

**THE PREVALENCE OF BURNOUT, PSYCHOLOGICAL DISTRESS
AND FREQUENTLY USED COPING STRATEGIES AMONG
PRIMARY CARE HEALTH WORKERS IN THE NORTH WEST AND
NORTH CENTRAL REGIONAL HEALTH AUTHORITIES**

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ABSTRACT

The Prevalence of Burnout, Psychological Distress and Frequently Used Coping Strategies among Primary Care Health Workers in the North West and North Central Regional Health Authorities

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Background: The prevalence of mental health issues among health care workers, including primary care workers, has reached concerning levels globally. The presence of the more common conditions such as the burnout syndrome and psychological distress among primary care workers in Trinidad and Tobago has not been examined. **Objectives:** This study aimed to determine the prevalence of the burnout syndrome and psychological distress among primary care health care workers in Trinidad, as well as their associations with socio-demographic factors, workplace factors and stress coping strategies. **Research Design and Methods:** This was a cross-sectional study of 245 primary care physicians and nurses within the North West and North Central Regional Health Authorities. The Maslach Burnout Inventory, General Health Questionnaire and the Brief COPE measured outcomes through a self-administered questionnaire. **Results:** The overall prevalence of burnout among participants was 32.7% and 25.3% were distressed. Younger age groups (<45 years) had significant associations with both burnout [OR 2.91 (1.66-5.12)] and distress [OR 2.73 (1.48-5.04)]. Physicians were also significantly more likely to be burnt out as compared to nurses [OR 2.95 (1.69-5.14)]. Increased odds for burnout were also found for those who had no children, or less than three children, those with postgraduate qualifications or enrolled in a training programme. Spending less than

four hours a day in leisure activities increased the odds of both burnout and psychological distress. Avoidant and emotion focused coping were significantly associated with burnout and distress. Use of religion was significantly associated with those in the non-burnout and non-distressed groups. **Conclusion:** The results reveal that prevalence of mental health issues is significant among primary care workers in these two settings. Individual and organizational prevention and intervention strategies can be utilized to address this issue, targeting physicians, younger workers and addressing stress coping strategies.

(293 words)

Keywords: Burnout; Psychological Distress; Coping Strategies; Primary Care; Physicians, Nurses; Trinidad

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INTRODUCTION

According to the World Health Organisation (WHO),¹ wellness can be defined as *'the optimal state of health of individuals and groups.'*¹ This definition further expounds upon the fact that the meaning of an *'optimal state of health'* recognizes that there are two important factors that must be fulfilled to meet this criteria. Firstly, there must be:

*'the realization of the fullest potential of an individual physically, psychologically, socially, spiritually and economically.'*¹

Secondly, the individual or group must be able to:

*'fulfill one's role expectations in the family, community, place of worship, workplace and other settings.'*¹

Similarly, WHO recognizes mental health as:

*'a state of well-being, where every individual is able to realize his/her own potential, is able to cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his/her community.'*²

This latter definition explores a positive dimension of mental health, but the implication is therefore that a person who may be mentally or psychologically distressed will experience difficulty in reaching their full potential and consequently, will experience challenges in fulfilling their roles. Ultimately, this person cannot be considered as having met the criteria for wellness.

The American Psychological Association (APA)³ views stress as the:

*'pattern of specific and nonspecific responses an organism makes to stimulus events that disturbs its equilibrium and tax or exceed its ability to cope.'*³

A stressor will therefore represent the stimulus that is encountered and for which a response is required.³ Some stress can provide beneficial responses, as it allows for the extra effort required to meet and overcome challenges, but extreme amounts can produce physical and psychological effects. Chronic stress is however either constant or occurs repeatedly over prolonged periods of time.⁴ Critical importance is placed on the response to stressors, or coping mechanisms whether they are acute or chronic, as this can affect the ability to be productive and reach full potential.

Health care workers, such as physicians and nurses, often face large amounts of stress in the daily performance of duties and are particularly vulnerable to mental health issues.⁵ This may be due to several factors, which may be broadly divided into occupational and individual categories.⁵ Clinical occupational factors are mostly related to the interaction with the patient and an important stressor is the fact that workers are often in very close and repeated human contact, which can lead to emotional exhaustion.⁵ However, the repeated contact itself may not be the issue, but what it represents in the health care setting.

Interactions are not usually on a superficial or social scale, but may be emotionally charged, as workers are faced with illness, disease, suffering and death on a regular and sometimes daily basis. Additionally, there are instances of having to break bad news or grapple with ethical dilemmas.^{5,6} Essentially, most decisions that are made in the health care setting must be made quickly and can potentially produce serious impacts on patients and their families, thereby becoming a source of stress, uncertainty and an

emotional burden.³ Other patient related stressors include sometimes unrealistic expectations of the health care system and the individual worker, as well as negative aspects of the interaction, such as conflict, aggression and even violence.⁶

Structural occupational factors are related to the work environment itself. Potential stressors in this category include the workload, the length of working hours and the utilization of shift systems.⁵ Perceived job control or autonomy within the workplace also appears to be a contributing factor to stress, as well as interpersonal relationships with coworkers, superiors and members of the executive management.⁵ Organizational issues, such as lack of clearly defined roles, lack of opportunities for professional growth and conflict can also be important stressors. That being said, not all healthcare workers develop the same responses to stress despite experiencing similar occupational environments, pointing to the fact that the development of stressful reactions are more complex than just the external environment.⁵ This is where individual personality traits may play a role. This is less well defined, but many health care workers, physicians in particular, may possess a Type A personality and exhibit perfectionism, a desire to please and a strong work ethic.⁷ These are traits that are actively encouraged and sought from medical training onwards within the healthcare system, but can ultimately influence the reactions to occupational stressors.^{7,8} The actual perception of stress is a factor that may also explain variations in responses, as varying challenges are experienced in different specialties and departments. Additionally stressors outside of the work environment such as lifestyle, domestic issues and financial constraints may also be implicated.

