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Investigating Physician Assistant Burnout Amidst the COVID-19 Global Pandemic: A Qualitative Survey Response From Practicing PAs in Canada

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ABSTRACT

This purpose of this study was to determine if there is an underlying element of burnout among practicing Physician Assistants (PAs) across Canada during the global COVID-19 pandemic and uncover any potential solutions for this arduous problem. A survey encompassing the Maslach Burnout Inventory (MBI) and qualitative questions was emailed to practicing Canadian PAs. A total of 118 practicing PAs completed the survey with the majority reporting high levels of burnout, specifically on depersonalization and emotional exhaustion subscales, while all maintained a high level of personal accomplishment simultaneously. The majority of respondent PAs listed increased staffing, increased time off/consistent scheduling, and pandemic pay among others as major solutions to alleviate burnout in the future. In conclusion, Canadian PAs working during the global pandemic are indeed experiencing burnout, all while displaying a high level of resilience in certain MBI subscales. The individual responses provided by these frontline workers may highlight critical solutions that may be generalized to other healthcare jobs in order to prevent future occupational burnout.

INTRODUCTION

2020 has been an exceptionally difficult year for a number of healthcare providers; nurses, doctors, physician assistants (PAs) and many others, as the COVID-19 pandemic effectively changed the way hospitals have operated prior to this outbreak. Many professionals in a variety of employed industries experience some form of stress daily. However, this stress can snowball into fatigue, hopelessness and a lack of focus during employment. Anecdotally, ideals of workplace culture can often diminish these feelings, asserting that you must work hard in order to be of value. Even prior to COVID-19, medicine is a high-stress profession in which practitioner wellness often suffers[12]. Feelings of burnout may consequently lead to a sense of frustration or hopelessness. These feelings can often be magnified, becoming especially evident during a global pandemic. This places even more anxiety and pressure on the shoulders of healthcare workers across the country and across the globe. Now classified by the World Health Organization (WHO) in the *International Classification of Diseases (IDC-11)*, burnout is a syndrome conceptualized as resulting from chronic workplace

stress that has not been successfully managed1. It is characterized by three dimensions: 1) feelings of energy depletion or exhaustion; 2) increased mental distance from one's job/feelings of negativism or cynicism related to one's job; 3) a sense of professional ineffectiveness and a lack of accomplishment[1]. Heavy workloads, demanding standards of training and practice, and complex practice environments are some of the factors that put PAs at higher risk of personal and professional dissatisfaction, burnout and depression[12].

Burnout is an occupational phenomenon that occurs frequently among individuals employed in 'people-work'[2]. As such, it is important to note that this exhaustion and cynicism that can result as emotional reserves are depleted is a phenomenon that specifically occurs in the occupational context and should not be applied to other areas of life. As employees become increasing more negative about their work, a callous or even dehumanizing perception of others can lead staff to view their clients as somehow deserving of their troubles[2]. As emotional resources dwindle, workers can feel unhappy about themselves and disappointed with their occupational accomplishments. Burnout can come in many forms and looks different for everyone. Signs and symptoms of burnout can be cynicism, irritability, insomnia, depressive or aggressive reaction to stress, increased errors, and increased employee turnover[11]. Research has shown the prevalence of burnout to be more than 40%, with the highest rates in frontline healthcare providers such as emergency medicine, primary care, and critical care[11]. This paper will examine burnout through the occupational lens of Canadian Physician Assistants.

An overview of the COVID-19 Pandemic

The origin of the 2020 pandemic began with COVID-19, the disease caused by SARS-CoV-2 coronavirus; a novel virus first recognized in December 2019. The WHO declared COVID-19 a global pandemic in March 20203; since then, PAs and other healthcare professionals employed in hospitals and clinics on the front lines have been working tirelessly to treat patients amidst a global contagion. Those healthcare professionals working against COVID-19 may face increased workload and stress, leading to burnout[3]. Various COVID-19 specific stressors include: social isolation, self-quarantine, availability of personal protective equipment, risk of infecting loved ones, risk of death from the virus, decreased childcare assistance, decreasing revenue, salary freeze or reduction, vacation reduction and decreased patient-provider relationships[11]. Burnout is prevalent at higher rates than previously reported among healthcare workers during the COVID-19 pandemic and is related to high workload, job stress, time pressure, and limited organizational support[3]. However, despite these findings, little is known about PAs in Canada as most research has focused on burnout among registered nurses or physicians. A standardized tool should be used to assess burnout, so that other literature is not simply generalized to encompass the PA profession. One such tool is the Maslach Burnout Inventory (MBI).

