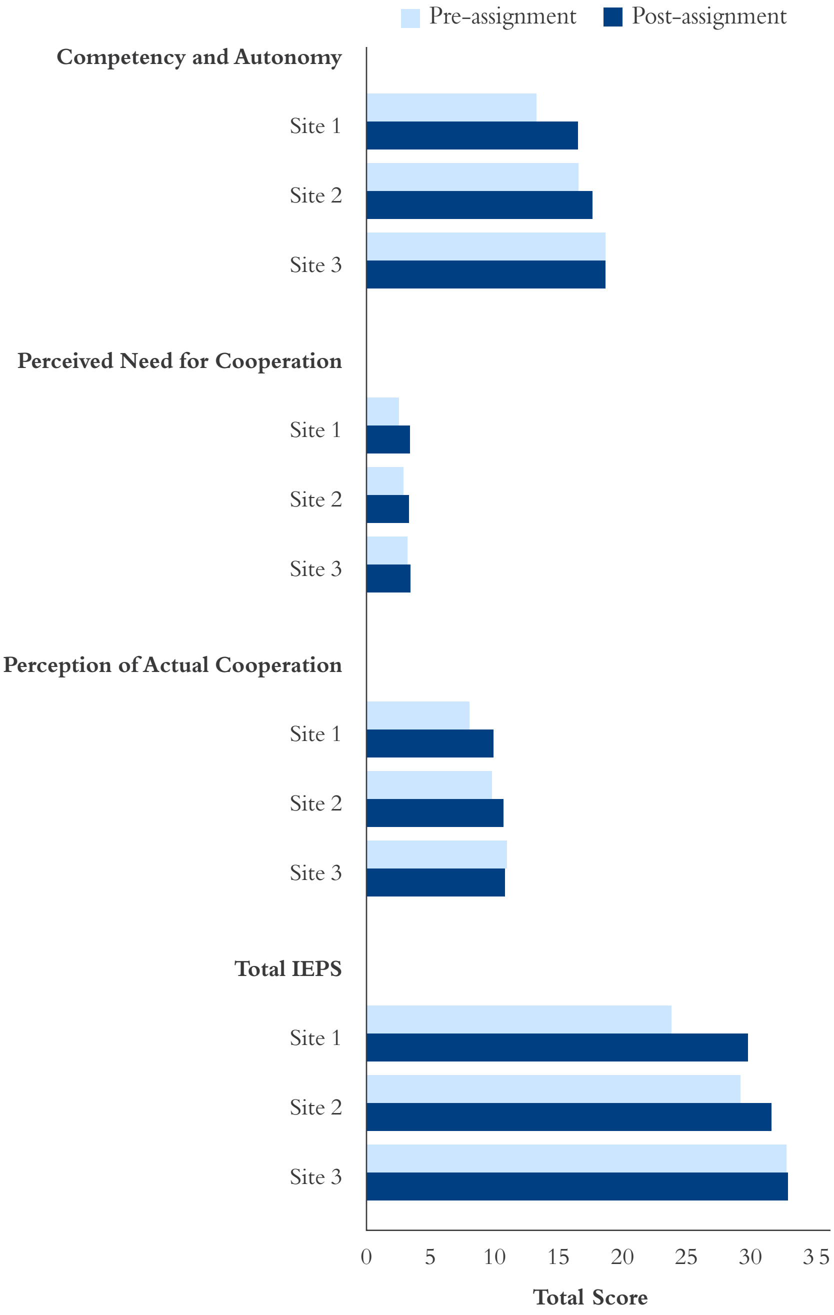
When all pre-assignment and post-assignment matched IEPS subscale scores ($n = 268$) were compared via paired samples test, significant differences ($p = 0.00$) were found for each of the subscales and the total IEPS score. All subscale mean scores increased post-assignment, indicating that participants *disagreed more* with the IEPS statements after completing their assignment (Figure 1). When data were split by gender, female students showed the same pattern (females accounted for 92% of all participants), indicating significant increases in all mean subscale scores ($p = 0.00$). Male students showed no significant difference pre- and post-assignment; however, due to the small number of males in the sample (< 25) differences may not have been visible in the data collected.

When subscale data were compared by BScN stream, significant increases in all mean subscale scores were seen in the *basic* stream ($p = 0.00$), with no other stream showing significant changes. However, the small number of participants in the other three streams may be why no significant change was detected.

When subscale data were examined using one-way ANOVA to test for differences among subscale mean baseline scores, the findings revealed a significant difference for Competency and Autonomy only, which includes items such as "individuals in my profession are very positive about their contributions and accomplishments" and "individuals in my profession trust each other's professional judgement" (McFadyen et al., 2007, p. 434). Significant differences were not seen for the other two subscales.

When site comparisons were made for the IEPS subscale scores and total IEPS score, site 1 showed significant increases in all subscale scores and total score ($p = 0.00$), site 2 showed a significant increase only in the

Figure 1 ***Scores for the Three Subscales, by Site***



mean score for Perceived Need for Cooperation ($p = 0.05$), and site 3 showed no significant change in any of the mean subscale or total scores.

The mean baseline scores for the Competency and Autonomy subscale yielded one unexpected finding. There was a 5.4 difference between sites 1 and 3, a 3.3-point difference between sites 1 and 2, and a 2.1-point difference between sites 2 and 3. This difference in baseline perceptions and attitudes across the three sites *prior* to the assignment was not anticipated, as all students experienced the exact same BScN curriculum and the exact same IPE opportunities. After completion of the 10-week assignment, the differences in student perceptions and attitudes across the three sites decreased, with all mean scores for Competency and Autonomy falling within a two-point range.

Qualitative Findings

Qualitative findings revealed a number of recurring themes, which were collapsed into three broad categories: *common sense is not so common, wish list,* and *preparation for collaborative practice.*

Common sense is not so common. The strongest and most prevalent theme to surface was *common sense is not so common*. Students alluded to what they called "common sense" in terms of health-care-team functioning and the nurse's role within the team. However, during their 10-week assignment they learned that behaviours required for effective collaboration were not as common as they had thought. Having learned the importance and value of IPC in their curriculum, students expected to observe and experience more effective and positive interactions with members of their health-care team. One participant cited a key benefit of this particular IPE strategy:

> *This assignment made me aware that it [IPC] doesn't always work out . . . and prepared me for that possibility.* (site 1)

Through the interprofessional opportunities experienced in their clinical practicum, students were exposed to some of the realities of IPC, including the multiple behaviours that hinder effective collaboration, as well as other essential elements in effective team functioning and optimal client-centred care (i.e., leadership/culture of the clinical setting):

> *It [IPC] is more than just different professions coming together.* (site 3)

Another strong theme was increased awareness of the RN role in the health-care team, in particular the RN–physician relationship. Interestingly enough, in most if not all of their observations the participants described nurses as lacking some of the key IPC competencies. Although these competencies are mandated for professional practice (CIHC, 2010; CNO, 2014), essential interprofessional skills and behaviours were "not so common" among the nurses in their practice settings:

> *Nurses like to lie low and avoid conflict.* (site 1)
>
> *Nurses do not have the tools to address conflict . . . [They] are scared to challenge others on the team.* (site 3)
>
> *Nurses are not assertive enough with others [with other professionals].* (site 3)

Wish list. Consistent with most of the literature on IPE, students valued their experiences working with others and craved more opportunities to learn within a team environment. One participant cited the need for IPE opportunities to be "real" in order for a student nurse to develop the confidence needed to be an effective member of a health-care team:

> *One or two IPE experiences in my entire undergrad is not enough. I'm glad this experience forced me to be more involved [as a team member]. I learned so, so much this term, but [I] still feel a little uncomfortable working in a health-care team.* (site 2)

Some participants even began to envisage ideal IPE opportunities within their curriculum:

> *It would be helpful to have students from other disciplines in our PBL [problem-based learning] groups, but not until after second year. That way nurses [student nurses] would have a good understanding of their own role before learning about the roles of others.* (site 3)

Preparation for collaborative practice. The third theme was the value of the IPE assignment/experience in preparing students for future IPC. Participants frequently referred to the six key domains of the *National Interprofessional Competency Framework* (CIHC, 2010) and began labelling behaviours that they observed and/or experienced within their team:

> *I wouldn't have even realized that was an issue during my interprofessional experience if it wasn't for the previous readings, which were mandatory. So that was really helpful.* (site 1)
>
> *Now I always think about it [IPC] while I'm at my [clinical] placement.* (site 2)

Finally, the overall mindset seemed to shift from "me" to "we," in that a number of participants made reference to belonging to a team:

> *Knowing what I know now motivates me to collaborate more with others.* (site 1)
>
> *Now I don't feel alone . . . we're all in this together.* (site 2)

Quantitative and Qualitative Findings

Consistent with an explanatory sequential design, the findings from the qualitative phase were examined alongside the quantitative results, to enhance our understanding and to help "explain" the quantitative results (Creswell & Plano Clark, 2011). It was expected that the results of the study would be typical of those for IPE initiatives that have been evaluated and published, which include *more agreement* with statements about IPC post-IPE strategy. Yet our results show *more disagreement* post-IPE strategy using the revised IEPS (McFadyen et al., 2007), which is one of the more common measurement tools for assessing changes in the attitudes and perceptions of undergraduate students. In seeking to understand why the results indicated more disagreement, the research team looked to the sample size to determine whether it was sufficient to detect such a difference. The sample of 268 pre/post-assignment matches (out of a possible 329) from across the three sites of the BScN program yielded 81% power, and therefore was sufficiently large to reveal a meaningful difference (Davies & Logan, 2012). Also, the results were representative of all the students in the program who were exposed to the 10-week IPE strategy, as recruitment was proportionate across the three sites. It was hard to contest the fact that there was more disagreement post-IPE assignment, so the next step was to determine why.