Chronic occupational stress is one of the leading factors in the development of the burnout syndrome. This term was first used by American psychologist Herbert Freudenberger in the 1970's, where he noted the physical and mental impact of prolonged and sometimes severe stress on members of the 'healing profession'.⁹ Continuing on from this, Maslach and Jackson in 1981¹⁰ and Maslach et al again in 2001,⁸ described burnout as a condition manifested by three distinct dimensions, emotional exhaustion, depersonalization and a reduced sense of personal accomplishment.^{8,10} Originally described to mainly affect healthcare professionals, the concept has been extended to include other groups that also experience intense interaction with persons, such as police officers, social workers and teachers.^{8,10,11} The feelings of emotional exhaustion are the most commonly described, are related to the stress aspect of burnout and are usually the first to emerge.^{8,10,11} Large amounts of time spent in emotional involvement and empathy with persons appear to be predisposing factors.¹¹ Interestingly enough, workers cope with the emotional exhaustion by separating themselves emotionally and cognitively. This can manifest as depersonalization, where a patient is viewed in a detached and unemotional way, instead of being recognized as an individual with real and important needs.^{8,10} The third dimension of burnout, reduced personal accomplishment, is related to the other two dimensions, in that it may develop because of the feelings of exhaustion and indifference.^{8,10} However, it may also develop because of lack of resources within the workplace.^{8,10,11} A lack of adequate job resources hinders the ability to complete tasks and therefore reduces satisfaction, leading to frustration and feelings of failure.¹² Unfortunately, it would seem that the workers that are the most involved and invested are the

ones that tend to develop the syndrome.¹² Burnout may arise from an incongruity that arises between the occupational environment and the individual within that environment. Some of the more important influencing factors revolve around workload, loss of autonomy, time pressures, an inefficient and disorganized work environment and differences in values and expectations between workers and management.

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The consequences of burnout are numerous and its impacts on the individual, as well as on the healthcare system have been one of the leading reasons for the recent increase in focus on this syndrome. The individual may experience somatic manifestations, such as headaches, difficulty with concentration, difficulty sleeping, lowered job satisfaction, altered work-life balance and even mental health issues such as depression, anxiety and substance abuse.^{14,15} Additionally, burnout has been found to affect cognitive performance, specifically visual attention and therefore has been linked to medical errors.¹⁶ Effects are felt at the organizational level as well, as burnout can manifest as decreased professionalism, absenteeism, presenteeism, tardiness, conflicts and poor job performance.^{14,15} Increased staff turnover may occur, as burnt out individuals may leave the system, either through choice, or unfortunately due to disciplinary action or dismissal.¹⁴ Ultimately, these effects reduce healthcare quality, decrease patient satisfaction and possibly results in harm to the patient. ¹⁴

Psychological distress can be defined as '*a state of emotional suffering characterized by symptoms of depression and anxiety*'¹⁷, which is a common manifestation among health care workers.⁵ This emotional state can

diminish the innate resilience of persons, affecting the capability for enjoyment, as well as the ability to cope with stressors.¹⁷ Major depressive disorder is characterized by the presence of five or more symptoms for at least two weeks and represent a change from prior functioning.¹⁸ This includes depressed mood, anhedonia, weight gain/loss, change in sleep patterns, a loss of energy, feelings of inappropriate or excessive guilt, psychomotor retardation/agitation, diminished concentration and suicidal ideations. One of the symptoms must be inclusive of depressed mood or anhedonia and the symptoms should not be due to an underlying medical condition, another psychiatric disorder or the physiological effects of a substance.¹⁸ According to the Diagnostic and Statistical Manual (5th edition) (DSM-5)¹⁹, anxiety disorders include *'disorders that share features of excessive fear and anxiety and related behavioral disturbances.'*¹⁶ Predisposing factors for these conditions are similar to burnout, in that exposure to chronic stress and workplace stressors can produce symptoms. Depression though has other factors that must be considered, such as genetic, developmental and environmental factors and the workplace represents only part of the influence of environmental factors.²⁰ Also, while burnout mainly affects job performance, depression affects both workplace performance and life outside of the workplace.²¹ Burnout and depression are frequently correlated in studies, and suggestions have been made that the two are related possibly in a temporal fashion^{22,23}, but others argue that they represent two distinct entities, though with considerable overlap.^{20,21} Similarly, anxiety disorders can also develop from chronic occupational stress and a concurrence with both burnout and depression has been demonstrated.²⁴

Strategies used to cope with stress can be a mediating factor for the development of mental distress in workers. Coping strategies refer to the physical, emotional and behavioural efforts used to deal with stress.²⁵ The possession of effective coping skills allows an individual to adapt and respond appropriately to stressful situations, despite the challenging of internal resources.²⁶ There are positive strategies, such as communicating with advisors, friends or family, exercising, meditation or listening to music. Conversely, there are negative coping strategies, such as using alcohol or addictive substances, gambling, avoidance, repression or becoming aggressive and violent.²⁵

Certain barriers that exist may dictate the ways health care workers choose to cope with stress and mental distress. There may be the fear of the stigma attached to mental health issues, in that it may hamper progression with respect to career, or result in being labeled within the workplace as unwell or troublesome.⁵ Issues with confidentiality also affect help seeking behaviours, especially if persons turn to destructive coping strategies such as alcohol or substance abuse to deal with feelings. Also involved are the personal views on mental health, where the health care worker is ashamed or embarrassed by these issues and uncomfortable with the idea of 'role-reversal,' where they now become the patient.⁵ Therefore, many turn to self-medicating or disclosing to friends or family members instead of to a mental health professional.⁵ While this may be understandable, it is also concerning, because if physicians and nurses are intolerant of their own and each other's mental health, they may be very critical or dismissive of a patient's mental status.⁵

