

# Recent Experiences and Challenges of Military Physiotherapists Deployed to Afghanistan: A Qualitative Study

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## ABSTRACT

*Purpose:* Military physiotherapists in the Canadian Forces meet the unique rehabilitation needs of military personnel. Recently, the physiotherapy officer role has evolved in response to the Canadian Forces' involvement in the combat theatre of operations of Afghanistan, and this has created new and unique challenges and demands. The purpose of this study was to describe the experiences and challenges of military physiotherapists deployed to Afghanistan.

*Methods:* A qualitative research design guided by descriptive phenomenology involved recruitment of key informants and in-depth interviews as the data collection method. The interviews were transcribed verbatim and the data analyzed using a foundational thematic analysis approach. Strategies of peer review and member checking were incorporated into the study design.

*Results:* Six military physiotherapists were interviewed. They described rewarding experiences that were stressful yet highly career-satisfying. Main challenges revolved around heavy workloads, an expanded scope of practice as sole-charge practitioners, and the consequences and criticality of their clinical decisions.

*Conclusions:* Our findings suggest that enhanced pre-deployment training and the implementation of a stronger support network will improve the capabilities of military physiotherapists deployed to difficult theatres of operations. This type of systematic and comprehensive research is needed to assist the Canadian Forces in proactively preparing and supporting physiotherapists deployed on future missions.

**Key Words:** Afghanistan; military medicine; stress, psychological; workload.

## RÉSUMÉ

*Objectif :* Les physiothérapeutes dans les Forces canadiennes répondent aux besoins particuliers de réadaptation du personnel militaire. Récemment, le rôle de l'officier physiothérapeute a évolué afin de s'adapter à l'engagement des Forces canadiennes dans le contexte des opérations militaires de combat qui ont eu lieu en Afghanistan, ce qui a entraîné de nouvelles exigences et posé des défis uniques. L'objectif de cette étude était de décrire les expériences et les défis des physiothérapeutes militaires déployés en Afghanistan.

*Méthode :* Une étude de type qualitatif fondée sur une phénoménologie descriptive a nécessité le recrutement d'informateurs clés et la réalisation d'entrevues de fond comme méthode de collecte de données. Les entrevues ont été transcrites intégralement et les données ont été analysées à l'aide d'une approche d'analyse thématique fondamentale. Des stratégies de revue par les pairs et de vérification par les membres ont aussi été incorporées à la structure de l'étude.

*Résultats :* Six physiothérapeutes militaires ont été interviewés. Ils ont décrit des expériences valorisantes qui ont été à la fois stressantes mais aussi extrêmement satisfaisantes sur le plan professionnel. Les défis majeurs mentionnés étaient en lien avec l'ampleur considérable de la charge de travail, une pratique clinique de type isolé nécessitant un champ de pratique étendue et les conséquences et l'aspect déterminant des décisions cliniques qu'ils devaient prendre.

*Conclusions :* Les résultats obtenus suggèrent qu'une meilleure formation pré-déploiement et la mise en place d'un meilleur réseau de soutien pourraient améliorer les capacités des physiothérapeutes militaires déployés dans des théâtres opérationnels militaires difficiles. Ce type de recherche systématique et globale est nécessaire pour aider les Forces canadiennes à se préparer de manière proactive et à soutenir les physiothérapeutes déployés lors de missions futures.

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The profession of military physiotherapy officer (PTO) exists in the Canadian Forces (CF) to meet the unique physiotherapy needs of soldiers. Over the past three decades, the main role of PTOs in the CF has been in the management of outpatient orthopaedic and sports injuries that occur during military training and operational missions.<sup>1</sup> In Canada, this work traditionally occurs on bases, in well-equipped physiotherapy clinics not unlike civilian private practice clinics in the community. Likewise, on overseas deployments such as the Bosnia peace-keeping mission (2000–2004), deployed PTOs have primarily focused on non-battle injuries similar to the sprains and strains experienced on bases back in Canada.<sup>1</sup> Canada's involvement in the combat theatre of Afghanistan since 2006 has been very different, with enemy conflicts exposing soldiers to stressful, life-threatening situations and greater risk of battle injuries. In Afghanistan, the original premise of the PTOs' role was to provide outpatient orthopaedic physiotherapy support to coalition troops, but it quickly became apparent that military physiotherapy services were being involved in other areas of rehabilitation care—for example, in the physiotherapy management of traumatic battlefield injuries in the intensive care unit (ICU) and the ward. As a result, the physiotherapy role in Afghanistan has evolved very differently from that of past deployments, and it has become evident that Canadian PTOs are experiencing new and very demanding challenges.

A literature search of the past 10 years found no studies exploring or describing the experiences of Canadian PTOs working on military missions. One study<sup>1</sup> established the musculoskeletal injury profiles of Canadian soldiers during the CF peace-keeping mission in Bosnia between 2000 and 2004; however, the Bosnia mission was considerably different from today's Afghanistan mission, and these authors did not examine the personal experiences and challenges faced by deployed PTOs.