For 10 weeks, students observed and experienced interprofessional situations within their clinical practicum that influenced their perceptions of both nursing professional practice and interprofessional practice. Their experiences were the basis for the findings of this study. Some key findings surfacing from the qualitative data did indeed elaborate the quantitative findings. The most prevalent finding — a theme commented on by most of the participants — was behaviours of nurses that hindered effective collaboration, be it interprofessional or intraprofessional. The most commonly cited themes were inability to manage conflict (conflict avoidance) and ineffective communication, both of which are key areas of competency for successful professional practice (CNO, 2014) and effective interprofessional practice (CIHC, 2010). The literature also reveals avoidance to be the most common strategy for conflict resolution resorted to by nurses (Baker, 1995), in part due to contextual factors associated with their daily work, such as workload and lack of time, and possibly related to perceptions about hierarchical relationships within the team (Zwarenstein & Reeves, 2002). Avoidance does not generally address the conflict and is a non-assertive, uncooperative technique that can lead to behaviours that are detrimental to team functioning and, more importantly, to client-centred care.

Discussion

The many benefits of IPC would lead many to expect that it is common-sense practice, but the findings of this study suggest otherwise — that common sense is not common practice in terms of functioning within health-care teams. Given that IPE has been proposed as one of the vehicles for preparing pre-licensure students for IPC, it is critical that education be closely aligned with the realities of the clinical environment.

There are a number of documents outlining the competencies expected of RNs in Canada. One can assume that by the 4th year of a baccalaureate program most students are well versed in the *Competencies for Entry-Level Registered Nurse Practice* (CNO, 2014) as they prepare for graduation. One might also assume, then, that student nurses hold some level of expectation that their nurse clinician colleagues will exhibit many of the required skills and behaviours outlined in the CNO (2014) document — for example, "displays initiative, confidence and self-awareness, and encourages collaborative interactions within the nursing and health care team" (p. 5); "demonstrates effective collaborative problem-solving strategies, including conflict resolution" (p. 5); and "demonstrates professional leadership by building relationships and trust with clients and members of the health care team" (p. 6). Student nurses have a unique perspective in the clinical setting in that they are newly informed and are focused on what ought to be in terms of patient care and team functioning (according to the learned competencies), and are less invested than others in the specific culture of the clinical site. The level of disagreement with items pertaining to the competency and autonomy of one's profession suggests a discrepancy between what student nurses are learning in their professional curriculum and what they are observing and experiencing in their clinical practicum. This is not a new concept in the nursing literature: four decades ago Kramer (1974) coined the phrase "reality shock" to describe the conflict between what student nurses learn in school and what exists in professional practice.

Another factor that may have influenced the rise in *disagreement* with statements summarizing perceptions of IPC is the nature of this particular IPE strategy (as compared with the vast majority of IPE evaluation research, which reveals more *agreement* with statements about IPC). IPE generally takes the form of brief interprofessional encounters in simulated lab, classroom, or workshop settings, seldom in real community and clinical practice settings (Hudson et al., 2013). Such IPE experiences are generally considered "safe," with one or more faculty supervisors facilitating team communication and functioning and managing any team conflict that might arise. Feedback is usually formative in nature, with no detrimental consequences of ineffective collaboration — an interprofessional learning environment that is very different from a "real" clinical environment. This study reveals some of the effects and experiences associated with an IPE strategy that is situated in students' clinical environment. Students' perceptions about interprofessional (interdisciplinary) collaboration might change significantly in the transition from a "safe" interprofessional environment to a "real" one.

Another possible factor is the duration of the event. Is participation in brief, isolated IPE events sufficient to prepare students for effective collaborative practice? Attitudes and behaviours develop over time and with experience, as do autonomy, competence, and confidence, which are supported by a continuous mandatory IPE curriculum spanning the duration of a pre-licensure program (versus a number of isolated IPE events) (Salfi et al., 2012; Thibault, 2011). By the final term of a nursing program, most students are immersed in the clinical setting, with opportunities to work within a health-care team and/or with other health and social care learners and professionals. This is a perfect time to mandate participation in interprofessional activities, such as family/team meetings, rounds, or committees. Although specifically developed interprofessional clinical placements and internships with students from other professional programs would be the ideal IPE opportunity for a BScN student, this is seldom an option due to lack of resources and clinical placements. One area that all educators can capitalize on and that all nursing students have in common is the clinical setting; therefore, maximizing opportunities for IPE within clinical placements is the best alternative for preparing students for collaborative practice.

It is not our intention to downplay the importance of short-duration IPE strategies in safe environments — inarguably, brief encounters with other pre-licensure students are critical, as they provide student nurses an opportunity to acquire knowledge about the professional roles of others and when and how best to collaborate with other professional groups. These exposure-level IPE initiatives also provide an opportunity for students to articulate their own professional role to others, which is as important as learning about the roles of others. However, the findings of this study show that students need to experience a variety of IPE strategies, of both short and long duration, in both safe settings and real health-care environments, if they are to become effective members of a health-care team after graduation.

Hudson and colleagues (2013) conclude that there are a limited number of studies reporting on IPE initiatives in pre-licensure baccalaureate nursing education. They also characterize the few current studies as having small sample sizes and using self-reported data only, which are causes for concern regarding participant bias and memory. They stress the need for more research in the area of IPE strategies in nursing education, with larger sample sizes and use of valid and reliable measures to assess the effectiveness of the strategies. The findings from the present study contribute to the body of research evaluating IPE strategies in baccalaureate nursing education, as they are based on a sufficient sample size and the use of multiple methods to strengthen the data. The findings are also unique in that they report on a longer-duration IPE initiative situated in a "real" clinical environment. This IPE strategy not only showed student nurses that IPC "doesn't always work out," but also helped foster a collaboration-ready mindset: "We're all in this together."

Limitations

The study focused on only one IPE strategy, from one multisite baccalaureate curriculum in southern Ontario. Therefore, the findings may not be generalizable to other nursing or pre-licensure programs. In addition, the findings may have been influenced by the assignment criteria. The research was to be conducted using data from a number of IPE strategies incorporated into the curriculum, but due to unforeseen circumstances this was not possible. It would have been helpful to compare the findings from the evaluation of this IPE strategy with those of other strategies, to validate the differences between short- and long-duration initiatives and between "real" versus "safe" IPE strategies.

Implications for Practice and Research

This study yielded findings that were unexpected yet important to acknowledge when renewing, revising, or designing a new curriculum for student nurses. One suggestion for nursing education and clinical practicums is to include a variety of IPE strategies throughout the curriculum of a program. Strategies that are of both short and long duration, in both safe settings and actual health-care environments, are critical in preparing student nurses to be effective team members.

The differences in student perceptions of IPC pre-IPE strategy was an unexpected finding that warrants further exploration. The three program sites offered the exact same curriculum with similar opportunities for IPE, so it is unclear what influenced such a discrepancy between the perceptions/baseline IEPS scores across the sites. Is it related to the nature of the collaborative environment at each site? Post-IPE strategy this divergence in attitudes and perceptions about interprofessional collaboration across the three sites diminished to a point where the difference was no longer statistically significant. This finding reinforces the need to integrate a variety of IPE strategies throughout a baccalaureate curriculum, especially when the program is spread across multiple sites.

Future research might evaluate similar "real" IPE strategies with nursing cohorts from other educational programs, to see if perceptions are similar across geographical and educational locations. Still to be investigated are the factors that resulted in the variance in students' perceptions and attitudes across the three sites of the BScN consortium (prior to the IPE assignment), given that they shared the exact same curriculum and IPE opportunities for more than 3 years.

It would also be interesting to investigate the perceptions and experiences of other pre-licensure professional groups (such as students in medicine, midwifery, or the rehabilitation sciences) after similar IPE strategies have been implemented in their programs, to determine whether our findings are unique to nursing or are generalizable to other health professions.

Conclusion

There is global consensus that IPE is an essential step in preparing a collaborative practice–ready workforce that will meet the health and social care needs of the population. What remains uncertain is how IPE should be structured and integrated in pre-licensure professional programs to maximize its potential and best prepare student nurses for an extremely complex and ever-changing health-care environment. Although more research is needed in this area, the present results suggest that a variety of IPE strategies should be deployed throughout the entire nursing curriculum so that all students have sufficient opportunities to acquire the knowledge, skills, attitudes, and confidence necessary to become effective members of a health-care team, while at the same time preparing them for the realities of the clinical workplace.

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Appendix 1 *Interview Guide*

1. Describe your experiences with each component of the interprofessional (IP) Assignment. What did you learn from each component?
   a) Required Readings
   b) Mandatory Interprofessional (IP) Collaborative Experiences/ Activities in Clinical Setting
   c) Completion of the Written Component

2. What was your overall experience with this assignment?

3. Would you recommend keeping the IP Assignment in the B.Sc.N curriculum? Eliminate it? Or re-write the assignment? Please justify your response.

4. In your honest opinion, do you think the IP Assignment was helpful in preparing you for interprofessional collaborative practice? Explain your response.

Appendix 2 *Interdisciplinary Education Perceptions Scale (IEPS)*

The following statements are about your perceptions of interprofessional education. Please show how far you *agree* or *disagree* with each statement by **circling one number** against each item.