The consequences of mental health issues among health care workers are important because psychological distress and burnout can negatively impact productivity and the quality of healthcare provision.^{5, 14} As aforementioned, there are numerous consequences to the effects on the individual, organization and the health care system on the whole. However, a very important consequence is the actual relationship with the patient. In primary care, a key cornerstone of practice is the development of a high quality patient-provider relationship and the development of effective communication, as it can aid in producing positive patient outcomes.²⁷ Empathy is also a critical aspect of this relationship, as it enhances the consultation and increases the patient's involvement and sense of well-being.²⁸ Therefore, when mental distress in the provider manifests as emotional exhaustion, where empathy can no longer be offered, or depersonalization, where the patient is not even regarded as a separate entity from other patients, it is of no surprise that this relationship will suffer and affect health care quality, ultimately decreasing patient satisfaction and adherence to treatment.⁵

The mental health status and wellness of physicians and nurses has been extensively explored in terms of burnout and psychological distress over the past forty years, with emphasis on depression and anxiety. However, the focus of research has been on the specialties that might be traditionally viewed as 'high stress' areas. This would include the emergency room, intensive care units, surgical specialties and geriatric care. Primary care or family medicine has also been studied, but does not bear the lion's share of the research. The focus has also been placed on students or early career health care workers, despite the fact that there are certain issues with this

focus, namely that first and second year students are unlikely to have patients and this affects the use of burnout scales on this population.²⁹ Amongst the literature, prevalence rates of burnout vary considerably. The value is between 30-60% and this variation occurs partly because of differences in age groups and specialty types. However there are also differences between the instruments used and cut- off values utilized between studies, creating inconsistent estimation rates.

Despite the interest in the area of mental health in the developed world, there has been a paucity of research within the Caribbean region, including Trinidad and Tobago. Similarly, the research that has been performed has again primarily examined students and hospital workers. This will be explored further in the literature review.

RESEARCH QUESTION(S)

- (1) What is the prevalence of burnout and psychological distress among primary care nurses and physicians in North West Regional Health Authority (N.W.R.H.A.) and North Central Regional Health Authority (N.C.R.H.A.)
- (2) What are the associated factors for burnout and psychological distress among primary care nurses and physicians in N.W.R.H.A. and N.C.R.H.A.?
- (3) What are the most commonly used stress coping strategies among primary care nurses and physicians in N.W.R.H.A. and N.C.R.H.A.?

RESEARCH OBJECTIVE(S)

- (1) To determine the prevalence of the burnout syndrome among primary care physicians and nurses in N.W.R.H.A. and N.C.R.H.A.
- (2) To determine the prevalence of psychological distress among primary care physicians and nurses in N.W.R.H.A. and N.C.R.H.A.
- (3) To identify the potential associating factors of burnout and psychological distress.
- (4) To explore the relationship between the mental health of primary care physicians and nurses and the coping strategies utilized.

LITERATURE REVIEW

A literature search was performed by using the PubMed database for online journal abstracts and articles, as well as the Latin American and Caribbean Center on Health Sciences Information (BIREME), MedCarib, Google Scholar and UWI Online Database System. Key search terms used were; burnout, wellness indicators, stress and stressors, mental health, psychological distress, physicians, general practitioners, nurses, primary care, healthcare workers, anxiety, depression, health care provision, medical errors, sleep disorders and suicide. Additional studies were identified by searching the reference lists of studies identified by this search strategy and selected. A hand search was made through the West Indian Medical Journal located within the library at the Eric Williams Medical Sciences Complex as well. Relevant studies if unavailable online, were obtained through the librarian or from the author. Focus was placed on studies published within the last ten years, but did not exclude frequently referenced and relevant literature published more than ten years ago.

Mental Health of Physicians and Nurses

Globally, mental health issues such as depression and anxiety affect over 300 million persons, the majority of whom are in a workplace, which is sometimes unsupportive or that may even be a contributing factor to poor mental health.³⁰ This creates a significant economic cost due to lost productivity, which is estimated to be an astronomical US 1 trillion per year.³⁰ Costs are incurred when staff leave jobs as well. In the United Kingdom (UK), it has been estimated that up to 300,000 workers with

mental health issues leave their jobs per year, costing the economy a staggering £99 billion annually.³¹ In the United States (US), physician turnover costs the health care system an average of \$16.9 million US per annum.³²

A health care systems' main purpose is to ensure that there is delivery of optimal health care services to the population. Health care workers are often regarded as 'superhuman,' in that they do not or should not be experiencing distress or illness. This is because the view is that workers themselves are responsible for the protection of a patient's health, even to the point of self-sacrifice, so that their needs are not immediately addressed. However, it has been recognized that protection of worker's health is important, because it directly affects the quality of care provided and strengthens the health care system.^{33,34} A systematic review exploring physician health access behaviours, particularly among general practitioners (GPs) demonstrated that in most studies, more than 50% of physicians were registered with a GP.³⁵ However, many systems, especially in the UK, require registration with a GP and does not reflect actual usage of this service. This review was restricted to English language studies and may have underestimated health seeking behaviours. Additionally, most included studies focused on GPs, but others involved junior physicians, whose decision to seek help may differ from more senior physicians.