We subsequently broadened the literature search to include military physiotherapy from other countries, other health professionals' experiences on military missions, and civilian physiotherapists working in rural isolation. Springer and Doukas<sup>2</sup> discussed the challenges encountered at home and the lessons learned by the U.S. Army Medical Corps in the rehabilitation of battle casualties from Iraq and Afghanistan. They described US Army physiotherapy services for traumatic war injuries as including multiple traumas and soft tissue injuries, such as amputations, fractures, burns, traumatic brain injuries (TBIs), spinal cord injuries, skin grafts and flaps, and injuries requiring thoracic and respiratory care. Springer and Doukas also discussed the risks of burnout among physiotherapists and the need for careful monitoring to prevent it; however, they did not examine the PTOs' roles and personal experiences in the theatre of operations.

Other research on U.S. military health care described the challenges of providing critical care in a war environ-

ment for paediatric patients and burn patients.<sup>3–8</sup> Kenny and Hull<sup>6</sup> described the experiences of U.S. military nurses working with injured soldiers in critical care environments in terms of the stresses of working with young, previously healthy soldiers who had sustained devastating battlefield traumas. Another study<sup>7</sup> identified the wide variety of clinical nursing skills required to care for patients with complex injuries and described the cognitive and clinical skill competencies needed by nurses working in the war environment. Scannell-Desch and Doherty<sup>8</sup> described the unique experiences of U.S. Army nurses in Iraq and Afghanistan as comprising elements of emotional challenges, personal danger in a war zone, comradeship, psychological stress, professional growth, and lessons learned for future deployments.

Early informal discussions with CF PTOs returning from Kandahar Airfield (KAF) in Afghanistan indicated that they were regularly called on to manage a variety of multifaceted traumatic conditions such as multiple fractures, burns, wounds, spinal cord injuries, and TBIs in the Critical Care Unit, which required them to have (or quickly acquire) a broad knowledge base as well as the advanced skills needed to manage complex referrals in specialty areas. These challenges may be analogous to those described by Sheppard<sup>9</sup> as characteristic of the generalist–specialist roles of sole-charge rural physiotherapists working in isolation. Furthermore, along with the professional demands of effectively working as sole-charge physiotherapy service providers,<sup>9</sup> deployed PTOs may face other unique professional and ethical challenges associated with working long, stressful days in a multidisciplinary team of physicians, surgeons, and nurses with limited health care resources in a dangerous environment.

Canadian military surgeons deployed in Afghanistan have described similar challenges related to the unfamiliar war environment, the volume of traumatic injuries, and the ethical issues of conserving limited military resources and relying on the rudimentary local health care facilities for civilian patients.<sup>10</sup> In this environment, health professionals are frequently confronted with dilemmas associated with conserving and allocating limited resources or freeing up hospital beds for impending coalition casualties, which may require that Afghan soldiers or citizens are discharged earlier to local Afghan medical facilities. Civilian medical resources in Afghanistan are very limited, and rehabilitation and physiotherapy services for injured Afghan citizens are almost nonexistent.<sup>11,12</sup> These circumstances are likely to create additional ethical stresses, because limited coalition rehabilitation resources may need to be allocated primarily to the rehabilitation of coalition casualties. A deeper understanding of the experiences and challenges faced by deployed PTOs will provide the foundation for better training and support for PTOs deployed on future missions.

Since 2006, more than 10 PTOs have deployed to

Afghanistan to work as the only physiotherapy resource in the Multi-National Hospital (MNH) at KAF. The MNH was built as a military combat trauma facility with specialty services and trauma surgical teams whose goal is to save the lives of coalition troops, Canadian soldiers, and Afghan civilians.<sup>13</sup> It is staffed with health care personnel from various coalition countries and is composed of operating rooms, an intensive care unit, and a critical care ward; it also houses radiology, lab, mental health, physiotherapy, and dental services. Between 2006 and 2009, more than 42,000 patients received services at the MNH; 4,500 surgeries were performed and 3,100 patients were admitted. During this period, the MNH health care team included surgeons, physicians, nurses, and pharmacists; the only rehabilitation staff consisted of one Canadian PTO assisted by a military medical technician. Fortunately, in late 2009 the U.S. Navy, recognizing the large demand for physiotherapy, was able to augment staffing with one additional physiotherapist as well as an occupational therapist to assist with the rehabilitation workload.

Several PTOs have reported diverse but personally remarkable challenges during their tours of duty. To date, these different professional and personal challenges and experiences have not been systematically examined. The main purpose of this qualitative study, therefore, was to describe the experiences and challenges of CF PTOs deployed to Afghanistan to provide physiotherapy services in support of coalition troops. We were also interested in learning more about the strategies they used to deal with the work environment and its challenges. This type of systematic and comprehensive collection of information is needed to assist the CF Health Services in proactively preparing and supporting PTOs who will be deployed on future tours of duty.