Statement	Strongly Agree	Agree	Agree > Disagree	Disagree > Agree	Disagree	Strongly Disagree
1 Individuals in my profession are well trained	1	2	3	4	5	6
2 Individuals in my profession are able to work closely with individuals in other professions	1	2	3	4	5	6
3 Individuals in my profession are very positive about their goals and objectives	1	2	3	4	5	6
4 Individuals in my profession need to co-operate with other professions	1	2	3	4	5	6
5 Individuals in my profession are very positive about their contributions and accomplishments	1	2	3	4	5	6
6 Individuals in my profession depend on the work of people in other professions	1	2	3	4	5	6

Continued on next page

Statement	Strongly Agree	Agree	Agree > Disagree	Disagree > Agree	Disagree	Strongly Disagree
7 Individuals in my profession trust each other's professional judgment	1	2	3	4	5	6
8 Individuals in my profession are extremely competent	1	2	3	4	5	6
9 Individuals in my profession are willing to share information and resources with other professionals	1	2	3	4	5	6
10 Individuals in my profession have good relations with people in other professions	1	2	3	4	5	6
11 Individuals in my profession think highly of other related professions	1	2	3	4	5	6
12 Individuals in my profession work well with each other	1	2	3	4	5	6

Source: McFadyen et al. (2007).

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The Contribution of Treatment Allocation Method to Outcomes in Intervention Research

Souraya Sidani, Dana R. Epstein, Richard R. Bootzin, Joyal Miranda, Jennifer Cousins

The purpose of this methodological study was to examine the contribution of treatment allocation method (random vs. preference) on the immediate, intermediate, and ultimate outcomes of a behavioural intervention (MCI) for insomnia. Participants were allocated to the MCI randomly or by preference. Outcomes were assessed before, during, and after completion of the MCI using validated self-report measures. Analysis of covariance was used to compare the post-test outcomes for the 2 groups, controlling for baseline differences. Compared to those randomized, participants in the preference group showed improvement in most immediate outcomes (sleep onset latency, wake after sleep onset, sleep efficiency), both intermediate outcomes (insomnia severity and daytime fatigue), and one ultimate outcome (resolution of insomnia). Using a systematic method for eliciting participants' preferences and involving participants in treatment selection had a beneficial impact on immediate and intermediate outcomes. Additional research should validate the mechanism through which treatment preferences contribute to outcomes.

Keywords: treatment preferences, randomization, preference allocation, behavioural therapy, insomnia, immediate outcomes, intermediate outcomes, ultimate outcomes, methodology, intervention research

CJNR 2015, Vol. 47 Nº 2, 62–80

Résumé

L'incidence de la méthode d'attribution des traitements sur les résultats en matière de recherche sur les interventions

Souraya Sidani, Dana R. Epstein, Richard R. Bootzin,
Joyal Miranda, Jennifer Cousins

La présente étude méthodologique vise à analyser l'incidence de la méthode d'attribution des traitements (aléatoire ou fondée sur les préférences) sur les résultats immédiats, intermédiaires et ultimes d'une intervention comportementale (MCI) destinée à traiter l'insomnie. Les participants se sont vu attribuer une MCI selon une méthode aléatoire ou fondée sur les préférences. Les résultats ont été analysés avant, pendant et après la fin de la thérapie à l'aide d'un instrument d'autoévaluation validé. Une analyse de la covariance a servi à comparer les résultats au post-test des deux groupes en tenant compte des différences de départ. La comparaison montre une amélioration chez les sujets du groupe avec attribution fondée sur les préférences en ce qui concerne la plupart des résultats immédiats (latence du sommeil, temps d'éveil après l'endormissement, efficacité du sommeil), les deux résultats intermédiaires (gravité de l'insomnie, fatigue diurne) et un résultat ultime (résolution des problèmes d'insomnie). Le fait d'avoir recouru à une méthode systématique pour amener les sujets à exprimer leurs préférences et à les faire participer au choix du traitement a eu un effet bénéfique sur les résultats immédiats et intermédiaires. D'autres recherches devraient permettre de valider le mécanisme par lequel les préférences en matière de traitement contribuent aux résultats.

Mots clés : préférences en matière de traitement, répartition aléatoire, attribution fondée sur les préférences, thérapie comportementale, insomnie, résultats immédiats, résultats intermédiaires, résultats ultimes, méthodologie, recherche sur les interventions

Introduction

There is increasing recognition that preferences for treatment affect the achievement of hypothesized outcomes in intervention evaluation research (Floyd & Moyer, 2010; Howard & Thornicroft, 2006). Allocation of participants to their preferred treatment is an alternative to randomization that provides a means for determining the contribution of preferences to outcomes. It also represents what takes place in the context of practice: patients want to be informed of treatments available to address their presenting health problem, to be actively involved in treatment-related decisions, and to select the treatment that is congruent with their preferences (van der Wejden et al., 2010). This methodological study investigated the influence of the method of treatment allocation (random vs. by preference) on the outcomes of a behavioural therapy for the management of chronic insomnia.

Mechanism Underlying the Influence of Treatment Preferences on Outcomes

Participants in a randomized clinical trial may have preferences for the treatments (experimental or comparison) under evaluation. Results of descriptive studies indicate that 60% to 100% of participants have preferences for the medical, surgical, or behavioural interventions investigated (e.g., Preference Collaborative Review Group, 2009). They enrol in the trial with the hope of receiving the preferred treatment. With randomization, participants are allocated to either the preferred or the non-preferred treatment. These two subgroups of participants react differently and their reactions affect outcome achievement. The first subgroup reacts favourably: participants are enthusiastic because they receive the desired treatment; they are motivated to engage in and adhere to it. Adherence induces the hypothesized improvement in outcomes. In contrast, the second subgroup responds unfavourably: participants are dismayed because they are deprived of the desired treatment; they may withdraw from treatment or become less motivated to engage in and adhere to it, yielding less than optimal outcome achievement (Leykin et al., 2007; Sidani, Miranda, Epstein, & Fox, 2009).

Designs Used to Examine the Influence of Treatment Preferences on Outcomes

Two research designs have been used to examine the influence of treatment preferences on outcomes: the randomized controlled trial (RCT), and the preference or partially randomized clinical trial (PRCT). In the RCT, participants' preferences for the treatments under evaluation are assessed at baseline, prior to randomization. At the stage of data analysis, participants are categorized as having received a matched (i.e., congruent with their preference) or mismatched (i.e., incongruent with their preference) treatment. The match–mismatch variable is considered a between-subject factor, similar to the treatment group variable, in the outcome analysis. Significant match main effect and match-by-treatment interaction effect determine the contribution of treatment preferences to outcomes.

In the PRCT, participants indicate their preferences at baseline. Those expressing a preference are allocated to the chosen treatment and those without a preference are randomized to treatment. Significant method of treatment allocation main effect and method of allocation-by-treatment interaction effect provide evidence of the extent to which preferences affect the outcomes (Preference Collaborative Review Group, 2009).

A limited number of studies applied the PRCT to investigate the influence of treatment preferences (Winter & Barber, 2013), raising the question: To what extent is the act of choosing treatment (as is done in the PRCT and in the context of practice), compared to random allocation to treatment (as is done in the RCT), advantageous in producing the hypothesized improvement in the outcomes? This question was addressed in this methodological study by comparing the outcomes for participants who received the same behavioural therapy on the basis of chance (i.e., random) or preference (i.e., act of choosing).

Evidence Supporting the Influence of Treatment Preferences on Outcomes

The influence of treatment preferences on outcomes has been investigated in several individual studies involving medical, surgical, psychoeducational, behavioural, and physical therapies for the management of various presenting health problems, such as obesity, chronic pain, diabetes, and depression. The findings were synthesized in one systematic review and three meta-analyses. The results of the systematic review (King et al., 2005) and two meta-analyses (Preference Collaborative Review Group, 2009; Swift, Callahan, & Vollmer, 2011) supported the benefits of providing treatments that are congruent with participants' preferences; these participants demonstrated improvement in the outcomes, which was of a small-moderate magnitude, evidenced by a mean effect size (Cohen's d coefficient) of .15 (95% confidence interval: .01–.31) (Preference Collaborative Review Group, 2009) and .31 (95% confidence interval: .20–.43) (Swift et al., 2011). In contrast, Gelhorn, Sexton, and Classi (2011) found that preferences for depression treatments had minimal impact on outcomes.

The inconsistent findings could be related to across-studies differences in the type of health problem, population, and treatment under investigation as well as the method used to assess treatment preferences. The method for assessing preferences was often not clearly described and could have resulted in the expression of ill-informed preferences that do not accurately reflect participants' choice of treatment (Bowling & Rowe, 2005). In the present methodological study, a systematic method was used to elicit preferences (Sidani, Epstein, Bootzin, Moritz, & Miranda, 2009), and therefore to enhance the congruence between the desired and allocated treatment.

Study Aims

The aim of this study was to determine the contribution of treatment allocation method (random vs. preference) to outcome achievement. Three categories of outcomes were investigated: immediate, intermediate, and ultimate. Immediate outcomes are the changes in participants' condition that are directly impacted by the intervention. Intermediate outcomes represent changes that follow from the achievement of the immediate outcomes and that contribute to the ultimate outcomes — that is, they mediate the intervention's effects. Ultimate outcomes operationalize the goals that the treatment is set to achieve (Rosen & Proctor, 1978).

Methods

Design

The study was part of a large trial that evaluated the utility of different designs in maintaining the validity and enhancing the clinical relevance of conclusions reached in intervention research (Sidani, Epstein, Bootzin, Moritz, & Sechrest, 2007). The large trial included two treatments: the multi-component behavioural therapy, and sleep education and hygiene for the management of chronic insomnia. Assignment to treatment took place after eligible, consenting persons completed baseline measures. Randomization was done with sealed envelopes that were opened in the presence of participants to identify the treatment they were to receive. Allocation on the basis of preference was guided by participants' responses to the Treatment Acceptability and Preference (TAP) scale (Sidani, Epstein, et al., 2009), which revealed their desired treatment.