A narrative review by Brooks et al⁵ suggested that physicians experience significantly higher proportions of mental health issues as compared to the general population. This can manifest as burnout, depression, anxiety, addiction to alcohol and drugs and suicidal ideations. Junior physicians

appear to be particularly vulnerable, possibly due to stressors occurring during training and transitioning to full clinical responsibility.⁵ Risk factors appear consistent across studies and generally are related to working long hours, the emotional nature of the patient-physician interaction, as well as demands of the patient and the health care system.³⁴ The stressors that exist in a working environment include the length of shifts, work hours, relationships with colleagues and supervisors, lack of progression and poorly defined roles. A similar finding was noted among Australian hospital nurses, who identified workload, role ambiguity and aggression at work as stressors.³⁶ This latter stressor was also noted in a qualitative study exploring sources of stress and distress among forty-seven GPs in England.³⁷ Sources of stress included power politics at work, such as having decisions undermined or having no input into decisions for the practice.³⁷ Others included staffing issues and workplace matters, with bullying and isolation emerging as recurrent concerns.³⁷ The emotional aspect of dealing with physically and verbally abusive patients was also cited.³⁷ This is a reality in the healthcare system, as Jackson and Ashley³⁸ identified a high level of exposure to verbal abuse and bullying in Jamaican hospitals and primary care settings. Similarly, 63% of nurses and physicians at primary care polyclinics in Barbados encountered violence in the previous year, with 60% reporting verbal abuse and 19% reporting bullying.³⁹

Lindo et al⁴⁰ in Jamaica assessed the mental well-being of 212 physicians and nurses in two hospitals in Jamaica and found that 27.4% met the criteria for mental ill health, which was significantly higher in those that reported moderate to high levels of work stress.⁴⁰ Also significantly related

to mental ill health were fears of coming to work among physicians and nurses and financial difficulties experienced among nursing staff in the past six months.⁴⁰ An inverse relationship with increasing years of experience and prevalence of mental distress was found [OR 6.48 (95% CI 1.77-23.68)].⁴⁰ A large cross-sectional study involving 3213 respondents was performed by Compton and Frank (2011)⁴¹ to address the mental health of Canadian physicians. This study identified that approximately 25% of physicians were experiencing depressive symptoms over the past year. This was more common among female physicians (20.4%; $p < .001$) and general practitioners (26%; $p < .0010$)⁴¹. Another 24.5% felt that they were dissatisfied with their work-life balance, which was significantly associated with depressive symptoms ($p < .001$). Another 26.5% with depressive symptoms felt that their mental distress was affecting their work performance ($p < .001$).⁴¹ This again was significantly associated with general practitioners. Interestingly enough, though this study had a moderate response rate (41%), the greater proportion of respondents were GPs (47%), which could indicate that GPs were more receptive to the survey and disclosing mental health information. A study performed among hospital physicians in the Netherlands also revealed similar proportions, where 29% of physicians reported depressive complaints and additionally, anxiety symptoms (24%), Post Traumatic Stress Disorder (PTSD) (15%) and burnout (6%).⁴² However, only 4% felt that their work ability was affected, though this was a self-reported measure.⁴² Nursing staff are also not immune to the development of mental health issues, as a study among 3719 Swedish hospital workers, revealed 32% of nurses suffered from burnout¹² Collectively, burnt out health care workers experienced higher levels of self-reported depression and anxiety

symptoms, sleep disturbances and memory impairment, as compared to the non-burnout group.¹² However, no distinction was made between the categories of staffing with respect to these outcomes.

Burnout

The burnout syndrome consists of three core dimensions, emotional exhaustion, depersonalization or cynicism and reduced personal accomplishment or inefficacy.⁸ According to Maslach et al,⁸ there are elements that are common to the burnout syndrome.⁸ Firstly, there are symptoms of fatigue, mental and emotional exhaustion which are usually work related and have a relationship to stress.^{8,43} This distinguishes the symptoms of burnout from simple exhaustion, as the fatigue may be accompanied by feelings of satisfaction and accomplishment when the task is achieved, whereas burnout may be accompanied by feelings of non-achievement or indifference.⁴³ The symptoms are usually behavioural or mental, instead of physical and manifest in persons who have no known prior history of psychological disorders.⁸ There are also usually consequences related to negative attitudes, manifesting as decreased work performance.⁸ There is a sequential link between the development of exhaustion and cynicism, however, the development of inefficacy appears to be in tandem and not sequentially, suggesting a separate stressor for its presence.⁸

Burnout has been studied across various specialties and career stages. Emphasis has been placed on medical students and junior physicians in particular, as at this stage of the career there may be difficulty with balancing studying, training and transitioning into clinical practice.

Dyrbye et al⁴⁴ found that as compared to equivalently aged members of the US population; medical students, residents/fellows and early career physicians were more likely to experience burnout.⁴⁴ Also resident/fellows had higher odds of experiencing burnout (OR 1.38 [95% CI 1.20-1.58]) while medical students and residents/fellows were more likely to experience depression, as compared to age matched samples.⁴⁴ Symptoms of burnout and depression decreased with career progression, though early career physicians still experienced higher levels of psychological distress as compared to the control population.⁴⁴ Up to 50% of US medical students have been deemed to suffer from burnout and were more likely to display unprofessionalism, display less altruistic behaviours than their peers and experience thoughts of quitting school.⁴⁵ Residents also experience burnout rates between 27% to 75% in studies. One study among family medicine residents found that preventative factors for burnout, such as healthy diet, exercise and adequate sleep were adopted by only 20-25% of residents.⁴⁶ The issue of financial stress due to medical school debts is a possible contributing factor in this group as well.⁴⁵ In a recent study among medical students in Trinidad and Tobago, 52% met the criteria for burnout, with differences between the final and first years, particularly on the emotional exhaustion scale.⁴⁷ A further 40% were considered depressed as determined by the Patient Health Questionnaire (PHQ-9).⁴⁷ In another cross-sectional study by Shanafelt et al,⁴⁸ 76% of internal medicine residents were found to be experiencing burnout, although response rates decreased with each year of residency.⁴⁸ About 41% of residents in anaesthesiology also were considered to be a high burnout risk.¹⁶ A systematic review performed to assess burnout rates in obstetrics and gynaecology residents found a pooled prevalence of