## METHODS

We considered a qualitative inquiry research approach, specifically descriptive phenomenology, the most appropriate to guide this study's design. This approach involves gathering concrete descriptions of others' specific experiences and reducing the data such that the reader can understand the essence of the experience.<sup>14,15</sup> Therefore, we focused descriptively rather than interpretively on the subjective experiences of the everyday lives of PTOs deployed and working in support of the coalition mission in Afghanistan. One of the central aims of phenomenological research is "to suspend or bracket all judgments—presuppositions, interpretations, and prior knowledge and understanding"<sup>16(p.67)</sup>—about the research topic. The concept of bracketing has been much debated in the qualitative research literature,<sup>17</sup> and bracketing may not always be fully feasible or realistic, given the researcher's close association with the research topic. However, the concept focuses attention on the need for researchers to reflect critically on their beliefs,

values, and assumptions about the topic of interest "to listen genuinely and actively to the participant's perspective."<sup>16(p.67)</sup>

Peter Rowe, as the CF national physiotherapy practice leader, developed his interest in this topic during the early planning phases of the mission to Afghanistan, when he encountered considerable resistance and hesitation on the part of the CF mission planners to including PTOs in the deployment for a variety of operational, clinical, and doctrinal reasons. His strong belief in the essential role of PTOs on operational missions required him to engage in critical reflection about his experiences as an advocate for the deployment of PTOs and to make explicit how the assumptions and values he held about the PTOs' role might influence the research process. Every effort was therefore made to be non-directive and to encourage participants to speak openly about all aspects of their experiences, both positive and negative. Christine Carpenter is an experienced qualitative researcher with no prior connections to or experience with the military.

This study was reviewed and supported in writing by the CF Health Services Group Headquarters and received ethics approval from the Behavioural Research Ethics Board at the University of British Columbia. Participant involvement was completely voluntary; after being fully informed in writing and orally and being given permission to withdraw from the study at any time in the process, participants signed the consent form. Each participant was assigned a code to ensure anonymity.

## Participant Recruitment

Purposive sampling "involves the deliberate selection of particular settings, persons, or events for the important information they can provide that cannot be acquired through other means."<sup>16(p.78)</sup> In this study, the sample included PTOs who had been deployed to Afghanistan for more than 60 days. Because of Rowe's leadership role, every effort was made to use indirect participant recruitment strategies to mitigate any perception of possible influence or coercion. An uninvolved colleague accessed potential participants' mailing addresses and sent each person a participant recruitment letter; this letter described the study and invited interested PTOs to contact either of us by phone or e-mail for additional information about the nature and objectives of the project. Participants were consistently assured that their involvement in the study would have no career implications and that their identities would be rigorously protected both throughout the study and in disseminating the results.

In phenomenological research, the aim is to gain rich, in-depth information that "communicates the sense and logic of the phenomenon [in this case, the experience of deployment] to others,"<sup>15(p.110)</sup> which usually entails conducting in-depth interviews with a small number of

**Box 1** Sample Interview Questions

1. How would you describe your experience of deployment in Afghanistan to a civilian physiotherapist?
2. How would you describe your role as a physical therapist on the deployment?
3. In what ways did your physical therapy practice on deployment differ from your practice back in Canada?
4. What were your most challenging clinical situations or patients? What was most challenging about them?
5. What did you find most stressful about the deployment? How did you cope with this stress?
6. Describe any experiences related to multidisciplinary interactions and/or collaborations.
7. What was most difficult for you during your deployment? How did you cope?
8. What was most rewarding about your deployment?
9. Under what circumstances while on deployment did you feel least prepared?
10. In what ways did you feel prepared for this deployment? What helped you to prepare?
11. If you were deployed again what would you do differently?
12. What would you recommend to other physical therapists preparing for deployment?

participants. At the time of participant recruitment, there was a pool of eight eligible PTOs who had been deployed to Afghanistan since 2006; from this pool, six participants were recruited. All participants were male: Seven of the first eight PTOs to deploy were male; the one female PTO had retired in 2006, and we unfortunately did not have her contact information to invite her to participate.

**Data Collection**

The data collection method, in keeping with the phenomenological approach, involved one in-depth semi-structured interview with each participant. The descriptive phenomenological approach traditionally advocates that no specific research questions be developed other than the desire to describe the lived experience of the participants in relation to the topic of study.<sup>18</sup> As used in health care research, however, this methodology more commonly involves beginning with a few broad, open-ended questions focused on encouraging participants to describe their experiences as fully as possible (see Box 1), followed by probing questions that help participants to be more specific about the experience.<sup>15,19</sup> These questions can be used to initiate and maintain “the conversational and lightly structured nature of the process.”<sup>19(p.45)</sup> An interview guide is also, in a practical sense, an aid for qualitative interviewers, particularly those who are newly developing the skill, and enables readers to assess the nature of the questions asked. An early pilot interview was conducted to test the interview method, evaluate Peter Rowe’s interviewing skills, practice audiotaping, and determine the duration of the interview.<sup>16,20</sup> This interview was conducted with a PTO who had been deployed for only 30 days; it was not transcribed, and the data from it are not included in the study. The pilot interview was discussed with Christine Carpenter, and minor adjustments were made to the interview guide to encourage participants to respond as though they were talking to a civilian physiotherapist

who was unfamiliar with the military. All interviews were conducted face-to-face by Rowe at locations chosen by the participants where they were stationed. The interviews were between 60 and 142 minutes in length, with an average duration of 100 minutes. Data collection continued until it appeared that little or no new information about the experience of deployment in Afghanistan was being acquired from subsequent interviews.<sup>21</sup> All interviews were audiorecorded using a digital voice recorder (RR-US490, Panasonic Corporation, Secaucus, NJ) and transcribed as soon as possible after each interview. Doing so enabled Rowe to carefully re-listen to the interviews and maximize his familiarity and comprehensive understanding of the data.