Psychological Assessment

This psychological assessment scale was developed in the 1980's as an instrument to assess experienced burnout in a wide range of human service workers6. The MBI measures burnout as defined by the WHO and can be used to assess employees (specifically PAs) on the frontlines of the pandemic to measure their experiences. By distributing an online survey to full-time employed PAs working during the pandemic, we can get a better understanding of perceptions of burnout and occupational stress. The goal is to create awareness of PA related career issues, rates of burnout and potential resources to remedy this suspected issue. Identifying an issue will be the first step in working toward interventions to reduce this burnout trend. Any statistically significant information may be used to modify job satisfaction for the better and prevent further incidences of burnout during everyday work and even during unconventional, stressful circumstances such as a global pandemic.

The first axis of the MBI is emotional exhaustion (EE), which encompasses nine questions that describe feelings of being emotionally overextended and exhausted by one's work[2]. The second axis, depersonalization (DP) has eight questions which describe an 'unfeeling' and impersonal response toward recipients of one's care of service, in this case, patients. For both the EE and DP subscales, higher scores correspond to high degrees of experienced burnout[2]. The final axis is personal accomplishment (PA), encompassing five questions that describe feelings of competence and successful achievement in one's work with patients. In contrast to the other two subscales, lower scores in this axis correspond to a higher degree of experienced burnout[2]. In some literature, a fourth scale known as 'Involvement' is present; relating to specific involvement with patients. However, this scales eigenvalue was found to be less than unity in the initial design of the MBI and thus often excluded from the measures.

Research Purpose

This study sought to identify and describe burnout among PAs in Canada, identify the specialties in which burnout is most prevalent and detect any strategies to cope with this poor mental state. Burnout, if not treated can lead to a number of negative consequences for those affected, such as increased rates of depression, alcohol abuse and suicidal ideation[11].

Suicide is the only cause of mortality that is higher in physicians than nonphysicians. It is well documented that physicians take their own lives at rates much higher than the general public, and on average, 400 US physicians die by suicide each year . In Canada, male physicians are 40% more likely to die by suicide, and the risk to female physicians is more than doubled.[15] (Albuquerque, 2019) Burnout is associated with increased rates of medical error and decreased rates of productivity, putting patients at risk and straining an already overstretched medical system[14].

By employing the Maslach burnout inventory, as well as various original questions in a cross-sectional survey, we attempted to capture the three main domains of burnout. These include emotional exhaustion, depersonalization, and personal accomplishment, as well as potential methods to mitigate and prevent future burnout. This study aims to elucidate suspected issues among PAs employed during the COVID-19 pandemic, how to remedy these concerns and ultimately highlight the importance and necessity of the PA profession among the Canadian healthcare system.

METHODS

Following approval from the University of Manitoba Health Research Ethics Board (HREB), a cross-sectional online survey was created and distributed via *Survey Monkey* software through email. Survey participants were recruited through the Canadian Association of Physician Assistant's (CAPA) mailing list and through the Canadian PA Facebook page. Eligibility for all participating PAs in the study was determined on the basis of their licensed CCPA (Canadian Certified Physician Assistant) designation.

The administered survey had three sections: a demographic information section containing 11 questions, the Maslach Burnout Inventory (MBI) containing 22 questions, and six COVID-19 specific original questions. The MBI measures professional burnout using 22 questions. The items are measured with a seven-point Likert scale; *0= never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month, 4= once a week, 5 = a few times a week, 6 = every day* (see **appendix A** for full questionnaire).

The survey was open for approximately one month. Emails/social media notifications containing the link to the questionnaire were sent at approximately 0-, 2- and 4-week intervals to remind participants to participate in the study. Data collection concluded one week after the last email reminder had been sent. Each participant was allowed to respond only once to the questionnaire.

The study was conducted in full accordance with the HREB. Approval for conducting the study was granted and participant implied consent was given with initiation of the survey as outlined in the consent disclosure statement presented before starting the survey. Information from the participating PA's was collected by a single investigator ensuring anonymity of the information given, no IP address, personal email address or participant locations were recorded.

SURVEY MEASURES

Part A) of the survey, demographics, included collected information such as: age, sex, province/territory of practice, years practicing a PA, rural/urban location of practice, place of work, speciality (16 options) and full time/part time specifiers. A 'primary care' category was used, encompassing family practice and general internal medicine, as per report conventions

from the National Commission on Certification of Physician Assistants (NCCPA)[4]. The other specialities were grouped as 'non-primary care'.