The data set selected for this methodological study pertained to participants who were allocated to the treatment — that is, the multi-component behavioural intervention (MCI), either randomly or by preference, and provided post-test outcome data. This decision was made to investigate the main effect of method of treatment allocation on outcomes, controlling for the potentially confounding influence of treatment type and attrition. Furthermore, differences in baseline variables were anticipated due to self-selection into treatment for participants assigned to the preferred treatment. Therefore, personal characteristics showing differences between the two groups of participants (i.e., assigned randomly or by preference), as well as the pre-test outcomes, were considered covariates in the outcome analysis, in order to control their influence on the post-treatment outcomes.

Sample

Persons with chronic insomnia were eligible if they (1) were community-dwelling, non-institutionalized adults (age 21 or older); (2) were able to read and write English; (3) complained of difficulty falling asleep and/or difficulty staying asleep of ≥ 30 minutes per night, experienced for ≥ 3 nights per week as reported in the 14-day sleep diary kept by participants at pre-test; and (4) experienced insomnia for 3 or more months. The exclusion criteria were sleep apnea (as reported by participants), cognitive impairment (indicated by a score < 27 on the Mini-Mental State Exam; Folstein, Folstein, & McHugh, 1975), and psychological impairment (as ascertained with a Global Severity Index T score > 50 on the Brief Symptom Inventory; Derogatis & Melisaratos, 1983).

A total of 257 participants were selected for this methodological study; 161 were in the random group and 96 in the preference group. This sample size allowed for the detection of between-group differences in the post-treatment outcomes of a moderate magnitude, setting beta at .80 and *p* at .05 (Cohen, 1992). The statistical control of respective covariates increased the power to detect differences between the random and preference groups.

Intervention

The MCI consisted of three components: sleep education and hygiene, stimulus control therapy, and sleep restriction therapy. Sleep education and hygiene provides information about factors that affect sleep and contribute to insomnia (which is foundational to understanding the remaining treatment recommendations) and about strategies that are implemented during the day (e.g., engagement in physical activity) and around bedtime (e.g., avoiding caffeine and nicotine) to promote sleep. Stimulus control therapy consists of six instructions, such as getting out of bed if cannot fall asleep or go back to sleep within 15 to 20 minutes and waking up at the same time every day; the aim is to re-associate the bed and bedroom with sleepiness. Sleep restriction therapy consists of limiting the time spent in bed to the individual's sleep time and developing a consistent sleep–wake schedule. The MCI was given in six sessions, once a week over a 6-week period. It has demonstrated effectiveness in reducing the perceived insomnia severity and improving sleep parameters (Morin et al., 2006). Participants' attendance at the MCI sessions was high, with a mean number of 5.7 sessions attended.

Variables and Measures

Personal characteristics. Participants' age, gender, marital status, level of education, employment, and race were assessed using standard questions. Type and duration of insomnia were assessed with relevant items from the Insomnia Interview Schedule (Morin, 1993).

Immediate outcomes. The immediate outcomes for the MCI were the following sleep parameters: (1) sleep onset latency (SOL), representing the length of time, in minutes, it takes to fall asleep; (2) wake after sleep onset (WASO), quantifying the length of time, in minutes, spent awake across all awakenings; (3) total sleep time (TST), referring to the total time, in minutes, spent asleep; and (4) sleep efficiency, reflecting the percentage of the total time in bed actually asleep. The sleep parameters were self-reported with the daily sleep diary kept for 14 days at pre-test, over the 6 weeks of treatment, and for 14 days at post-test. Participants completed the sleep diary upon awakening and returned their responses to a voicemail service daily, to minimize recall bias. The sleep diary is reliable and valid, evidenced by correlation with results of actigraphy (Morin, 1993). The daily sleep parameters were computed from relevant diary data.

Intermediate outcomes. The intermediate outcomes for the MCI included perceived insomnia severity and daytime fatigue. Insomnia severity was measured using the Insomnia Severity Index (ISI; Morin, 1993). It contains seven items related to the nature, severity, and impact of insomnia. A five-point response format is used, ranging from *not at all* (0) to *very much* (4). The interpretation of the total scale score is as follows: a score in the range of 0 to 7 represents no clinically significant insomnia; 8 to 14, sub-threshold insomnia; 15 to 21, clinical insomnia of moderate severity; and 22 to 28, clinical insomnia of high severity (Bastien, Vallières, & Morin, 2001). The ISI has excellent psychometric properties (Morin, Belleville, Bélanger, & Ivers, 2011).

Daytime fatigue was assessed using the Vitality subscale of the Medical Outcome Study, Short Form (SF36). The subscale consists of four items related to the perceived level of tiredness and energy. The transformed score was computed; it ranged from 0 to 100, with high scores representing high vitality. In this study the subscale's items were internally consistent (Cronbach's alpha = .86).

Ultimate outcomes. The ultimate outcomes expected for the MCI were functional status and resolution of the insomnia problem, as reported by participants. Physical, psychological, and social functioning were measured using the respective subscales of the Medical Outcome Study, Short Form (SF36). Transformed scores, ranging from 0 to 100, were computed for each subscale. Higher scores indicated better functioning. These subscales have demonstrated good reliability and validity in different populations (Ware, Snow, Kosinski, & Gandek, 1993). In this study the Cronbach's alpha coefficient was .78 for the physical and psychological function subscales and .86 for the social function subscale.

Perceived resolution of the insomnia problem was measured using one item, at post-test only. The item stated: Do you still have a problem with insomnia? The response options were *not at all* (0), *a little* (1), *somewhat* (2), *much* (3), and *very much* (4).

Treatment preference. The TAP scale (Sidani, Epstein, et al., 2009) was administered to elicit participants' preference for the treatments. The TAP scale contains (1) a description of the treatment under evaluation — the description specifies the name of the treatment (i.e., MCI), what it is set to achieve, the activities in which the participants engage, the treatment recommendations to follow, the schedule of its delivery, its effectiveness in managing insomnia, and side effects; (2) a set of items for participants to rate their perception of the extent to which the MCI is appropriate and effective in addressing their sleep problem and the extent to which they are willing to comply with it; and (3) an item inquiring about their preference for the treatments. The TAP scale has demonstrated acceptable psychometric properties (Sidani, Epstein, et al., 2009).

Procedure

The study protocol was approved by the Institutional Review Board at the participating sites. Persons with insomnia were recruited through advertisements in local newspapers and the distribution of flyers at community health and sleep clinics. Interested persons phoned the study research office and the research assistant informed them of the study requirements. After securing oral consent, the research assistant administered the screening questionnaire and mailed them copies of the daily sleep diary to determine their eligibility. Eligible persons attended a data-collection session at the study office, during which they provided written consent and completed the pre-test measures. Participants were then allocated to the MCI randomly or by preference. They attended the treatment sessions and completed the daily sleep diary over the 6 weeks of treatment. Trained therapists, including graduate students, postdoctoral fellows, and advanced practice nurses, facilitated the treatment sessions. Two weeks after treatment completion, participants were mailed a package enclosing the outcome measures and the daily sleep diary and requesting them to return the completed outcome measures in the return envelope and to phone in their responses daily regarding the sleep diary.

Data Analysis

The sleep parameters were computed from relevant diary data and averaged across the 14 days to quantify the respective values for pre-test and post-test, and across the 7 days to represent the respective weekly values during the treatment period. The total scores for the remaining outcomes were calculated as per available instructions. Frequency and measures of central tendency (mean) and dispersion (standard deviation) were used to describe the personal profile of participants in each group. Independent samples *t* test (for continuous variables) and chi-square test (for categorical variables) examined differences in these characteristics between the random and preference groups. Characteristics showing statistically significant between-group differences, as well as the pre-test outcomes, were considered as covariates in the post-test outcome analyses. Analysis of covariance was used to compare the post-test outcomes between the random and preference groups, controlling for the potential confounding influence of the covariates. Repeated measures analysis of covariance, controlling for the same covariates, was used to compare the sleep parameters assessed over the 6 weeks of treatment for the random and preference groups. In addition, the partial eta^2 (η^2) estimated the magnitude of the time, group, and time x group effects.

Results

Characteristics of Sample

As shown in Table 1, participants were middle-aged, well-educated women. About half of the participants were married and employed. The majority were white. Most participants experienced insomnia manifested as difficulty falling asleep and difficulty staying asleep for an average of 11 years. Participants in the random and preference groups differed in age, sex, and employment status. The preference group comprised more women and younger, employed persons. Since age and employment status were related, age and gender were entered as covariates in the post-test outcome comparisons.

There were no statistically significant differences between the random and preference groups in reported insomnia severity and the sleep parameters assessed at pre-test (all p's $> .05$). On average, participants' sleep problem was of moderate severity, as indicated by a mean score on the ISI of 17.6 (± 3.9), sleep onset latency of 42.9 minutes (± 30.7), wake after sleep onset of 54.4 minutes (± 33.9), and sleep efficiency of 69.9% (± 10.4).

Table 1 ***Personal Characteristics of Sample***

Characteristic	**Total Sample (*N* = 257)**	**Random Group (*n* = 161)**	**Preference Group (*n* = 96)**
Age (mean years)*	56.0	50.2	59.5
Sex (% women)*	59.5	71.6	52.5
Marital status (% married)	53.3	56.1	48.4
Education (mean years)	15.7	15.7	15.6
Employment status (% employed)*	55.6	72.6	45.1
Race (% white)	90.0	90.2	90.1
Type of insomnia			
Difficulty falling asleep (%)	72.5	73.2	71.9
Difficulty staying asleep (%)	91.5	92.0	91.
Duration of insomnia (mean years)	11.0	10.9	11.3

* $p < .05$

Comparisons on Immediate Outcomes

The adjusted mean scores on the sleep parameters observed for the random and preference groups, over the 6 weeks of treatment and at post-test, are reported in Table 2.