**Data Analysis**

A variety of analytic approaches have been developed within phenomenology that are complex and nuanced and have relatively limited variability.<sup>22</sup> The main concern is to “engage with the text in such a way as to achieve descriptive adequacy.”<sup>15(p.113)</sup> For this study, we adopted a thematic analytic approach developed by Braun and Clarke.<sup>23</sup> This method involves immersion in the data, discrimination of meaning units, formulation of transformed meaning units, and synthesis into an integrated whole<sup>15</sup>—the same steps that characterize more complex phenomenological methods such as Colaizzi’s,<sup>24</sup> but that, in our experience, represent a more accessible approach for those learning the core skills of qualitative research analysis. The analytic process began with repeated readings of the transcripts by Rowe to familiarize himself with the data and begin to identify words, phrases, and sentences that appeared to inform or provide insights into the participants’ experiences. These “meaning units,” or interesting features of the data, were highlighted and assigned a code—a word or phrase—reflecting their core meaning.<sup>15(p.112)</sup> These codes assisted in organizing and managing the data. By grouping together codes that represented similar ideas

or concepts, we were able to group the data in a more general way into categories (or subthemes). In this way, the data were reduced and abstracted from individual transcripts. Approximately 16 categories or sub-themes were identified and displayed on a spreadsheet. These categories were compared and contrasted, and a brief description was written for each. Linkages between categories were identified that enabled a further synthesis of the data into four preliminary themes.

This analytic process was reviewed by Carpenter to ensure credibility and to validate or question the linkages being established between the data and emerging themes. Discussions about the process led to the addition of a fifth theme that focused on the diverse psychological challenges encountered by deployed PTOs. The strategy of member checking involves returning to the participants to ascertain how the researcher's descriptions (themes) compare with their perspectives and experiences. This strategy ensures that an accurate representation of the participants' perspectives has been sustained as the data have been reduced and abstracted and acknowledges that this process involves some interpretation as well as description.<sup>24</sup> It also gives participants the opportunity to provide clarification, add information, and prioritize the initial themes. A written summary of each theme was sent to all participants, and all provided feedback confirming that our understanding of their experiences was accurately reflected in these initial theme descriptions.

## RESULTS

Participants ranged in age from 27 to 56 years, with an average age of 38. Their years of experience as PTOs ranged from 4 to 22; two had less than 5 years' experience, two had between 5 and 10 years' experience, and two had more than 10 years' experience as PTOs in the CF. Five of the six were married with children; two participants, however, had children who were older and no longer living with their parents.

We developed five themes as a result of the analytic process:

1. Workload and caseload demands—"It just never stops!"
2. The stresses of being the only (sole-charge) physiotherapist—"We didn't have any backup!"
3. The psychological toll of deployment—"Everybody will be affected!"
4. Individual adaptability and coping strategies—"You need to realize what your limits are!"
5. Sense of duty and mission focus—"This is why I joined!"

The themes were intricately intertwined, because the challenges (themes 1–3) were related to being the only physiotherapy resource in an intensely demanding work

environment, and themes 4 and 5 reflected the mechanisms that enabled the PTOs to cope successfully with the demanding challenges of their deployments.

### Workload and Caseload Demands: "It Just Never Stops!"

All the participants focused, early in the interviews, on the workload and caseload demands they experienced. As two participants noted, "It [KAF] is tough. A go-go environment. Physically and mentally draining the whole time" (I-5); "The stressors [for PTOs] at Kandahar Airfield are the workload. It just never stops!" (I-1). These demands were articulated in terms of high numbers of patients and working 10- to 12-hour days, 7 days a week. In outpatient physiotherapy, PTOs had little control of scheduling: Their doors were always open for urgent drop-in patients who had to be seen before going back out on military missions, because otherwise their units could be left understaffed and potentially more vulnerable during dangerous off-base patrols. It was evident that physiotherapy services were in very high demand and that PTOs had to find ways to appropriately allocate the services they could provide between the outpatient clinic, the ward, and the ICU, based on specific and unique daily demands.

Ward care often involved treating individuals with complex multiple traumas commonly seen in war zones. The complexity of battle-wounded ICU cases included not only traumatically injured soldiers but also innocent victims of the conflict, such as children with amputations, spinal cord injuries, and burns. Springer and Doukas<sup>2</sup> also discussed the demands made on physiotherapy resources, particularly staff time, by the challenges of rehabilitation battlefield injuries and how these can contribute to burnout in staff.

The participants' descriptions of caseload challenges focused on the diversity of patients they were required to assess and treat, which included coalition troops, Afghan National Army personnel, civilians, and children, and on the different practice areas—outpatient care, ward care, and ICU—in which they were expected to practise. The cultural differences and language barriers they experienced when treating Afghans and soldiers from other foreign military forces further compounded these challenges and often necessitated the use of translators, which made communication more difficult and time consuming. Other authors<sup>25–27</sup> have addressed similar issues related to the rehabilitation therapy role and the experience of working in an international context, such as adjusting to different cultural values, limited resources, and different health beliefs and attitudes toward disability.