Burnout was measured using the Maslach Burnout Inventory (MBI), a validated 22-point questionnaire. Every item on the MBI uses a 7-point Likert Scale ranging from 0=Never, to 6= Every day. The questions incorporate a variety of "I" statements, such as "I worry that this job is hardening me emotionally" and "I feel I am positively influencing other people's lives through my work." Responses are then scored into three different domain subscales: 1) emotional exhaustion (EE), 2) depersonalization (DP), 3) personal accomplishment (PA). Burnout is depicted by high scores on the emotional exhaustion and depersonalization subscales and a low score on personal accomplishment[2]. The three domains were analyzed independently of each other calculated on a high, medium and low score, using the MBI scoring guidelines seen in ***Table 1***. *Maslach Burnout Inventory (MBI) scoring guideline*

SUBSCALE	MBI SCORE		
	HIGH	MODERATE	LOW
Emotional Exhaustion (EE)	27 or over	17 – 26	0 – 16
Depersonalization (DP)	14 or over	9 – 13	0 – 8
Personal Accomplishment (PA)*	0 – 30	31 – 36	37 or over
*Scored in opposite direction to emotional exhaustion and depersonalization			

Table 1. *Maslach Burnout Inventory (MBI) scoring guideline*

RESULTS

RESPONSE

An exact number of PAs exposed to the survey via email was not determined, thus a response rate was not calculated. A total of 136 surveys were answered. 136 respondents completed part A, 123 completed part A and B, and 118 completed part A, B and C. Therefore, eighteen (13.2%) of the 136 surveys could not be used due to incomplete responses. Thus, a total of 118 completed surveys were used for analysis and n=118 was used for this survey.

DEMOGRAPHICS

Part A consisted of 11 questions. **Table 2.** displays the demographic data collected from the final sample group of respondents. Most respondents were under the age of 35 (61.02%), the majority were female (74.58%). Almost one quarter (22.88%) of respondents were licensed healthcare providers prior to becoming PAs; with the majority having worked as EMS/Paramedicine, Registered Nurses, or other allied health (Occupational therapy, Physiotherapy, Kinesiology).

Other answers included midwifery, registered massage therapy and even former physicians. **Figure 1.** illustrates the vast majority of respondents reported working in Ontario (67.08%, n=80), followed by Manitoba (22.03%, n=26), Alberta (5.08%, n=6), Nova Scotia (2.54%, n=3), New Brunswick (1.69%, n=2) and British Columbia (<1%, n=1). No other provinces/territories had respondents to the survey. More than half (50.85%, n=60) had been practicing for less than 5 years, 29.66% for 5-9 years (n=35) and 19.49% for greater than 10 years (n=23). The vast majority had been working in their current place of employment for less than 5 years (68.64%, n=81), with only 6 respondents having worked for more than 10 years in their current workplace (5.08%). Most PAs are working in an urban setting (defined as a population >15,000) (81.36% n=96). A minority (40.68%) of respondents were categorized as 'primary care' which included family medicine and general internal medicine, with the rest (59.32%) working in 'non primary care'. **Figure 2.** shows that hospital setting was the most common workplace location (59.32% n=70), followed by group office practice (22.03%, n=26). Some of the other locations included remote occupational medicine (ex. mining communities), Canadian Armed Forces and forensic pathology centers. Family medicine was the largest speciality of practice (27.92%, n=33), followed by emergency medicine/urgent care (16.95%, n=20). Some of the 'other' specialities included oncology, neurosurgery, addictions, geriatrics and infectious diseases. Most respondents were full-time (defined as >37.5 hrs/week) (93.22%, n=110), with the rest being part-time (6.78%, n=8).