44%.⁴⁹ Consistency of burnout scales were used in all included studies, but publication bias was apparent. An unpublished study in the Bahamas also reported that the prevalence of burnout among physicians was 54.2%, with 9.9% meeting the criteria for severe burnout, with the prevalence decreasing with increasing years of experience.⁵⁰ The possibly high prevalence rates of burnout at these stages is of concern, as students and junior physicians may be starting careers at an already low point in mental health. However, it has been pointed out that conducting burnout research among medical students is problematic, as at this stage, a relationship with patients hardly exists. Therefore measurements of exhaustion, depersonalization and personal accomplishment based on statements related to the work environment and feelings of achievement seems inherently flawed.²⁹

Conversely, Shanafelt et al¹⁵ noted a higher likelihood of burnout among mid-career physicians, as well as Goehring et al,⁵¹ who noted that an age between 45-55 years was associated with a moderate risk of burnout (OR 1.4 [95% CI 1.1-1.8]; $p < .05$).⁵¹ This is not unexpected, as burnout develops in response to chronic stressors,⁸ therefore it seems likely that senior staff would be more affected. However, since most studies were cross-sectional, it may indicate that affected staff members simply have fallen out of service, either by choice or by illness and therefore junior staff appear more affected in other studies.

The prevalence of burnout in primary care varies considerably between studies. Soler et al⁵² performed a large cross-sectional survey across the European continent to quantify the prevalence of burnout among European family physicians. The findings were that 43% of respondents

scored high for emotional exhaustion, while 35% scored high on the depersonalization scale and 32% had low scores on the personal accomplishment scale. Overall, 12% of physicians scored high for burnout on all three scales.⁵² While this study involved a large population (1393 physicians), had a moderate response rate (41%) and was performed across twelve countries, important issues were differences in sample selection and questionnaire distribution methods. Although this decision may have been based on the most appropriate strategy relevant to that country, it may have created inconsistencies in response rates. Additionally, the questionnaire was converted into various languages and it was left to the discretion of the family physicians to provide the translation. A large cross-sectional study performed by Shanafelt et al in 2011 and 2014 among US physicians of different specialties,¹⁵ revealed that family medicine physicians had the fourth highest prevalence of reported burnout in both years.¹⁵ There was a demonstrated increase from 51.3% in 2011 to 63% in 2014 ($p < .001$).¹⁵ This discipline also was among the lowest satisfied with work life balance.¹⁵ Arigoni et al⁵³ also performed a Swiss cross-sectional study in three different years (2002, 2004 and 2007) to estimate the point prevalence among general practitioners, pediatricians, internists and oncologists. This study found that the highest prevalence of moderate degree burnout occurred among GPs, which increased significantly from 33% in 2002 to 42% in 2007.⁵³ An increased odds of high degree burnout was found only for GPs as well (OR 1.8 [95% CI 1.1-3.0]; $p < .05$).⁵³ Goehring et al⁵¹ similarly found that 32% of physicians had a moderate degree of burnout and 3.5% had a high degree and were more likely to be GPs.⁵¹ Pejuskovic et al⁵⁴ found while analyzing individual burnout dimensions among Serbian GPs, psychiatrists and

surgeons, GPs reported higher levels of emotional exhaustion, while surgeons experienced higher levels of depersonalization and inefficacy.⁵⁴

In terms of associated factors, gender has been found to have significant associations in some studies. Female physicians, in varying specialties, generally report higher levels of burnout than males.^{15,16,27,47,55} Pejuskovic et al⁵⁴ also reported that females were more likely to exhibit emotional exhaustion, while males exhibited lower personal accomplishment scores. This may however be related to the gender differences among the specialties observed in that the GPs were predominantly female (93%) and the surgeons predominantly male (87.5%).⁵⁴ Contrary to these findings however, Goehring et al⁵¹ found that male primary care physicians were more likely to experience moderate (OR 2.3[95% CI 1.7-3.3]) and high degrees of burnout (OR 5.8 [95% CI 1.4-27]).⁵¹ This finding was supported by Soler et al,⁵² where male sex among primary care physicians was linked to depersonalization (OR 1.83 [95% CI 1.77-1.89]). Arigoni et al⁵³ also reported moderate burnout levels significantly associated with males (OR 1.4 [95% CI 1.1-1.8]), however the survey was comprised of mainly male respondents.⁵³ Gender was not reported as significantly linked to burnout in nurses, likely due to the preponderance of female gender in this profession.

As mentioned before, age appears to be a factor, where younger physicians are mostly affected by burnout.^{16,27,40,47,56,57} A similar finding was noted among Japanese nurses, where those aged 20-25 years had significantly higher scores on the emotional exhaustion scale and those with less than three (3) years clinical experience had higher scores on the depersonalization scale.⁵⁸ Also, a meta-analytic study examining the

relationship between age and the burnout dimensions among nurses found there was a significant inverse relationship between age and the dimensions of emotional exhaustion ($r = -.05$; $p < .05$) and depersonalization ($r = -.13$; $p < .001$), but there was no significant correlation with personal accomplishment.⁵⁹ This meta-analysis had an explicit and comprehensive search strategy, but all included studies were cross-sectional and statistical heterogeneity was high (>85%).⁵⁹ Contrary to this, Goehring et al and Soler et al indicated mid-career physicians were more likely to experience burnout.^{51,52}