PTOs also faced challenging outpatient situations; for example, several participants noted that many soldiers developed upper-quadrant neck and shoulder pain problems that were difficult to treat. They suspected that wearing body armour and carrying weapons slung over

the shoulder may have contributed to these problems, particularly because the basic protective equipment and weapons worn and carried by all soldiers can weigh in excess of 18 kg (40 lb) and may in many instances be twice this weight. Research by the U.S. Army has also associated neck, back, and arm pain with the wearing of battle armour and combat helmets.<sup>28</sup> Konitzer and colleagues<sup>28</sup> suggested that PTOs can play an important role in educating soldiers on the proper fit of the gear they are wearing, as well as optimizing fitness and training to help soldiers lessen the adverse effects of wearing their protective gear.

#### **Stresses of Being the Only (Sole-Charge) Physiotherapist: “We Didn’t Have Any Backup”**

It was evident during the interviews that participants experienced increased pressure and stress associated with being the only physiotherapy provider at KAF. As sole-charge physiotherapists, they were challenged on a daily basis by the dual roles of providing services for both inpatients and outpatients. Being the only physiotherapist also meant that they were always on call and were sometimes called in for emergencies during the night. Most PTOs had never seen the degree of trauma caused by battle wounds, and most described experiencing difficulties early in their deployment in terms of confidence in their knowledge, their skills, and their ability to do anything for some of the patients with multiple trauma injuries. One participant described an early encounter:

The first [patient] I got had bilateral external fixators on his femurs and tibias. So I walked in the room and I haven’t done inpatients since graduating 15 years ago. I had to walk in the room; I had a look at him; I walked out of the room and talked to myself about the fact that “well, the knee is fine, I can mobilize the knee, there is nothing wrong there; he’s stabilized, despite the rods and pins.” Yeah, just getting used to seeing the effects of an AK-47! (I-2)

The sense of responsibility felt by PTOs was evident in outpatient physiotherapy. In many instances, the medical team and patients were relying on their clinical decisions, because they often provided the final recommendation on whether soldiers were fit to return to duty or would need to be sent back to Canada. As one participant explained, “You are the physiotherapy expert and you have no room for errors; they are relying on you. We didn’t have any backup” (I-1). When a PTO recommended that patients were fit for full duty, he had to be sure that they could perform all necessary military tasks quickly and safely; those individuals could become liabilities to their units if their injuries slowed them down.

Requests for physiotherapy consultations extended beyond routine musculoskeletal injuries and orthopaedic

traumas to include patients with multiple traumas such as TBI, amputation, spinal cord injury, burns, wounds, and cardiorespiratory conditions. The severity and diversity of presenting injuries forced PTOs to work across the full scope of physiotherapy practice, with both inpatients and outpatients; doing so often required a broader range of practice skills than would be needed in their normal practice in Canada. These scope-of-practice insights are reflected in Sheppard’s<sup>9</sup> description of “generalist–specialist” roles among physiotherapists working in rural Australia, who frequently require general knowledge in all areas of rehabilitation practice yet are also relied on to treat specific complex cases that require specialized skills. The nature of these generalist–specialist roles is illustrated by two participants’ comments:

Your orthopaedic skills had to be high ... Manipulation, a little acupuncture ... 15 years of experience is great. I would have been devastated not having the skill-set I had. Open reductions—internal fixations and the external fixators were just mind-boggling ... If you had a weakness, it is going to show. (I-2)

I relied most on my McKenzie training [in outpatients]. In the ward, I tried to make sure I was doing really specialized treatments [that the nurses could not do]. In another case there was a 3-year-old who had 80% burns ... The challenge [besides the burns] was that she was a paediatric case, which ups the stakes ... (I-3)

These comments illustrate that sole-charge PTOs in Afghanistan are being asked to see paediatric cases, burns, and other battlefield traumas that sometimes require splinting, as well as outpatients requiring specialized orthopaedic skills such as manipulative therapy and acupuncture. These types of complex and diverse scenarios require a very broad-based knowledge of general rehabilitation as well as more advanced knowledge and specialized skills in specific areas such as splinting and spinal manipulation. Other aspects of being sole charge, described by the participants and discussed by Sheppard,<sup>9</sup> were professional isolation and lack of peer support to discuss difficult clinical cases, and these aspects contributed to the psychological toll of deployment.

#### **Psychological Toll of Deployment: “Everybody Will Be Affected”**

Most of the participants acknowledged, to varying degrees, that they experienced psychological strains and emotional challenges during their deployment. For example, one participant commented, “There is a stigma associated with having mental health issues; everybody will be affected. Luckily, I didn’t have nightmares and sleeping problems like some” (I-5). These psychological strains—which were often not explicitly expressed by the participants but surfaced more subtly during interviews—related to their own unique experiences of the conflict in

Afghanistan and to the impact of these experiences on their relationships and home situations.