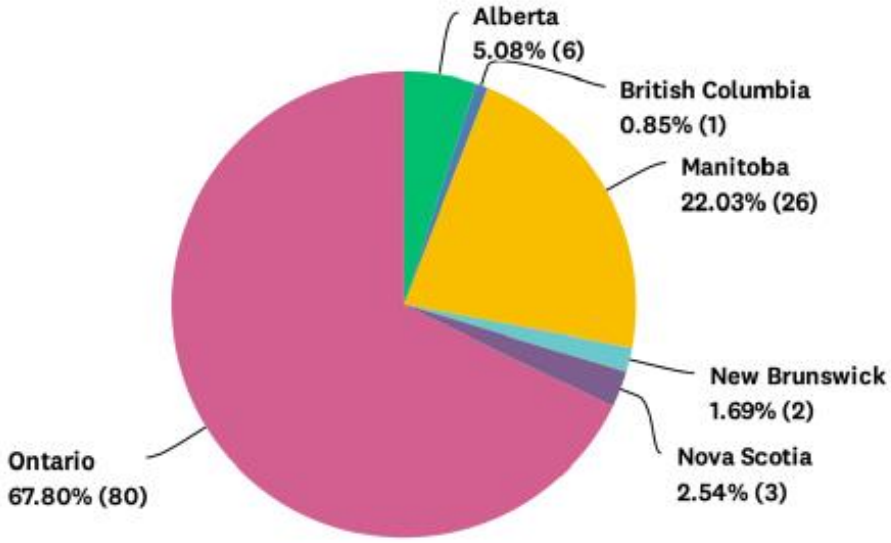

Figure 1. *Respondent geographics (n=118)*

Demographic Data (n = 118)		
Information	***%***	***(N)***
Age		
<35	61.02	72
33-44	18.64	22
45-54	15.25	18
55-64	4.24	5
>65	0.85	1
Gender		
Female	74.58	88
Male	24.48	29
Other	0	0
Prefer not to say	0.85	1
Licensed provider before PA		
Yes	22.88	27
No	77.12	91
Years in practice		
<5	50.85	60
5-9	29.66	35
>10	19.49	23
Time spent in current place of employment		
<5 years	68.64	81
5-9 years	26.27	31
>10 years	5.08	6
Urban or Rural		
Urban	81.36	96
Rural	18.64	22
Primary vs nonprimary care		
Primary care (family medicine and general internal medicine)	40.68	48
Nonprimary care	59.32	70
Practice setting		
Group office practice	22.03	26
Hospital	59.32	70
Community clinic	9.32	11
Solo office practice	3.39	4
Long term care home	0.85	1
Health maintenance organization	0	0
Other	5.08	6
Family medicine	27.97	33
Internal medicine	8.47	10
Internal medicine subspecialty	10.17	12
Emergency medicine/Urgent care	16.95	20
General surgery	5.08	6
Surgery subspeciality	5.93	7
Orthopedics	4.24	5
ENT	0	0
Dermatology	0	0
Pediatrics	1.69	2
OBS/GYNE	0.85	1
Psychiatry	2.54	3
Industrial/Occupational medicine	2.54	3
Intensive care unit (any kind)	0.85	1
Other	12.71	15
Full time vs. part time		
Full-time	93.22	110
Part-time	6.78	8

BURNOUT

Part B consisted of 22 questions asked on a Likert-type scale, scored according to an existing scaling matrix. The distribution of high, moderate and low scores on each subscale of the MBI is shown in Table 3 and Figure 3. Based on the median scores, overall respondents experienced high levels of emotional exhaustion, high levels of depersonalization, and high levels of personal accomplishment. Depersonalization showed the highest index of burnout with 86% reported high levels, 13% moderate and 1% low. Followed by emotional exhaustion with 75% reported high levels, 23% moderate and 2% low. No record of low or moderate personal accomplishment levels were recorded, only high (100%).

COVID-19 SPECIFICS

Part C consisted of six qualitative response questions dealing specifically with PAs working throughout the global pandemic. Inductive coding methods were used to develop a heuristic approach to respondent's answers, grouping them by similar responses patterns and inspecting for analogous trends to emerge.

A majority of respondents reported no change in their scope of practice (60.17%, n=71) related to the pandemic; while those that did (39.83%, n=47) reported new and differing changes to their normal day-to-day. Various themes emerged from respondents' answers. The themes were coded into five categories: virtual/online work, increased workload, new COVID specific roles / redeployment, decreased workload, and other. Note that some of the answers included multiple themes (ie. virtual work *and* increased workload).

Those who described more virtual work had responses such as, "*making more phone calls than having direct interaction with patients (respondent 110)*", "*gone from hands on to telephone assessment for 90% of the PAs (respondent 105)*", and "*clinics reduced by 50%, cancelled surgeries, converting to 50% telemedicine for clinics (respondent 51)*".

Those who had increased workload as the primary change in practice noted that they are "*much busier (respondent 13)*", have "*more responsibility (respondent 8)*", and "*see and do way more because we're so overwhelmed and short staffed (respondent 56)*". Some PAs were redeployed to COVID specific wards, with some having "*taken on an entire new role to help with the pandemic (respondent 109)"*, to some who "*work with COVID + and COVID suspects daily, limiting [my] practice to just the ailments of these individuals (respondent 7)*".

Most practicing PAs felt supported by their employers (73.75%, n=87), however more than one quarter did not (26.27%, n=31). The themes that emerged among those who were not well supported were coded into seven categories that included: poor communication, lack of access to supplies (ie. personal protective equipment or PPE), lack of financial aid, increased workload,

inadequate recognition, lack of supportive resources and other. Many of these respondents' answers included a mixture of these themes. Poor communication was a common theme among answers with responses like: "*poor communication and lack of transparency around decision making as it pertains to policies around COVID-19 (respondent 63)*", and "*Poor communication, poor access to supplies, inconsistency in policies, double standards, lack of appreciation of changes to patients and employees, expectations conflicting with cuts to services, lack of focus on quality outcomes for patients, complete disconnect with reality of health care and patients ongoing prior to pandemic now magnified (respondent 21)*".