Another consistent factor also reported across studies have been heavy workloads among physicians,^{51,52,54} and nurses.^{58,60} A mixed methods study performed by Van Bogaert et al⁶¹ utilized a qualitative portion, conducting semi-structured interviews among nursing managers and staff nurses in a Belgian University hospital. Perceived workload related to high patient turnover was cited as an important stressor.⁶¹ A limitation of this study was its subjectivity due to the qualitative nature.⁶¹ Other factors highlighted in the literature include single relationship status,^{50,52,58} working hours per week,^{12,16,53,57} on call duties of less than 1 in 5¹⁶ and performing night or weekend shifts.^{52,56} Also common were occupational factors such as lack of resources including social support,^{37,50,60} poor job control or autonomy,^{37,50,55,60,62} low job satisfaction,^{52,55,63} role conflicts^{8,37,50} conflict with patients or other staff members^{37,50,58} and lack of appreciation.⁵⁰

Family physicians have indicated that the creation of the doctor-patient relationship is one of the most rewarding and enjoyable aspects of the job and is directly related to job satisfaction.^{37,64} However, in modern

practices, particularly in developed countries, health care follows a business model and the workers experience less control and input into the work environment.^{37,64} Value is placed on productivity and meeting performance metrics, with lesser importance being placed on human relationships.⁶⁴This ties in with the mismatch that can arise between the job and the worker, as mentioned in the introduction, where there are insufficient rewards and conflicting values. ⁶⁴Technological advances have incorporated the use of electronic medical records (EMR) into the health system, which would appear to be a benefit as compared to a paper system. However, interestingly enough, this has been repeatedly cited as a source of dissatisfaction among physicians.⁶⁴A survey among 6,375 US physicians in all specialties noted that 43.7% expressed dissatisfaction with the use of EMRs and 62.5% disagreed that EMRs increased efficiency.⁶⁵ However, it was noted that younger physicians experienced greater levels of satisfaction, as compared to older (≥ 40 years).⁶⁵ The response rate for this study was low (19.2%) and may not be truly reflective of the views of all US physicians. A thought-provoking time and motion study performed among four different practice types (cardiology, primary care, internal medicine, orthopedics) in four US States concluded that physicians spent twice the time on EMRs and desk work than they spent in patient interaction.⁶⁶ The time spent on clerical work also spilled over into personal time, as documented in self-report diaries.⁶⁶

With respect to lifestyle factors, decreased physical activity^{12,56,67,68} was more common among burnout groups, as was alcohol consumption.^{12,16,52,68} Peterson et al¹² found that alcohol consumption was different between the

depersonalization and emotionally exhausted groups, whereas Soler et al.⁵² found that increased alcohol consumption was associated with emotional exhaustion and depersonalization, but not with low personal accomplishment, a finding echoed by Lebensohn et al.⁶⁸ However, smoking was associated with low personal accomplishment scores.⁵² Sleep disturbances were also found to be linked to burnout.^{12,50,52,68}

Possible outcomes of burnout can be related to two main categories, job performance and health related consequences.⁸ Impacts on job performance include absenteeism and increased turnover of staff.⁸ Intention to leave the job or take early retirement have been noted in a few studies, among both physicians and nurses.^{8,52,55,57,58,62,69} Persons who choose to remain on the job may exhibit low productivity, reduced commitment and lower job satisfaction.^{8,49,52,57,58,62} Another aspect of this syndrome is the potential effects on other employees, where the altered job performance has negative effects on colleagues, leading to work overload and conflicts.⁸ Importantly affected is the relationship with patients, as burnout has been linked to decreased empathy, particularly in relation to the emotional exhaustion and depersonalisation dimensions.²⁸ However, Wilkinson et al.⁷⁰ conducted a systematic review of studies among physicians and nurses to determine the relationship between burnout and empathy and found a negative correlation between the two, with varying strengths of correlation and levels of significance. The studies were heterogenous in terms of the scales used to measure burnout and empathy and some had no justification for sample size, leading to the query over underpowering of studies.⁷⁰ The review itself only incorporated ten studies and excluded studies published in foreign languages.⁷⁰

Ratanawongsa et al²⁷ attempted to link provider burnout and suboptimal patient-physician communication behaviours. No association was found in terms of patient satisfaction, confidence and trust with the physician and the visit. However physicians classified as 'burnt out' tended to use more negative rapport building statements, such as criticism and disagreeing with the patient during the interview.²⁷ However, these findings may have been limited by the small sample size of 40 physicians, as well as the fact that the communication was audiotaped, limiting analysis to verbal communication and not accounting for non-verbal cues.²⁷ Pereria-Lima and Loureiro found that the social skills of hospital residents with burnout, anxiety and depression was lower than that of unaffected persons.⁷¹

Kushnir et al⁷² found a small correlation between burnout in family medicine physicians and referral rates for expensive and inexpensive imaging tests, as well as to specialist clinics ($r=0.15$, $p<0.01$).⁷² However the study only analysed the quantity of the referrals and did not assess the quality nor the appropriateness. Medical errors, which compromise patient safety have also been reported.^{16,69} A systematic review of the relationship between wellbeing, burnout and patient safety reported that the majority of studies (70%) found significant relationships between burnout and occurrence of medical errors in both physicians and nurses.⁷³ However, self-perceived errors were the most commonly reported measure and included studies that utilized objective measures produced conflicting results.⁷³ Additionally, the review only included English language papers and excluded unpublished or grey literature.⁷³