With the considerable media attention and literature on mental health issues affecting deployed soldiers, including post-traumatic stress disorder, we expected that our study participants could experience similar psychological strains.<sup>29,30</sup> However, this kind of psychological stress affecting deployed soldiers was directly related to combat operations that saw soldiers openly exposed to enemy threats and traumatic events.<sup>29,30</sup> The psychological strains encountered by PTOs were different because PTOs were not involved in direct combat situations. The psychological tolls described by PTOs were more evident in the participants' accounts of combat soldiers breaking down in the physiotherapy clinic as they recounted unimaginable and emotionally charged stories of seeing their friends killed in attacks or other atrocities of war.

For most PTOs, the psychological toll was associated with the degree of trauma they saw, the emotional strain of treating children caught up in the war, and witnessing the effects of death and war on soldiers, children, and families. Most participants spoke of the emotional responses and difficulties they experienced when they treated traumatically wounded children and witnessed the ravaging effects of war on families. As one participant said,

Treating kids was sad, and I had the terrible job of trying to mobilize a 7-year-old Afghan girl who was shot through the pelvis and both of her parents were killed in a battle and her heart was crying out, "Why is this mean man from Canada hurting me?" (I-2)

Other PTOs mentioned emotional strains associated with putting their life on hold in dealing with their own separation from their families and children, and others talked openly about intermittent and transitory, but nonetheless real, concerns for their safety as a result of potential rocket attacks on KAF.

Alappat and colleagues,<sup>31</sup> in their analysis of the role of Canadian physiotherapists in global health initiatives, suggested that inherent in the role of a health care professional is a sense of human duty and that responding to the needs of vulnerable and marginalized communities reflects the social responsibility and moral obligations of health professionals. This sense of duty and obligation was evident in participants' experiences of treating friendly Afghan National Army personnel and citizens as well as prisoners of war; however, because they were in Afghanistan as military personnel, their designated role and main responsibility was to support injured coalition troops. Some participants identified the moral dilemmas they experienced when these obligations came into conflict, such as when the MNH needed to transfer Afghan patients to local Afghan medical facilities to maintain adequate medical resources to care for injured coalition

troops. Although acute care was provided according to triage priorities, several PTOs spoke of the potentially dire consequences of discharging non-coalition rehabilitation patients to the care of the Afghan health system, given the limited or nonexistent rehabilitation services available in Afghanistan.<sup>5</sup> One participant commented, "It was frustrating working with Afghan civilians . . . with the limitations of Afghan medical facilities. In a wheelchair, they are not going to live [when discharged from MNH]" (I-5).

The concept of moral distress has been widely debated in the nursing literature. Moral distress was originally described by Jameton<sup>32(p.6)</sup> as "arising when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action"; since then, the evolving definitions of moral distress illustrate the ongoing and dynamic nature of the concept and its relationship to the practice context. Regardless of the definition used, moral distress is associated with complex health situations in which practitioners experience a dissonance between their actual actions and their perceptions of how they would like to act. As Webster and Baylis<sup>33(p.218)</sup> have suggested,

moral distress may arise when one fails to pursue what one believes to be the right course of action (or fails to do so to one's satisfaction) for one or more of the following reasons: an error of judgment, some personal failing or other circumstances truly beyond one's control.

Our study participants described the stress associated with providing physiotherapy services to local Afghan patients, knowing that the extent and duration of the care they could offer was very limited and that inadequate rehabilitation services were available for these individuals in Afghanistan.<sup>11</sup> The concept of moral distress may offer a basis for practitioners to talk about these deeply troubling experiences and to promote evaluation of the practice environment and the support provided for practitioners.

Moral distress, when consistently experienced, may also be a contributing factor in burnout.<sup>34</sup> The *Merriam-Webster Online Dictionary*<sup>35</sup> defines *burnout* as "exhaustion of physical or emotional strength or motivation usually as a result of prolonged stress or frustration." Job stress, heavy workloads, long hours, staff shortages, complexity of inpatients, role conflict, lack of physiotherapist peer support, lack of time, and very limited control of schedule are all factors that have been associated with burnout syndrome in physiotherapists.<sup>36-43</sup> As with other clinical staff, PTOs in Afghanistan are subject to all of these factors, in some cases to extreme levels. Several participants mentioned that they could feel themselves beginning to burn out or could recognize it in the PTO they were replacing. As one participant affirmed,

"It's physically and emotionally draining the whole time. You could start to feel the burnout start to come on. You could really see it on everybody else. Having that one day off a week did make a difference" (I-5).

A sense of feeling drained and unable to give more of themselves was apparent in participants' descriptions of excessive workloads, complex cases, and the psychological stresses of functioning in a sole-charge capacity. They had to find ways to detach from the work environment, and these typically involved fitness training and scheduling a day off when possible. Overall, despite these stresses, the PTOs interviewed clearly remained very positive about their role and about their professional achievements while deployed. We believe that much of this resilience can be attributed to the strategies, described in the fourth and fifth themes, that enabled the PTOs to cope successfully with the demanding work environment of Afghanistan.