Lack of financial aid responses included "*it has been very difficult knowing that if I were to get sick, I would not be paid for my time off (respondent 64)*", "*I feel despite the workload increasing my employer has not identified or acknowledged the dramatic change that has happened. Despite my hours worked in a day extending on average 2 hours daily I have not been compensated appropriately given I am a salaried employee (respondent 32)*", and "*no stress pay/pandemic pay/modified hours despite others receiving this (respondent 24)*".

Inadequate recognition responses included: "*Extremely poor management with virtually no support or recognition from my employer (respondent 79)*", "*I feel they are doing what they can but frustrated that the government has given inadequate recognition to the PA profession (respondent 53)*", and "*we are an unknown entity in the hospital that is frequently overlooked (respondent 4)*".

Increased workload responses were the most frequent type of response to this question, with responses such as: "*asked to be present see patients 5 days a week and physicians see pts ½ days once to twice a week. Feel like dumping ground. Little support for home life (respondent 112)*", "*There was never enough clinical coverage to appropriately allow for needful rest of clinicians (respondent 97)*", "*no protected work time to catch up, extra responsibilities, have to finish work from home (respondent 62)*"and "*they changed our schedule significantly, greatly reducing our quality of life and increased our workload while at work (respondent 49)*". Lack of supportive resources included responses like: "*WRHA did not offer supportive resources or even opportunity to speak out safely [about concerns] (respondent 54)*", and "*hospital is not action oriented when concerns of burnout have been brought forward by myself (respondent 45)*".

During the pandemic, most respondents felt safe (84.75%, n=100) in terms of possible unintentional exposure, inadequate PPE etc, while some did not (15.25%, n=18). An open-ended response type question that all respondents had to answer was asked to determine if there were any changes that respondents would like to see implemented at work to prevent burnout. A vast number of responses were given, and many themes emerged. These wanted solutions were grouped into 9 categories:1) Increased staffing, 2) increased time off/consistent scheduling, 3) increased 'check-ins', 4) pandemic/sick pay, 5) increased mental health resources, 6) enhanced communication, 7)

improved recognition of the PA profession, 8) improved logistics, and 9) other. Note that some of these responses overlapped and answers sometimes encompassed multiple themes.

Some PAs reported that nothing needed to be implemented, and that they were not burned out. Their responses included quotes such as: "*I personally don't feel burnt out. My manager has been sending out mental health resources monthly to the group of ~10 PAs that report to her for those who need (respondent 77)*", and "*nothing, my employer is pretty good I have never been without proper PPE and the support of my managers is outstanding (respondent 33)*". In answering this question, many respondents simply wrote "*N/A*" or did not accurately answer the question being asked (ie. what would you like to see implemented to alleviate burnout), thus their answers were not categorized as reportable results. The increased staffing domain had suggestions such as improved teamwork, more staff to spread out the workload, and adding another PA. The time off domain had answers such as: extra time off, option to work from home, improved flexibility in hours, a more consistent schedule, honouring days off and more vacation time. The increased 'check-in' category had responses like regular meetings to ensure we feel safe/proving adequate care, more supports for each other, and weekly teaching sessions to alleviate stress of being isolated on COVID wards. The mental health resources, respondents wanted included: more time for self-care, mediation sessions, periodic mental health days, and more emotional supports like therapy.

Poor communication was a common theme, with suggestions such as: clearer communication of expectations and changes in protocol, more communication from management, clear and consistent guidance from managers/leaders, and opportunities to discuss difficult encounters. Improved recognition answers included: more obvious appreciation of PA roles, advocacy from management, and increased appreciation from the government. Logistical concerns such as spaces to eat lunch and an improved access to break rooms were brought up. Finally, 'other' was used as a catch all category to encompass responses such as: earlier access to the vaccine, opportunities for getting fresh air and/or exercise, moving the certification exam to later in the year, increased virtual visits, and resiliency training.

Unfortunately, the majority of respondents said that their employers did not offer any resources to remedy any potential workplace burnout (56.78%, n=67). Of those that said yes, (43.22%, n=51) the following resources were given: mental health resources (therapy (including employee assistance program (EAP)), mindfulness, wellness sessions, access to psychology etc.), hour caps / breaks, compensation for overtime, shortened clinical days. Free services were also offered including free coffee, lunch and therapy sessions with dogs. Of those that had these resources available (ie. answered YES to the previous question), many found them not useful.