Fahrenkopf et al⁷⁴ employed a prospective study to objectively detect

medical errors among depressed and burnt out pediatric and medicine residents and found a small error rate of 1.2%. However, while no significant difference was observed between the burnout and non-burnout groups, burnt out physicians were significantly more likely to report having made errors, difficulty with concentration and concern over possibly being depressed.⁷⁴ However, a cross-sectional study by Waterman et al⁷⁵ suggested that the relationship is in the reverse, where the commitment of medical errors creates an emotional impact, which results in anxiety, sleep disturbances, reduced job satisfaction and feelings of inefficacy.⁷⁵ This was supported to a certain extent by a longitudinal study by West et al in 2006.⁷⁶ Here, internal medicine residents were surveyed every three months through their residency training period. Commitment of a medical error was significantly associated with a consequent decrease in quality of life and burnout in all dimensions (OR 1.17[95% CI 1.07-1.12]), as well as increased odds of screening positive for depression (OR 3.50 [95% CI 1.71-7.20])⁷⁶ Additionally, development of burnout and decreased emotive and cognitive empathy were significantly associated with commitment of an error in the subsequent three months, suggesting a dangerous cyclical relationship⁷⁶ West et al in 2009⁷⁷ followed the same methodology among residents and received similar results, with additional significant relationships detected between fatigue (OR 1.14 [95% CI 1.08-1.21]) and lack of sleep (OR 1.1 [95% CI 1.03-1.16]) and the commitment of errors.⁷⁷ However, in these two studies, errors were self-reported. Salyers et al¹⁴ in a meta-analysis of 102 studies, found small but significant negative correlations between burnout in health care providers and quality of care and safety. This was particularly noted in the dimension of emotional exhaustion ($r=-0.27$; $p<.10$) followed by

depersonalization ($r=-0.21$; $p<.10$). Most included studies were cross-sectional so the direction of the relationship was difficult to ascertain and could potentially indicate that adverse events or commitment of errors resulted in burnout as demonstrated by West et al. Additionally, an unaccounted factor in the studies could be a poor working environment, which would contribute to both quality of care and development of burnout.¹⁴

Burnout has been linked to cardiovascular disease and related cardiovascular events, such as myocardial infarction, cerebrovascular accidents, peripheral arterial disease and sudden cardiac death.⁷⁸ This may be because of the associated factors already highlighted for burnout, which includes smoking and lack of physical exercise. Additionally chronic stress has been linked to alterations in cortisol levels, which can elevate cholesterol levels, indirectly contribute to development of Type 2 Diabetes, as well as increase inflammatory processes within the body.⁷⁸ Additionally burnout results in sleep disturbances, which again is related to cortisol levels, producing tension, irritability and a higher frequency of sleep arousals.⁷⁸ Chronic stress can also impair immune system function, resulting in susceptibility to infectious disease.⁷⁸

The relationship of burnout to mental health is more complex, as there are thoughts that it can result in mental dysfunction such as anxiety, depression and low self-esteem.^{8,22,23} However, others argue that there is no relationship, but that they are two separate constructs.^{20,21,78} Many differences have been highlighted, including the physiological differences in the processes, but at the same time, there are positive correlations of burnout with depression, particularly in the emotional exhaustion

dimension^{12,71,78,79} and anxiety.^{71,78,79} It suggests that burnout and depression are linked, but this does not necessarily mean that they are the same.^{20,80} This temporal relationship is difficult to establish due to the fact that the majority of studies have been cross-sectional in nature. Similarly, there is overlap between the reported risk factors and the consequences of burnout for the same reason, the cross-sectional design of most of the cited studies do not allow for the full exploration of the relationship between these factors and burnout.

Suicide rates among physicians have become alarming and have been linked to depression, as well as burnout. A meta-analysis performed by Schernhammer and Colditz found that there was a moderately increased risk of suicide among male physicians as compared to the general population, with a suicide rate ratio of 1.41 (95% CI 1.21-1.65) and a rate ratio of 2.27 (95% CI 1.90-2.73) among female physicians.⁸¹ However, high statistical heterogeneity was noted between the studies ($I^2 > 50\%$). A one year longitudinal study performed by Dyrbye et al⁸² among 2230 medical students noted that 11.2% had considered suicide in the prior year.⁸² Over the subsequent year, students were more likely to express suicidal ideations if they were diagnosed with burnout (OR 3.46 [95% CI 2.55 to 4.69]), particularly with high scores in the emotional exhaustion domain (OR 3.17 [CI 2.39-4.19]). A survey among 7,905 American surgeons also found that 6.3% had experienced suicidal ideations over the past year.⁸³ This was significantly associated with burnout (OR 1.07 [1.06-1.08]) and depression (OR 9.716 [7.85-12.13]).⁸³ This again, was cross-sectional in design and therefore it was difficult to determine if being

suicidal resulted from burnout, or vice versa. Also, a screening tool was used to diagnose depression instead of a diagnostic instrument.

Coping

Coping involves cognitive and behavioural responses to stressors, of which many different types are used, but they may be broadly classified into problem focused, emotion focused and avoidant strategies.⁸⁴⁻⁸⁶

Problem focused or action-oriented strategies are related to removal of the stressor and include problem solving, planning, time management and seeking instrumental social support (advice or help from others).⁸⁴⁻⁸⁶

Emotion focused coping is seen as a passive oriented strategy, as the stressor is outside of the direct control of a person and so attempts are made to modify the negative emotional responses produced by stress.