#### **Individual Adaptability and Coping Strategies: "You Need to Realize What Your Limits Are"**

Each of the participants recognized that, because he was the only physiotherapist, there would be no one left to provide physiotherapy services if he got sick or burned out, necessitating the early deployment of a replacement from Canada. As one participant explained, "If I would do more, going back and forth and kind of burning myself out, it would affect other people, so I was keeping that in mind" (I-3). He felt he had to make sure he took care of himself so that he would be there to contribute to the care of patients. Another participant said, "You need to realize what your limits are ... know where to cut it off"; his motto was "Exercise, eat well, take care of your body" (I-5). This awareness seemed to help the PTOs to proactively implement lifestyle and professional strategies aimed at reducing their risk of burnout. Lifestyle coping strategies included rest, a healthy diet, establishing a peer or social support system, engaging in daily physical fitness activities to reduce stress, and developing an ability to adapt to changing demands and circumstances.

One of our objectives in designing and implementing this study was to gain a clearer understanding of the clinical training requirements and appropriate levels of experience for deploying PTOs. From a professional practice perspective, despite their varied skills, experience, and specializations, all of the participants felt they were able to use their personal strengths and philosophies of care to address their patients' complex needs. These included being flexible and creative, for example, by fabricating hand splints or gutter crutches out of recycled odds and ends and by accepting that even if they personally felt inexperienced and unqualified, they were still "the best person for the job at the time" (I-3).

With respect to experience, one participant with more years of professional practice felt strongly that his experience

was a major contributor to his effectiveness during his deployment and questioned how less experienced physiotherapists would manage. However, a more recently graduated participant felt that his skill set was well rounded and that he was perhaps better positioned to take on the generalist requirements of the ICU and ward cases as a result. Likewise, with respect to specialized skills, PTOs highly trained in McKenzie techniques, for example, used them to treat low back conditions with positive results, and those trained in other areas, such as orthopaedic manual therapy or acupuncture, found their techniques equally as effective. All were doing their best and using their individual strengths to contribute to their patients' positive health outcomes.

#### **Sense of Duty and Mission Focus: "This Is Why I Joined"**

In developing this study, we did not anticipate the importance of the sense of duty and mission focus that became apparent as a fifth theme. All of the participants described their deployment as highly rewarding in terms of career progression, professional development, and, in particular, the sense of purpose they derived from the mission focus and from doing their duty. They all felt, without a doubt, that they were contributing to the mission's success by keeping injured soldiers fit for duty and in theatre. When asked "What was most rewarding about your deployment?" participants said, for example, "Being effective—getting soldiers back to their Unit" (I-2); "Team work and mission focus" (I-3); "This is why I joined!" (I-4). The PTOs strongly believed that if the physiotherapy resources had not been available at KAF, more soldiers with musculoskeletal injuries would have been sent home as unfit for military duty or would not have been 100% fit to perform all aspects of their military duty. Participants noted that the soldiers were extremely appreciative of the PTOs' efforts to treat them with the goal of enabling them to remain on deployment. As one participant explained,

These guys wanted back [to their units]. They were concerned about their buddies. They knew what would happen to their section or their company without them and the guilt they lived with by being in [at the hospital]. They imagine their guys being hit [i.e., attacked] and not being there [to help]. (I-2)

Military training enshrines the core value of serving one's country; military personnel are taught that every soldier counts and that they are there for a reason. A reduced number of physically fit soldiers can have a significant negative impact on the operational readiness of troops and the safety of their sections.

All participants emphasized that they were there to meet the needs of the coalition soldiers, no matter what that entailed. Despite their own work challenges, PTOs stated that they could not compare their own situation to those of combat soldiers, who were putting their lives

at risk every day by working outside of the base compound. In this context, the PTOs found it very difficult to complain about their own work challenges. This dedication did not appear to go unnoticed. Most of the participants reported receiving positive acknowledgment from other members of the health care team. "You [the physiotherapist] really felt like you were part of the team" (I-4) and "You saved people's lives" (I-6). These qualities of dedication and duty very likely contributed to their ability to successfully cope with, and manage, the extreme working conditions of war-torn Afghanistan.

## DISCUSSION

This study contributes knowledge that can be used to guide training and development for physiotherapists deploying on future military missions similar to Afghanistan. The results identify several relevant areas for improvement. Workload and caseload management strategies need to be better developed and implemented. Intuitively, increasing physiotherapy resources would seem to be the ideal solution to address the workload. However, the number of deployed Canadian personnel is tightly restricted, and adding another PTO would require eliminating another Canadian health care provider. Under these circumstances, preparation and training assume greater priority and require a specific focus on the acquisition of generalist–specialist skills that PTOs will need to enable them to assume a sole-charge role. This preparation is already occurring through partnerships with other military organizations such as the U.S. Army and British Army Medical Services, but more work remains to be done.