Statistically significant differences between groups over time were found for the sleep parameters. For *sleep onset latency,* only the time x group interaction effect was significant, $F(6,226) = 2.43$, $p = 0.035$, partial $\eta^2 = .01$. Although participants in both groups showed a reduction in this parameter, those in the preference group maintained a lower mean score at post-test than those in the random group. It is interesting to note that, on average, the preference group demonstrated a mean decrease of 6.9 minutes from week 1 of treatment to post-test, whereas the random group exhibited a mean increase of 2.9 minutes over the same period. For *wake after sleep onset,* the time x group interaction effect, $F(6,226) = 3.12$, $p = 0.007$, partial $\eta^2 = .01$, and the group main effect, $F(1,231) = 4.89$, $p = .028$, partial $\eta^2 = .02$, were statistically significant. The same pattern as found for sleep onset latency was observed for wake after sleep onset, in that the preference group reported a decrease in this sleep parameter over the treatment period and at post-test; the mean reduction was 4.0 minutes. The random group showed a decrease in the mean wake-after-sleep-onset score over the 6 weeks of treatment but a

Table 2 ***Adjusted Mean Scores for Sleep Parameters Measured During Treatment Period and at Post-test***

Outcome	Time of Measurement	Random Group	Preference Group
Sleep onset latency	Week 1	24.00	28.34
	Week 2	21.23	22.16
	Week 3	21.34	22.43
	Week 4	20.60	20.62
	Week 5	20.13	19.15
	Week 6	20.88	19.75
	Post-test	26.88	21.44
Wake after sleep onset	Week 1	28.38	26.30
	Week 2	25.79	24.03
	Week 3	27.59	23.51
	Week 4	25.46	21.31
	Week 5	26.09	21.49
	Week 6	24.58	23.10
	Post-test	33.38	22.26
Total sleep time	Week 1	326.45	325.97
	Week 2	345.15	345.84
	Week 3	358.45	354.28
	Week 4	364.79	366.88
	Week 5	373.20	367.76
	Week 6	380.84	369.55
	Post-test	376.72	376.11
Sleep efficiency	Week 1	81.03	80.53
	Week 2	83.11	83.40
	Week 3	83.91	83.89
	Week 4	84.76	85.41
	Week 5	84.68	85.46
	Week 6	85.20	84.43
	Post-test	81.84	85.27

slight increase (5.0 minutes) at post-test. For the *total sleep time,* only the time effect was statistically significant, $F(6, 226) = 7.23$, $p = .001$, partial $\eta^2 = .03$, indicating that the mean score on this sleep parameter increased over time in both groups, by an average of 50 minutes. For *sleep efficiency,* the time x group interaction effect, $F(2,226) = 3.46$, $p = .005$, partial $\eta^2 = .01$, and the time main effect, $F(2,226) = 2.84$, $p = .016$, partial $\eta^2 = .01$, were statistically significant. Participants in the preference group exhibited an increase in this sleep parameter over the treatment period that was maintained at post-test; the post-test mean score was 4.7 points higher than the mean in week 1 of treatment. Those in the random group reported an increase in sleep efficiency during the treatment period that was not maintained at post-test; at the latter time, the mean score was comparable to that found in week 1 of treatment.

Comparisons on Intermediate Outcomes

The adjusted scores on the intermediate outcomes assessed at post-test are shown in Table 3. There were statistically significant between-group differences in perceived insomnia, $F(1,234) = 15.8$, $p < .001$, partial $\eta^2 = .06$, and daytime fatigue, $F(1,239) = 4.8$, $p = .02$, partial $\eta^2 = .020$. On these outcomes, participants in the preference group improved more than those in the random group.

Comparisons on Ultimate Outcomes

The random and preference groups had comparable levels on two ultimate outcomes measured at post-test: physical function, $F(1,238) = .28$, $p > .05$, and psychological function, $F(1,239) = .35$, $p > .05$, yielding effect sizes (partial η^2) close to zero. The preference group had a slightly higher mean score on social function than the random group, $F(1,239) = 3.1$, $p = .07$, partial $\eta^2 = .013$. In contrast, there was a statistically significant difference in the perceived resolution of insomnia, $F(1,248) = 5.1$, $p = .02$, partial $\eta^2 = .020$; participants in the latter group reported that they experienced the insomnia problem to a lesser extent than those in the random group.

Table 3 *Adjusted Mean Scores for Outcomes Measured at Post-test*

Category of Outcome	Outcome	Random Group	Preference Group
Immediate	Self-efficacy about sleep	3.1	3.1
Intermediate	Perceived insomnia severity*	12.5	9.8
	Daytime fatigue**	51.6	56.7
Ultimate	Physical function	84.8	85.7
	Psychological function	74.8	75.9
	Social function	79.7	84.3
	Perceived resolution of insomnia**	2.0	1.7
	Health-services utilization	0.8	0.8

* $p \leq .01$, ** $p \leq .05$

Discussion

This study extends previous research related to the contribution of treatment preferences on outcomes, in three ways. First, it provided a group of participants the opportunity to be actively involved in the selection of treatment. Thus, it facilitated the examination of the extent to which the act of choosing treatment influences the achievement of outcomes, whereas previous studies focused primarily on determining the effects of receiving matched treatment (i.e., treatment that is congruent with choice) on outcomes in the context of randomization (Winter & Barber, 2013). Second, a systematic method was used to elicit participants' treatment preference. Therefore, the expressed preferences are well informed, based on evaluation of the treatment attributes, and accurate in reflecting participants' choice. In contrast, reports of previous studies do not detail the method followed for identifying treatment preferences, raising questions about the extent to which the treatment information given to participants was unbiased, easy for lay persons to understand, comprehensive, and useful for participants in making a choice. Also, the expressed preferences accurately represented participants' choice, generated from a careful consideration of the treatment's appropriateness, benefits, and convenience. Third, this study extends previous research by examining the influence of treatment preferences on three outcome categories: immediate, intermediate, and ultimate. This distinction among outcomes accounts, at least partially, for the inconsistent findings related to the influence of treatment preferences on outcomes: it is possible that the intervention and treatment preferences have significant effects, of a moderate magnitude, on the immediate and intermediate outcomes, but non-significant or small effects on the ultimate outcomes. The non-significant effects are anticipated because the intervention has indirect effects on the ultimate outcomes, mediated by improvements in the immediate and intermediate outcomes (MacKinnon & Fairchild, 2009). It is important to note that most outcomes examined in this and other studies were assessed using self-report measures. The extent to which the findings supporting the contribution of treatment preferences to outcome achievement is applicable to objectively measured outcomes (such as sleep parameters assessed with actigraphy) should be explored in future research.

Overall, the findings partially support the advantage of involving participants in treatment selection in enhancing the achievement of the outcomes expected of an intervention. Comparisons on the sleep parameters assessed during the 6 weeks of treatment indicated significant differences in sleep onset latency, wake after sleep onset, and sleep efficiency between the random and preference groups over time and a significant improvement in total sleep time in both groups. This pattern of results suggests that participants provided with the treatment of their choice are motivated to adhere to its recommendations (Leykin et al., 2007; Sidani, Epstein, et al., 2009). Adherence to the recommendations early on in the treatment period yields improvement in the immediate outcomes, which promotes further adherence and consequently greater improvement in outcomes towards the end of the treatment period. Adherence and experience of positive changes in outcomes, sustained over the treatment period, translated into between-group differences in the three sleep parameters assessed following treatment. At post-test, participants in the preference group demonstrated shorter sleep onset latency and wake after sleep onset, and higher sleep efficiency, than those randomized to the intervention. The effect sizes for these sleep parameters were of a small-to-moderate magnitude. The non-significant group difference in total sleep time during and after the treatment period may be due to the sleep restriction therapy component of the MCI. The active ingredient of sleep restriction therapy consists of limiting the amount of time in bed to the actual sleep time and developing a consistent sleep–wake schedule. It is possible that the total sleep time prescribed to most participants was comparable and adequate to induce the sleep drive that promotes a good night's sleep (Epstein, Sidani, Bootzin, & Belyea, 2012). Such positive experience encourages adherence to treatment and achievement of the outcomes regardless of the participants' initial desire for the intervention.

The preference and random groups differed in perceived insomnia severity and daytime fatigue at post-test. The differences in these intermediate outcomes were of small-to-medium magnitude, favouring participants in the preference group. The observed decrease in insomnia severity and daytime fatigue are to be expected as a result of the improvement in most sleep parameters reported by those in the preference group. In addition, the beneficial changes in insomnia severity and daytime fatigue account for the between-group difference in the ultimate outcome of perceived resolution of the insomnia problem. Participants in the preference group had a lower mean score on this outcome, as compared to those in the random group; however, the difference was of a small magnitude. In contrast, the two groups reported comparable levels of physical, psychological, and social function. This finding is expected, for two interrelated reasons: high levels of improvement in function may not be experienced within a very short span of time (i.e., 2 weeks) following treatment, and may be mediated by a reduction in insomnia severity and daytime fatigue. The interrelationships among the immediate, intermediate, and ultimate outcomes were not examined in this study; they should be investigated in future research to determine the extent to which providing the preferred treatment promotes initiation of the mechanism underlying its effects. This is done by testing its direct effects on the immediate and intermediate outcomes and its indirect effects on the ultimate outcomes, using path or structural equation modelling analysis (MacKinnon & Fairchild, 2009). The results of such mediational analysis indicate significant direct effects on the immediate and intermediate outcomes, significant association between these and the ultimate outcomes, and non-significant direct effects on the ultimate outcomes.