Some answers indicating why they were not used included: "*I have been unable to join during work hours (respondent 116)*", "*these options were implemented after my burnout (respondent 97)*", and *"[because] they aren't new, or unique and honestly the quality is poor (respondent 60)*". Of those that found them useful, some reported "*it is great to be supported by your place of employment (respondent 109)*", "*having additional time off has helped to balance out the building stress (respondent 93)", "I haven't used them much, but the breaks are nice (respondent 7)", and even "I like the free coffee (respondent 7)".* ***Figure 3.*** *MBI subcategory distribution results*

Physician Assistant Burnout (n=118)		
Burnout Subscale Index	**%**	**(N)**
Emotional Exhaustion (median score 34)		
High (27+)	75%	89
Moderate (17-26)	23%	27
Low (0-16)	2%	2
Depersonalization (median score = 22)		
High (14+)	86%	102
Moderate (9-13)	13%	15
Low (0-8)	1%	1
Personal Accomplishment (median score = 20)		
High (0-30)	100%	118
Moderate (31-36)	0%	0
Low (37+)	0%	0

Table 3. *MBI result distribution*

	Mean	**Median**	**Standard Deviation**
Emotional Exhaustion	33.08	34	7.875
Depersonalization	22.76	22	7.987
Personal Accomplishment	20.03	20	4.137

Table 4. *Data set information*

DISCUSSION

DEMOGRAPHICS

According to the CAPA website in 2020, there are approximately 650 certified practicing PAs in Canada, with more than 400 in Ontario[5]. Consequently, and unsurprisingly, the majority of respondents were from Ontario (67.80%). A response rate of approximately 18% was calculated based on this approximate 650-population size. Because the sample size was small, the data may include a disproportionate number of outliers and anomalies, thus we may not get a fair picture of the whole population. Ideally, with a confidence level of 95% and a margin of error of 5% with a theoretical population of 650, the ideal samples size would be 242 respondents[6]. Although historically male dominated, the PA profession now comprises over 60% of women in the US[7], this data is generalizable to Canada, seen especially in the results of this study where almost one quarter of respondents (74.58%) were women. Most respondents were under 35 years of age (61.02%), which likely reflects the relative novelty of the profession in Canada.

BURNOUT

Burnout levels were most pronounced on the depersonalization scale (86% high), closely followed by emotional exhaustion (75% high). However, despite these high levels, the personal accomplishment subscale was extremely high, with 100% of all respondents falling within the high proportion. Depersonalization encompasses emotional and cognitive dissonance, and feelings of an impersonal response toward patients, corresponding to questions such as "I feel like I am at the end of my rope", "I treat some patients as 'objects'", and "I do not really care what happens to some of my patients". Feelings like these are cause for concern from a patient care perspective. These negative attitudes toward patients may result in poor communication and reduce quality of patient care. A dehumanizing attitude toward patients and a cynical attitude toward one's job may lead to reduced willingness to perform and lower commitment Burnout among Canadian Physician Assistants during the COVID-19 pandemic to the job; possibly leading to negligence of duties, paying less attention to important details and thus higher rates of adverse events[16]. For example, being negligent about hand hygiene could lead to hospital acquired infections or committing a medical error could lead to serious drug side effects[16]. Emotionally exhausted workers often feel fatigued and unable to face demands of their job or engage with people. Some questions on this domain include "I feel emotional drained from work", "I feel used up at the end of the workday", "I feel frustrated by my job", and "I worry that this job is hardening me emotionally". Similar to depersonalization, these feelings could also exert a negative effect on patient safety. Cognitive processes such as executive functions, attention and memory are impaired in burnt out individuals[16]. As a result, emotionally exhausted clinicians may be less able to process the cognitive demands of highly technical and rapidly changing environments, pay less attention to detail like small changes in patient status and are more likely to commit errors[16]. A Swiss study looking at clinical burnout found evidence that mortality adjusted for severity of disease is found to

be higher on medical units with workers who score high on emotional exhaustion[16]; indicating clinician psychological health can have an impact on the patients they care for.

Personal accomplishment (when reduced) refers to feelings of not being able to make a meaningful contribution and overall reduces efficacy at work[3]. This scale includes questions like "I feel burnout from my work", and "I feel exhilarated after working closely with my patients". Despite explicitly saying that they do not feel burnout, the respondents *are* burnt out based on their other subscale scores. However, all respondents scored high on this scale. This may signify a protective factor against the effects of burnout, in that despite being emotionally exhausted and depersonalized, all practicing PAs also report a high degree of personal accomplishment in their career. Interestingly, the PA profession is consistently ranked within the top 10 careers to have in the US by the *US News & World Report*, notably ranking #1 in 2021[17], this may correlate to a personal, intrinsic sense of accomplishment with one's career. These feelings of satisfaction may be generalized to Canadian PAs. Personal accomplishment is conceptually close to self-efficacy (ie. the conviction that one has the capabilities to successfully accomplish a challenging task)[16]. Self-efficacious individuals show higher performance because they are more persistent, exert more effort and view tasks as challenging rather than a threat[16].