Enhanced personal and professional peer support networks need to be developed to provide assistance and support to deployed physiotherapists. Mentoring has been promoted as a means of overcoming professional isolation and as a way to provide clinical support for physiotherapists.<sup>44</sup> Electronic mentoring (e-mentoring) has been shown to be a useful and effective tool in supporting sole-charge or isolated rehabilitation therapists, but establishing the collaborative mentor–mentee relationship characteristic of a successful e-mentoring experience has associated challenges.<sup>45,46</sup> It might seem ideal for the PTO coming out of the theatre of operations to take on the role of mentoring a newly deployed peer; however, these outgoing PTOs are typically exhausted and are given extended leave on their return to Canada. Although not specifically detailed by study participants, some researchers<sup>47,48</sup> have suggested that after working intensely in a different culture, physiotherapists have experienced culture shock on returning to their own country. Leavitt<sup>49</sup> described this experience as reverse culture shock and attributed it to the significant personal changes experienced by people who have worked in developing countries and, as a result, may find previously familiar Western lifestyles lavish and wasteful. Participants did not specifically raise these issues in

this study but may merit further consideration. The CF Health Services are now considering involving the second-to-last PTO to have been deployed in mentoring the newly deployed PTO, because PTOs in this position would have a recent perspective but would also have had the opportunity to distance themselves to some extent from the deployment experience.

The use of technology may offer a solution to the problems of accessing continuing professional education and peer support experienced by physiotherapists in geographically large and disparate regions.<sup>50,51</sup> Stewart and Carpenter<sup>45</sup> found that physiotherapists viewed technology as a factor that enabled the e-mentoring experience rather than as a source of anxiety or concern; however, having a technical support person available to address technological difficulties was considered important. The technology required to support professional consultation and e-mentoring for PTOs needs to be further explored, and the CF Health Services is considering the use of home e-mail addresses and BlackBerry technology. E-mail and synchronous forms of communication, such as iChat, Skype, and videoconferencing, are made difficult by time zone differences (Afghanistan is 8–12 h ahead of Canada), limited Internet access in Afghanistan, and lack of dedicated technical support. Delays in e-mail responses and consultations could adversely affect case management by PTOs in the highly time-constrained environment of KAF.

Finally, a systematic sharing between PTOs of the lessons learned needs to be consistently encouraged, particularly with respect to sharing practice ideas and coping strategies, to help PTOs manage the demands they will face on deployment. Our hope is that the information gained from this study can help to better prepare deploying PTOs and, in turn, contribute to optimizing clinical care and client outcomes through the continuous advancement of deployed physiotherapy services.

The transferability of knowledge derived from this research may be limited, because the experiences explored pertain to the unique roles and experiences of military PTOs in combat support roles in Afghanistan. However, elements may be relevant to other military forces on similar combat missions and even to non-military physiotherapists working in sole-charge rural and isolated practices or in humanitarian roles in developing or war-torn countries with limited medical resources.

Participants in this study were all male. This sample therefore does not reflect the gender distribution of PTOs within the CF, which is closer to equal numbers of men and women. When the study participants were recruited, most PTOs trained and ready to deploy were men; more female PTOs have recently enrolled in the CF, but had not completed their military PTO training at the time of the study. Since the completion of the study, four female PTOs have been deployed to KAF. Expanding this research to ensure that the experiences and perceptions of these PTOs are also explored and understood

will be important. Female physiotherapists have been described as relying more on social networks and friends' support than male physiotherapists, as well as placing greater emphasis on family responsibilities.<sup>52</sup>

Although we have suggested that job satisfaction, professional recognition, and dedication to the CF may contribute to PTOs' ability to cope with and adapt to deployment conditions, more research is needed to specifically investigate levels and causes of burnout and moral distress in deployed PTOs. Research that provides detailed battle-injury profiles of soldiers injured on military missions would be helpful in better preparing PTOs and other disciplines to assume their operational roles and responsibilities. Finally, very little is known about the professional and clinical challenges experienced by health care professionals working on combat missions.

## CONCLUSION

Physiotherapy officers deployed to Afghanistan describe rewarding experiences that are stressful yet highly career satisfying. This study generated important insights about the sole-charge nature of the PTO's role in Afghanistan and the very heavy workload demands, elevated caseload pressures, and considerable psychological strain they experience. These results suggest that enhanced pre-deployment training, a review of the roles and responsibilities of deployed PTOs, and the implementation of a stronger support network could improve the capabilities of physiotherapists deployed to difficult theatres of operations such as Afghanistan. No doubt exists that physiotherapists in Afghanistan are experiencing unique and complex personal and professional challenges. PTOs are dedicated professionals who are making an impressive contribution to the CF mission in Afghanistan by keeping soldiers fit to perform their military duties in life-and-death situations. Lessons learned from this study will continue to be used to develop stronger pre-deployment training and support programmes to assist physiotherapy officers deploying to theatres of operations such as Afghanistan.

## KEY MESSAGES

### What Is Already Known on This Topic

Physiotherapists play important roles in keeping people fit for work and in rehabilitating war-injured patients with complex trauma injuries. Physiotherapists who work as sole-charge professionals and in isolation face different professional and ethical challenges than physiotherapists who work in close contact with professional colleagues.

### What This Study Adds

Physiotherapists are dedicated health care professionals who demonstrate a high degree of professionalism, adaptability, and innovation in meeting the needs of patients in unique and challenging situations and

who work with other team members to keep soldiers fit for duty and military operations. Relevant and systematic training and support mechanisms need to be developed to better prepare PTOs, professionally and personally, for this sole-charge role.

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