This study's findings are comparable to those expected in a mediational analysis. There were significant differences between the random and preference groups in three of the five immediate outcomes, in the two intermediate outcomes, and in one of the four ultimate outcomes. This pattern of results may explain the inconsistency in identifying the contribution of treatment preferences to outcomes observed in previous research, whereby studies reporting a significant impact of treatment preferences may have examined immediate and intermediate outcomes and those reporting non-significant effects have investigated their direct effects on ultimate outcomes. Other possible factors accounting for the inconsistency are as follows: (1) the rather small sample size included in individual studies, which may have reduced the power to detect the impact of preferences on outcomes; however, the results of three meta-analyses (Gelhorn et al., 2011; Preference Collaborative Review Group, 2009; Swift et al., 2011) pooling data across studies, and hence large number of participants, demonstrated small-to-moderate effects of treatment preferences on outcomes; (2) the unbalanced distribution of participants who received their preferred treatment across the treatment conditions under evaluation, which prevented any meaningful interpretation of differences in the outcomes assessed at post-test (Leykin et al., 2007); (3) use of instruments with limited psychometric properties for assessing treatment preferences and/or outcomes; and (4) the sample composition, whereby studies that examined the influence of treatment preferences in the context of RCT may have included persons willing to be randomized and/or those expressing no strong preferences for the treatments under investigation, as suggested by Leykin et al. (2007).

Involving participants in the selection of treatment and providing the treatment of their choice in intervention evaluation trials appear to contribute to the achievement of positive outcomes. This conclusion confirms the results of naturalistic studies that examined the influence of patients' participation in treatment-related decisions and that indicated increased satisfaction and comfort with the decision made, as the selected treatment is aligned with their expectations and values (Newman, Charlson, & Temple, 2007); adherence to treatment; and improvement in outcomes (Bower, Gilbody, Richards, Fletcher, & Sutton, 2006; Dwight-Johnson, Unutzer, Sherbourne, Tang, & Wells, 2010; Konradson, Nielson, Larsen, & Hansen, 2012; Swanson, Bastani, Rubenstein, Meredith, & Ford, 2007).

Although these results demonstrate the benefits of providing the treatment of choice, further research is required to elucidate the exact mechanisms through which treatment preferences affect outcomes. The following interfering factors should be explored before the positive direct influence of treatment preferences on the immediate and intermediate outcomes can be established: (1) the possibility that participation in treatment selection enhances the therapeutic alliance between the therapist and participants, as reported by Kwan, Dimidjian, and Rizvi (2010); this alliance has been found to account for more variance in the post-test outcomes than the treatment itself (Fuertes et al., 2007); (2) the likelihood that participants changed their perception of the chosen treatment after experiencing it, as suggested by Lewis, Napolitano, Whiteley, and Marcus (2006); and (3) participants' expectancies (expectations) that the treatment they desire is effective; Glass, Arnkoff, and Shapiro (2001) found a significant association between expectancies and outcomes in 12 of 24 studies and estimated that expectancies accounted for about half of the effectiveness of psychotherapy. Future research could include a mix of quantitative and qualitative methods to examine the mechanisms underlying the influence of preferences on outcomes, while accounting for possible mediators such as therapeutic alliance and treatment or outcome expectancies.

Conclusion

This study extends previous research on the contribution of treatment preferences to outcome achievement. Use of a systematic method for eliciting participants' preferences and allocating them to the preferred treatment had a beneficial impact on the immediate and intermediate outcomes more than on the ultimate outcomes. Additional investigation is needed to determine the indirect effects of preferences on ultimate outcomes (mediated by improvement in immediate and intermediate outcomes) and to clarify the mechanism through which treatment preferences affect the outcomes, while ruling out possible confounds such as outcome expectancies.

Evidence to date supports the contribution of treatment preferences to outcomes in intervention research. Researchers are encouraged to explore the influence of preferences in studies aimed at evaluating the efficacy of interventions using the RCT design or the effectiveness of interventions applying the PRCT design and valid measures of preferences.

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Acknowledgements

This study was funded by the National Institutes of Health/National Institute of Nursing Research (NR05075) and partially supported by resources provided by the Phoenix Veterans Affairs Health Care System.

Statement: The contents do not represent the views of the Department of Veterans Affairs or the United States Government.

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CJNR 2015, Vol. 47 Nº 2, 81–96

Immunization Rejection in Southern Alberta: A Comparison of the Perspectives of Mothers and Health Professionals

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Qualitative grounded theory was used to compare and contrast the understanding and decision-making process of non-immunizing mothers and health professionals' perceptions of these mothers' understanding and decision-making process. The sample comprised 8 mothers with purposefully unimmunized children under the age of 6 years and 12 health professionals. Semi-structured interviews were conducted and the data generated were analyzed using data immersion, memo-writing, and 3 stages of coding. The mothers and health professionals identified similar, interrelated factors influencing the mothers' decision, categorized into 4 groups: emotions, beliefs, facts, and information. Three primary themes were evident: the health professionals emphasized the influence of religion in decision-making to a greater extent than did the mothers, the meaning of *evidence* appeared to differ for mothers and health professionals, and mothers revealed a mistrust of health professionals. Immunization is a public health issue; collaboration and understanding are necessary to promote positive health outcomes in children.

Keywords: decision-making, mothers, public health, nurse relationships/ professional issues

CJNR 2015, Vol. 47 Nº 2, 81–96

Résumé

Le rejet de la vaccination dans le sud de l'Alberta : une comparaison des points de vue des mères et des professionnels de la santé

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Les auteures se sont fondées sur une théorie qualitative à base empirique pour comparer l'analyse et la démarche des mères qui décident de ne pas faire vacciner leurs enfants, à l'idée que s'en font les professionnels de la santé. L'échantillon comprend 8 mères ayant délibérément omis de faire vacciner leurs enfants de moins de six ans et 12 professionnels de la santé. Les auteures ont mené des entrevues semi-directives dont les données ont été analysées suivant une méthode fondée sur l'immersion, la prise de notes et trois étapes de codage. Les deux groupes évoquent des facteurs semblables et interdépendants pour expliquer la décision des mères, qu'on peut répartir en quatre catégories : émotions, convictions, faits et information. Trois grands thèmes en ressortent : les professionnels de la santé insistent davantage que les mères sur l'influence de la religion dans la prise de décision; les mères et les professionnels de la santé semblent accorder un sens différent aux *données probantes;* les mères expriment une certaine méfiance à l'égard des professionnels de la santé. La vaccination est un enjeu de santé publique; la promotion de résultats de santé positifs chez les enfants doit reposer sur la collaboration et la compréhension des enjeux.

Mots clés : prise de décision, mères, santé publique, rapports/enjeux professionnels

The introduction of vaccines is considered a marvel of modern science and one of the most remarkable successes of public health. According to the World Health Organization (WHO) (2013), two to three million lives are spared annually as a result of immunization, and rates of diseases such as measles, rubella, and polio have decreased by over 95% in Canada since the introduction of vaccines (Gold, 2006). Smallpox, which historically plagued millions of children globally, is now eradicated (Public Health Agency of Canada [PHAC], 2005). Despite the success of immunization, the WHO (2011) specifies that 23 million infants worldwide are not routinely immunized, raising fears that nearly eliminated vaccine-preventable diseases, such as polio, will re-emerge. Currently, measles outbreaks around the globe have highlighted the importance of vaccination. Poor vaccine coverage has led to the resurgence, with 147 reported cases as of February 2015 in the Americas alone (WHO, 2015).

To Immunize or Not to Immunize?

One of the most significant decisions parents make in terms of their child's health is whether to participate in childhood immunization. Austin, Campion-Smith, Thomas, and Ward (2008) and Sturm, Mays, and Zimet (2005) identify factors that influence immunization decision-making: concerns about vaccine safety, risk versus benefit of vaccines, guilt, confusion due to conflicting information, health-care provider attitudes, mistrust of government and health professionals, personal attitudes and beliefs, social norms, media reports, inexperience with vaccine-preventable diseases, and lack of knowledge about immunization. The current literature uses the term *vaccine-hesitant parents* (Sadaf, Richards, Glanz, Salmon, & Omer, 2013), while in this study we also use the term *non-immunizing parents.*

One ongoing challenge is the diversity of populations and their acceptance or rejection of immunization. At the site of the present study in southern Alberta, Canada, there exist non-immunizing individuals within cultural or religious groups, including Hutterites, Mennonites, Dutch Reformed, and people adhering to alternative health beliefs (Kulig et al., 2002). According to Matkin, Simmonds, and Suttorp (2014), cultural and religious norms and expectations make it challenging for group members to make informed decisions about immunization.

Over the last decade, southern Alberta has dealt with significant vaccine-preventable disease outbreaks. Pertussis outbreaks have occurred every 3 to 5 years, the most recent outbreaks being in 2009 and 2012 (Matkin et al., 2014). In 2014, outbreaks of measles and pertussis affected a number of communities in Alberta (Matkin et al.), placing avoidable pressure on the health-care system and the economy (Alberta Health and Wellness [AHW], 2007).

According to the Government of Alberta (2012), childhood immunization rates in southern Alberta are slightly lower than in the province as a whole. For instance, in 2010 the percentage of children fully immunized with the measles-mumps-rubella (MMR) vaccine by age 2 was 85.68% for all of Alberta, compared to 83.93% for southern Alberta (Government of Alberta); to achieve effective herd immunity for measles in Alberta, the target is 98% for 2-year-old children to have received one dose of MMR vaccine (Matkin et al., 2014). The immunization rates for all childhood vaccines for 2-year-old children varied among communities in southern Alberta; however, 42.8% of 2-year-olds were unimmunized as of June 2013 (Matkin et al.).