In initial studies of the MBI, it was predicted that the greater number of clients (patients) that one must deal with, the higher the burnout scores on the MBI2. A study of 43 physicians in a California health maintenance organization found that those who spend all or most of their working time with patients scored higher on EE ($r=0.30$, $p<0.03$). EE scores were lower for those physicians who spend some of their working hours in teaching, or administration (away from direct patient interaction). Depersonalization scores were also lower for physicians who spent relatively less time with patients and more time in administration. However, personal accomplishment scores were unrelated to differences in the division of working duties[2].These results appear to be generalizable to this study as well.

COVID SPECIFICS

The PA career is unique in that the scope of practice laid out by the employing physician is subject to change depending on the occupational situation of said physician. Unsurprisingly, many of the respondent PA's scope of practice shifted to encompass virtual medicine. Given that many patients are no longer visiting their family physicians or presenting to hospital, their appointments are now conducted over the phone or with video chat to limit the potential spread of COVID-19. An increased workload was noted among many respondents. This increase in responsibility, seeing more patients per day and working longer hours most likely contributes to increased feelings of perceived burnout among PAs. Respondents reported feeling overwhelmed due to seeing more patients, looking after a wider scope of critically ill patients and absorbing the roles of other workers, who are off work. Some PAs reported having taken on entirely new roles to help during

the pandemic. These include working with COVID taskforces, being redeployed to other wards and now working with COVID positive and COVID suspect patients daily, limiting their initial scope of practice to only these individuals. The dynamic nature of the PA profession (ie. the ability to change specialities) and a generalist training may be protective against these radical changes in the day-to-day operation of normal work that the pandemic has now distorted.

Fortunately, only a minority of respondents (26.27%, n= 31) said that they were not supported by their employers. Inadequate recognition is a pervasive theme that was woven throughout many respondents' answers in the COVID specific personal response questions. It appears that some working PAs felt that they were not given adequate acknowledgement or appreciation during this pandemic. This theme blends into the lack of financial aid that was also frequently reported. The vast majority of respondents were from Ontario, a province which has failed to recognize PAs (as well as other professions including: dieticians, social workers, medical radiation technologists, physiotherapists and others) as 'essential workers' thus excluding them from receiving pandemic pay increase. Despite the increasing workload, appropriate compensation has not been given to all PAs. Frustration surrounding the lack of financial aid was frequent in many responses. The majority of working PAs felt safe at work. Unintentional exposure and inadequate PPE were not major areas of concern. This may be due to management putting an increased emphasis on proper donning and doffing of PPE via an increased frequency in teaching sessions or more adequate signage/reminders around healthcare centers. Despite working with COVID positive patients, most PAs felt safe at work.

The open-ended response of what PAs would like to see implemented at work to alleviate burnout was the only question that every respondent had to answer. Nine gross thematic groups emerged from the data. Many of the things PAs would like to see executed at work revolved around managerial spheres. For example, increased staffing to help out burnout employees share the distribution of patient loads. Some respondents said that they would like to see another PA hired to the team. Increased time off work was the most common request PAs would like to see. The option to work from home would be a welcome addition to most PAs practice as well. Poor ommunication was frequent in the respondent's answers. This was between PAs and supervising physicians, between management and PAs, and even amongst colleagues in terms of talking openly and safely about experienced burnout. Burnout, similar to other mental health conditions is often stigmatized and regarded as something that is not talked about outside of private circles. Increased 'check-ins' amongst colleagues would be beneficial; supporting one another while being respectful and understanding is a positive step in helping to reduce feelings of burnout at work. Even smaller, mundane things such as spaces to eat lunch safely or the opening of hospital gyms was something that some PAs would like to see improved. Going forward, perhaps an anonymous platform for PAs and other healthcare workers should be applied in the workplace to offer suggestions about what they would like to see implemented. Rather than assuming what most people would like,

getting a more personalized and representative idea of what workers want would seem to be helpful.

Of all respondents, 51 stated that their employers offered resources (43.22%). The vast majority of resources offered by employers were related to mental health. These included counselling, meditation sessions, access to the Employee Assistance Program (EAP), and therapy. A minority of employers encouraged time off, set workplace hour caps and had increased breaks and compensation for overtime. Communication forums (whether informal or formal) were also available at some PAs place of work. These ranged from "comfortable settings to expressing concerns when needed (respondent 113)", to "online chats on coping mechanisms (respondent 26)".

Unfortunately, many respondents felt that the resources provided from employers stated above, were not useful. Earlier implementation (ie. before burnout sets in) is key as is making sure that these resources are accessible outside of regular working hours. Some PAs noted that these resources/sessions were generalized, thus more personalized resources may be beneficial. However, given the vast number of healthcare workers, this may not be logistically feasible. The lack of quality was also a point that was mentioned surrounding these workplace resources. Consideration should perhaps be given to funding reserves from each workplace, allocated to prevent burnout. This would be a welcome and preemptive measure amongst healthcare workers. Other strategies that may be beneficial could include sessions on occupational burnout focusing on topics such as recognizing one's own limitations, prioritizing tasks, delegating work, stress management, resiliency training and positive coping strategies[11]. Additionally, structured sessions on mediation, yoga, cognitive behavioral therapy, and mindfulness (with sessions scheduled based on availability) for those interested parties may be advantageous.

LIMITATIONS

Despite using a consistently valid and reliable psychological tool, this study data had some limitations. As previously discussed, the hypothesized response rate was not very large (~18%) and was a gross estimate based on the proposed number of PAs working in Canada. This sample size is not overtly large and collected data may misrepresent the total practicing PA number. This may contribute to a selection bias of the data. Respondents essentially selfselected their participation in the study (ie. only those that are interested responded). A larger sample is needed to be adequately statistically powered to test more predictors of mental health issues. Personal characteristics of respondents in the study (ex. anxiety, depression, resiliency) were not quantified and could alter data. A variety of confounding variables such as personal/familial history of mental health concerns, prior adversity or other socioeconomic actors (ie. income) may be considered to further expand and better quantify the data. This survey was initially broadcast over social media, as such only those who use social media will see it and only the more helpful or affable individuals will

reply[6]. The end of the survey study was qualitative in nature and offered self-reflection questions. Those who responded to every question may have felt more burnout or had stronger feelings than those who did not complete the written response questions, or vice-versa. This study may over represent younger practicing PAs (<35 years old), as they were the majority of respondents of the survey. This may speak to age related phenomena, such as younger people having more access to social media, increasing their exposure to said survey. The majority of respondents were working in family medicine and emergency medicine; these specialties do not represent all healthcare workers and thus the data may not generalize to all working PAs.

The data collected in this study was cross-sectional and as such, a longitudinal perspective of burnout was not acquired. This allowed us only a snapshot in time of how PAs are feeling, no temporal precedence is given to understand how people were feeling beforehand. Going forward, a study looking at new PAs as they start their careers, potentially change specialties and acquire workplace experience could help better characterize occupational burnout trends through the working lifespan. Burnout is an encompassing definition that can be hard to characterize to one specific definition. The MBI is a good tool to measure workplace burnout; however, other validated tools may be used and thus give a different quantification of measured burnout.

CONCLUSION

Little is known about occupational burnout and Canadian Physician Assistants. This study aimed to evaluate the prevalence of burnout nation-wide among practicing PAs. The study results showed that PAs in Canada demonstrate high levels of burnout on the depersonalization and emotional exhaustion subscales, while maintaining a high level of personal accomplishment throughout their work. The goal of this study was to highlight burnout among PAs and ask for their input on potential solutions. The potential solutions brought forth by respondents included: increased staffing, more time off/consistent scheduling, increased 'check-ins', pandemic pay, improved mental health resources, improved communication amongst management & colleagues, and increased recognition of the PA profession. This study will allow future conversations among PAs and their administrative counterparts in efforts to come to creative and practical solutions to remedy occupational burnout. Prevention relies on interventions at individual, team and institutional levels[11].

Identifying signs of burnout in colleagues can be an important first step in getting help. Going forward, if a similar study was to be repeated with more time and resources, a larger sample size, and with a longitudinal approach; occupational burnout could be further understood and conceptualized through a Canadian lens. By examining feelings at the beginning of one's career and throughout their life, we will be better able to quantify burnout or other morbidities as they emerge. This study aimed to create awareness of Physician Assistant burnout amidst a global pandemic and the importance of the PA career. By highlighting these trends, optimization

strategies can be implemented to target specific areas known to cause burnout and lead to a reduction across the profession.

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TO GET HELP

It is important to get help if you or someone you know is going through a crisis or thinking about suicide[13]. The government of Canada website has a variety of resources for those struggling with emotional pain or mental health. The Canadian Medical Association's website offers a wellness support line for physicians and other providers[12]. If you or someone you know is having thoughts of self-harm, contact the Canadian Suicide Prevention Service at 1-833-456-4566 (24/7) or text 45645 (4 pm – 12 am ET). Kids Help Phone is another resource available 24/7 for Canadians aged 5-29 who want confidential and anonymous care from professionals, call 1-800-668-6868 or text CONNECT to 686868. Finally, Hope for Wellness Help Line is available to all Indigenous peoples across Canada who need immediate crisis intervention, offering services in English, French, Cree, Ojibway and Inuktitut. Call 1-855-242-3310.

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