Global, national, and provincial immunization strategies have been drawn up in response to the challenges of low immunization rates, aimed at addressing immunization issues, promoting immunization, and ultimately improving immunization rates (AHW, 2007; PHAC, 2005; WHO, 2010). On the whole, health-care professionals (HCPs) have welcomed these strategies as a means to promote health and prevent disease, which is necessary to curb rising health-care costs around the globe (Khorsan, Smith, Hawk, & Haas, 2009).

HCPs, such as physicians, public health nurses (PHNs), and chiropractors, in southern Alberta are impacted by the unique immunization situation there and may be sought for support and advice on the topic of immunization by their patients. Bedford and Lansley (2006) found that 59% of participants in their study in the United Kingdom obtained immunization advice from HCPs. They also found that a trusting relationship with HCPs is crucial in parents' decision whether or not to immunize their children. Similarly, Leask et al. (2008) found that HCPs influence parents in their decision whether or not to immunize their children.

According to Plastow (2006), HCPs are responsible for promoting childhood immunization as well as for providing accurate, evidence-based information to their patients and the general public, while respecting the autonomy and freedom of choice of individuals, as stated in the 2011 *Canadian Charter of Rights and Freedoms*. Childhood immunization falls under public health in Canada (Health Canada, 2009); therefore in many provinces, including Alberta, PHNs deliver the publicly funded immunization programs. The scope of practice of a PHN in Canada involves communicable disease prevention, which consists of planning, coordinating, delivering, and evaluating immunization programs, in addition to being accountable for current knowledge on immunization, skills in administering vaccines, and appropriate therapeutic communication skills (Community Health Nurses of Canada, 2009; Manitoba Health, 1998).

Purpose

The purpose of this study was to explore and compare the understanding and decision-making of non-immunizing mothers with the perceptions of HCPs regarding non-immunizing mothers' understanding and decision-making concerning childhood immunization. The study was part of a larger investigation of the topic (Vandenberg, 2013) guided by four research questions: (1) How do mothers develop an understanding of immunization? (2) How does mothers' understanding of immunization influence their decision not to participate in childhood immunization? (3) How do HCPs perceive non-immunizing mothers' understanding of immunization and their decision not to immunize their children? (4) How do the understanding and decision-making process of mothers compare with the perceptions of HCPs regarding childhood immunization?

Method

Design

This study took place in southern Alberta with mothers from both rural and urban settings. A qualitative research approach was used, with Straussian grounded theory (Corbin & Strauss, 2008; Glaser & Strauss, 1967) as the research design and symbolic interactionism (Mead, 1934) as the theoretical framework, to explore and compare the perceptions of non-immunizing mothers and HCPs regarding immunization. The selected research design and research questions enabled the participants to openly share their feelings, beliefs, and worldviews.

Symbolic interactionism is a useful perspective for understanding human beings and their behaviours in the world they inhabit and for according their words the greatest importance, which allows for close association with qualitative research (Mead, 1934). Grounded theory is a useful methodology for conceptualizing dimensions of social processes and for considering participants' views, intentions, and actions (Glaser & Strauss, 1967). Straussian grounded theory was chosen because it compels the researcher to assume a position of objective external reality while giving voice to the participants and acknowledging their worldviews (Corbin & Strauss, 2008).

The main features of grounded theory are theoretical sampling, simultaneous data collection and analysis, comparative methods, three phases of data coding, memo-writing, and theory generation (Ghezeljeh & Emami, 2009; Jeon, 2004), all of which were adhered to in this study. Ethical approval was obtained from the authors' affiliated academic institution and the relevant health-services agency. The *Tri-Council Policy*

Statement: Ethical Conduct for Research Involving Humans was followed and hence principles such as confidentiality of documents and information were upheld.

Sample

Eight mothers of children under the age of 6 years who purposefully had not immunized them with routine recommended childhood immunizations according to the Alberta Immunization Schedule were recruited using posters placed at locations frequented by mothers and children, such as health clinics, libraries, and family centres. Also, a notice was placed in a faith-based newsletter outlining the study and inviting interested mothers to contact the first author. Once contact was made with four mothers, snowball sampling was used to make contact with four others. Mothers were specifically chosen, rather than parents, given mothers' intimate, emotional relationship with their children and their involvement in health decision-making.

Twelve HCPs, comprising four PHNs, five chiropractors, two pediatricians, and one specialist physician who had a professional relationship with families, were recruited via formal letter of invitation. Letters were mailed to a wide variety of chiropractors in both rural and urban settings in southern Alberta. A fifth chiropractor was interviewed as a result of one chiropractor in the initial group of four expressing a non-supportive view of immunization; this additional interview allowed for the generation of further information from this perspective.

Although they do not administer vaccines, chiropractors were chosen for the study because the literature suggests that they are consulted by parents for information on childhood immunization (Medd & Russell, 2009; Page, Russell, Verhoef, & Injeyan, 2006). Furthermore, in their study with Alberta chiropractors, Medd and Russell (2009) found that chiropractors did not have a positive view of immunization, and, in another study, Russell, Injeyan, Verhoef, and Eliasziw (2004) found that only 25% of chiropractors advised their patients to immunize and 27% were opposed to immunization.

Letters were mailed to all practising pediatricians in southern Alberta and telephone calls were used to enhance recruitment. PHNs were recruited from both urban and rural settings in southern Alberta. PHNs were chosen because of their direct involvement in delivering the childhood immunization program in Alberta and pediatricians were chosen based on their expert knowledge of pediatric health issues. Additional HCPs who have a role in childhood immunization, such as family physicians, were not recruited because a sufficient sample size was achieved using other groups of providers.

Data Collection and Analysis

Data collection consisted of individual semi-structured interviewing of mothers and HCPs. Interviews were conducted by the first author in a location convenient for the participants. The interviews with mothers focused on knowledge about childhood immunization, experience with HCPs, beliefs and feelings about immunization, sources of information on the subject, and the decision-making process around childhood immunization. Interviews with HCPs concentrated on perceptions of childhood immunization, sources of information on the subject, role in immunization, relationship with non-immunizing mothers, and perceptions about mothers' immunization decision-making process.

Written and oral informed consent was obtained from all participants. Interviews were audiorecorded and transcribed verbatim by the first author.

In accordance with grounded theory research, data collection and analysis were carried out concurrently (Strauss & Corbin, 1998). The first author analyzed the data from all of the interview transcripts, field notes, and memos, while the second author analyzed the data from several transcripts. The authors met on several occasions to review the findings and discuss themes and factors. The components of rigour as prescribed by Liamputtong (2013) were ensured in the following ways: credibility was established through the data collection and analysis processes; transferability was achieved by making sure that participants' ideas and perceptions were outlined in considerable detail in the findings; dependability was ensured via proper data management and including details of the data analysis; and confirmability was achieved by means of the two authors independently analyzing and confirming the findings. NVivo software was used in the storing, managing, and analyzing of the data.

Findings

Eight non-immunizing mothers in southern Alberta were interviewed, of whom four were rural residents and four urban. Their ages ranged from 25 to 37 years with a mean age of 30. All but one were married. Their education varied from partial high school to bachelor's degree. Their number of children ranged from two to six. All indicated that they were of Caucasian ethnicity. All mothers specified a religious faith, described as either Christian or Latter Day Saints (Mormon). The first author attempted to recruit mothers from a variety of cultural and religious backgrounds, given the unique demographic situation in southern Alberta; however, mothers of Mennonite, Hutterite, and First Nations backgrounds did not respond to recruitment efforts.

Twelve HCPs were recruited for the study. Their ages ranged from 29 to 61 years, and there was an even representation of women and men. Length of time as an HCP ranged from less than 1 year to more than 20 years, with a mode length of greater than 20 years. Ten HCPs indicated that they were Caucasian and two identified as of another race.

Mothers described the immunization decision-making process as lengthy, difficult, and complex and indicated that the decision was reached not carelessly but purposefully. They considered the health of their children to be one of the most important matters to them and felt that they were making the decision that was best for their children. Similarly, HCPs realized the difficulty in making decisions regarding the health of children and understood that non-immunizing mothers were doing what they believed would ensure the health of their children. Professionals also acknowledged the importance of the risk-versus-benefit analysis. They knew that mothers weighed the risks of immunization against the risk of disease but felt that the success of immunization programs in keeping vaccine-preventable diseases at bay was not fully appreciated.

Both mothers and HCPs identified a number of interrelated factors that contribute to immunization decision-making, which fall under four themes — *emotions, beliefs, facts,* and *information* — although the authors acknowledge that the factors discussed below could debatably be placed under multiple themes.

Emotions

Mothers explored a number of emotional factors that had led them to not take part in the universal childhood immunization program. These included fear, negative experiences, guilt, indifference, and social belonging. Comparably, HCPs identified fear and social inclusion as emotional factors in decision-making. HCPs clearly recognized emotional motivation as an important factor.

Mothers discussed fear of the unknown and fear of vaccine effects, in addition to fear resulting from negative experiences with immunization: "I didn't feel secure doing it. To me it was kind of a scary thing." HCPs also found fear to be an integral paralyzing factor that forced mothers to defer to a passive decision, which was to refuse to immunize their children. One PHN said, "They are hearing all these different things — it influences them, because it scares them and it almost paralyzes them to not know what to do . . . they are really quite fearful for their own children."

Mothers also discussed feelings of guilt and the inability to forgive themselves should harm result from immunization: "I think that if I went along with it and something happened, that [it] was my responsibility, just the guilt would be huge." There were feelings of indifference due to the belief that diseases are not as serious as they are thought to be, as a result of tolerable personal experiences with vaccine-preventable diseases. One mother described her experience with chickenpox: "I mean, you go through a couple of days, but it's no big deal really."

Mothers indicated that they felt pressure from family, friends, and religious or cultural groups regarding childhood immunization: "We asked quite a few different people when we were trying to decide whether to immunize or not, like, our friends . . . probably [it was] how the people around me think about immunizations that led to [my] being okay with the decision not to immunize."

HCPs similarly identified social inclusion as an important emotional factor for mothers, who might have grown up in cultural or religious groups where, generationally, immunization was not adhered to and consequently refusing vaccines had became a matter of social or familial inclusion. One PHN said, "Sometimes that informed choice is peer pressure . . . they want to keep their cultural identity . . . there's a tremendous amount of peer pressure."

Beliefs

Mothers identified a combination of religion, natural health beliefs, and mistrust as factors in their decision about immunization. Clearly, religion was a factor: "If my children [were to] get sick, I would consider that . . . God's hand." While all the mothers mentioned a religious affiliation, their affiliations differed. Furthermore, religion was not a predisposing factor in the decision-making process. In contrast, HCPs perceived religious beliefs to be a central influence in southern Alberta for mothers not to immunize their children. However, they generalized non-immunizing mothers into what they viewed as the non-immunizing groups in the region, namely the Hutterites, Mennonites, and Dutch Reformed.

A preference for a natural body free of unnatural substances, such as vaccines, was explored with the mothers. One mother said, "It's more important for me to build up the immune system rather than bombard it with something that could be prevented just by having a stronger immune system." Mothers believed that the body's immune system is designed to ward off vaccine-preventable diseases, a belief that was also held by two HCPs who were unsupportive of childhood immunization.

Mothers openly acknowledged a mistrust of HCPs, pharmaceutical companies, and government, derived from anecdotal information and personal experiences. They believed that HCPs provide biased information, given the role of HCPs in health care, and described government and pharmaceutical companies as being financially motivated to promote vaccines. Comments by two different mothers highlight this perception:

"I think HCPs are seen as, well, of course, they are for that [immunization] because that is what HCPs are taught to think, so maybe you discredit it a little bit"; "There's a lot of literature out there how the pharmaceutical companies really push the doctors into pushing vaccines, and they get their perks and their trips."

HCPs knew that the mothers had little trust in them and were aware of the perception that they were financially associated with government and pharmaceutical companies. One chiropractor said, ". . . especially nowadays, distrust of the government and of pharmaceutical companies, and of anyone who has a financial backing in the sales and production of medicine, so that's definitely some powerful, persuasive forces for people to weed through."

Facts

The third theme identified was facts — information that is true or certain. Four factors were placed under this theme: lack of exposure to vaccine-preventable disease, vaccine ingredients, multiple vaccines/antigens, and vaccine ineffectiveness.

Mothers and HCPs acknowledged that immunization programs, on the whole, have been successful at preventing vaccine-preventable diseases and that, consequently, these diseases are no longer considered a threat, making it difficult to appreciate immunization. "It's so easy to forget about it, not think about it," said one mother, "because most of these diseases aren't really a threat immediately . . . it's so easy to put it off, because there's no threat, really. If there is, you don't see it." According to the HCPs, the perceived risk of disease was lower than the perceived risk of vaccine side effects: "Weighing . . . the difference between which one is going to cause harm is sometimes difficult for a parent when you don't see disease."

Vaccine ingredients were a significant obstacle for the mothers, because these were mistakenly associated with harmful chemicals, including mercury, formaldehyde, and animal DNA. Mothers also made reference to the alleged presence of human diploid tissue in vaccines. One mother said, "Over time, all the chemicals and things that have been added, that's what kept us from doing it." HCPs also considered vaccine ingredients to be an impediment to immunization. They expressed concern that mothers believed that vaccines contain various metals and fetal tissue.

The mothers were concerned about the number of recommended childhood vaccines as well as the number of antigens in a specific vaccine, believing that multiple vaccines and/or antigens bombard a child's immature immune system. For instance, they disapproved of vaccines containing multiple antigens, such as the MMR vaccine: "I remember thinking there were an awful lot in the first 2 years . . . it seems like an awful lot to bombard . . . especially because their immune system isn't fully mature yet." Furthermore, mothers were aware of the fact that natural infection with disease provides lifelong immunity whereas immunized children remain susceptible to diseases, as vaccines do not offer absolute protection. In addition, mothers believed that the decline in vaccine-preventable diseases is a result of improvements in personal health and hygiene rather than the introduction of vaccines.

Information

Not knowing and information sources are the two factors included under the final theme. Mothers confessed to having a lack of knowledge about and understanding of vaccines. The mothers admitted that, based on their decision to not immunize their children, they subsequently had not conducted a thorough inquiry into immunization. For this group, information was not viewed as important, as one mother confessed: "I don't really know, because . . . we are flat-out, like, we aren't immunizing, so I've always kind of just pushed it out as fast as they try to give it to me." Comparably, HCPs viewed mothers' understanding across a spectrum, varying from limited understanding to very well informed and educated on the topic.

Mothers indicated they used a variety of information sources for their decision-making, including books, journals, anecdotes, and HCPs, with media and the Internet identified as a key source. Family and friends were seen as an important source. HCPs also indicated that the mothers were a close-knit group and hearsay or informal talk was prevalent. Interestingly, mothers felt that they received conflicting or biased information from HCPs.

Overall, HCPs perceived mothers' sources of information as inaccurate or not evidence-based. However, they acknowledged that it is difficult to locate accurate information given the abundance of information available on the Internet. One chiropractor summarized this view: "It is tough to really sit down and objectively weed through all of it and find the good stuff, so it's . . . a losing situation right from the get-go." The HCPs felt that mothers accessed information that resonated with their emotions on the topic, including sensational media stories, rather than scientific sources, but acknowledged that it is difficult to distinguish between evidence and opinion. In addition, professionals realized that they were only one source of information and that mothers obtained advice from a variety of sources, including other HCPs.

Discussion

This study was limited to a specific geographic area that is home to a number of diverse religious groups. Despite this limitation there are three points worth elaborating on: HCPs and mothers outlined similar factors influencing immunization decision-making, mothers and HCPs understand and define the word "evidence" differently, and the apparent mistrust of HCPs signals a need for greater collaboration among HCPs.

HCPs and mothers outlined a variety of similar, interrelated factors influencing the childhood immunization decision-making process, demonstrating that, overall, HCPs have appropriate insight into non-immunizing mothers' understanding and decision-making process. However, HCPs placed greater emphasis on religious beliefs as a factor in immunization decision-making, expressing the view that mothers are rejecting immunization for religious reasons, whereas the mothers felt that religiosity was only one factor in their decision. The findings might have been different if mothers had been recruited from a wider range of cultural and religious backgrounds. Downs, de Bruin, and Fischhoff (2008) and Kennedy and Gust (2008) found a similar association between religion and immunization refusal in their studies of parental decision-making around immunization. Additional research may be helpful in exploring the issue among mothers, parents, and HCPs in a larger geographical area with participants from a wider variety of cultural, social, and religious backgrounds.

HCPs indicated that, although the mothers may have appeared to be and considered themselves to be well informed, they were rather misinformed as a result of the unreliable information accessed. The findings suggest that the meaning of *evidence* can be understood very differently by mothers and HCPs. The HCPs acknowledged the difficulty in accessing evidence-based information, particularly on the Internet, as well as the challenges in understanding the material accessed. This finding is consistent with those from previous studies (Betsch, Renkewitz, Betsch, & Ulshofer, 2010; Davies, Chapman, & Leask, 2002; Diekema, 2005; Levi, 2007). HCPs should ensure that their practice offers current, evidence-based knowledge about immunization in order to promote informed decision-making among vaccine-hesitant parents (Macdonald, McIntyre, & Barry, 2014), who need to be educated in the importance of immunization and provided with appropriate resources and information.

Research that explores the effectiveness of current immunization campaigns may be fruitful and may help shape the development of more effective education strategies. It would be beneficial to determine if current immunization delivery methods are conducive to positive health outcomes. Trialing of innovative delivery methods would be advantageous and could provide opportunities for evaluation research. For instance, PHNs could administer vaccines in physician clinics and hospitals, as well as in the traditional public health clinic. This could serve to increase immunization uptake and could also yield opportunities to communicate with vaccine-hesitant families who do not access traditional public health clinics.

The mothers' mistrust of HCPs was apparent. Ropeik and Slovic (2003) also found that trust in HCPs was minimal because of HCPs' concern about public protection. Mills, Jadad, Ross, and Wilson (2005) found high levels of public distrust of HCPs. HCPs in the present study were aware of the lack of trust, acknowledging that this could be the result of misperceptions concerning financial motivation for immunization and the information about vaccines that was provided. Immunization is a public health issue, and HCPs across disciplines need to collaborate to address the issue and promote credibility. Furthermore, increased cooperation between mothers and HCPs is necessary to reduce mistrust of HCPs and the information provided by HCPs regarding immunization.

Limitations

There were several limitations to the study. The mothers represented a homogeneous sample from a limited number of cultural and religious groups. Other HCPs, such as family physicians, who also have a role in childhood immunization were not included in the study. Furthermore, the sample size was small and hence the findings may not be generalizable to other geographic areas or to other groups of mothers and HCPs.

Conclusion

In this grounded theory study, a number of key themes were constructed from the data, demonstrating that both mothers and HCPs were concerned about the health of children, although there were different conclusions about the meaning of health. Given the current attention centred on vaccine-hesitant parents, understanding their alternative perspectives is becoming increasingly important for both HCPs and the public. Greater understanding will lead to greater collaboration, which can serve to promote positive health outcomes in children now and into the future.

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Acknowledgements

Scholarships for this study were provided by the Health Quality Council of Alberta, the Government of Alberta, and the University of Lethbridge.

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