These can include disclosure, eating and use of alcohol and drugs.⁸⁴⁻

⁸⁶Though coping is a response to a stressor, it may not always be an appropriate or a successful response.⁸⁴

A mixed methods study evaluating burnout and physicians' coping strategies, utilized both questionnaires and face to face interviewing.²²

Coping strategies in response to work stressors within the workplace and outside of the workplace were evaluated. In the qualitative aspect, five major themes for dealing in the workplace emerged which were, working through the stress, communicating with co-workers, taking a time out, using humor and avoidance.²⁵Outside of the workplace, physicians identified exercise, quiet time, talking with their spouse and leaving work at work as the main mechanisms.²⁵The questionnaire revealed similar answers, with focusing on the next task (61%), humor (85%), keeping

stress to themselves (78%) and talking to colleagues (70%) as the main answers. Taking a break, using humor, expressing feelings with colleagues and coming up with an action plan were all negatively correlated to the emotional exhaustion dimension of burnout.²⁵ Positively correlated to burnout were, internalizing stress, distraction and avoidance. The qualitative aspect of the study while useful for allowing open ended questions and identifying themes may have encountered selection bias, as those who refused to participate may have differed in their coping strategies in important ways. Furthermore, the response of physicians were utilised to develop the questionnaire items, limiting possible responses in surveyed physicians and using a non-validated coping scale. Hutchinson et al⁸⁷ in a survey of 30 emergency physicians in Jamaica reported that problem solving was the most frequently used strategy. Escape or avoidance was also significantly correlated with both the depersonalization ($r=0.46$, $p<.05$) and emotional exhaustion dimensions of burnout ($r=0.40$, $p<.05$).⁸⁷ However this study had a small sample size which limited the external validity.

A survey among 123 Canadian family physicians identified eating nutritiously and spending time with family as the most cited coping strategies.⁸⁸ Shanafelt et al³⁶ also identified talking with family members or significant others (72%) or speaking with other colleagues (75%) as essential for the management of stress.⁴⁸ However, both also used non-validated scales. Koinis et al⁶ in Greece included physicians and nurses in all departments in a local hospital, as well as medical and nursing students. Using a validated scale, females were found to utilize more emotion focused strategies, such as wishful thinking and seeking God's

help, whereas males were more problem oriented.⁶ Also, those working for 10-20 years significantly reported more problem solving strategies as compared to those working for less than 10 years.⁶ However, a systematic review performed among Australian nurses, who were predominantly female, indicated that the nurses used more problem solving coping skills than emotion coping.³⁶ Seeking social support and talking with colleagues, friends or family, were the most commonly noted strategies³⁶ which was also noted among physicians in the Bahamas.⁵⁰

As it relates to anxiety and depression, Mark et al⁸⁴ found that self-blame ($r=.40$; $p<.05$) and escape/avoidance ($r=.12$; $p<.05$) had a significant positive relationship with anxiety among nurses in the UK.⁸⁴ Similarly, escape/avoidance ($r=.20$; $p<.05$) and self-blame ($r=.28$; $p<.05$) was correlated with depression. Additionally, problem focused coping ($r=-.18$; $p<.05$) and seeking advice ($r=-.02$; $p<.05$) had significant negative relationships with depression as well.⁸⁴ These indicate the latter could be considered resilience strategies. This was supported by a qualitative study of 200 physicians by Zwack et al⁸⁹ that identified contact with colleagues, family and friends as some of the top resilience strategies. Other important activities included leisure time activities and job related sources, such as receiving gratification from the doctor-patient relationship and job related efficacy.⁸⁹ A review performed by Dyrbye et al⁴⁴ also supported these findings, as strategies that utilize avoidance and disengagement correlate with psychological distress, such as depression and anxiety, while strategies that utilize social support, engagement and problem solving are more likely to promote resilience.⁴⁴

The literature review indicates that mental health, burnout and coping among physicians and nurses have been extensively explored, particularly in the developed world. Focus has been placed on specialties that might be traditionally viewed as stressful. However, burnout among primary care physicians has also been found to be high, as demonstrated by Shanfelt et al¹⁵ in a large cross-sectional study among U.S. physicians of different specialties in 2011 and 2014. This revealed that family medicine physicians had the fourth highest prevalence of reported burnout in both years, with an increase from 51.3% in 2011 to 63% in 2014.¹⁵ This discipline also was among the lowest satisfied with work life balance.¹⁵ Results from this as well as other studies prompted the American Academy of Family Physicians (AAFP) to release a position paper stating their concern over the prevalence of burnout among primary care physicians, as it can impact on quality of care and contribute to workforce shortages.⁹⁰ Researchers have also focused on students and junior health care workers, as the stresses of school and training often produce serious impacts, but it has also been found that mid-career physicians were the most affected.^{15,51} Therefore, workers at all stages of their careers should be considered.

Little research has been performed within the region on burnout and the mental health of physicians and nurses. What has been performed has also focused on emergency or hospital workers, as well as medical students and not primary care.^{47,50,70,91,92} The public primary care system in Trinidad and Tobago is regulated by the Regional Health Authorities under the purview of the Ministry of Health. It is composed of health centres situated in particular geographic locations to provide service for

catchment populations and are usually well utilized, as there is no fee for service. Staffing includes primary care physicians, but also includes primary care nurses, who have a fairly unique role, as they are integrated within the communities and perform clinical duties that are separate from physicians. This includes home visits, immunisations and maternal and child health care. Therefore, there exists an important patient-provider relationship involving these workers as well that has not been truly explored.

The research has also indicated that occupational factors play a major part in the mental health of workers. Given that the region and the public health system of Trinidad and Tobago experiences major challenges and constraints as compared to Europe and the United States, research into the mental health of health workers should provide an interesting comparison.

METHODS

Study Design and Setting

This was a cross-sectional study conducted among the public primary care health centers of N.W.R.H.A. and N.C.R.H.A. The N.W.R.H.A. provides services to a catchment population of 500,000 persons⁹³ which represents approximately 37% of the population of Trinidad and Tobago.⁹⁴The N.W.R.H.A. is divided into two counties, St. George West and St. George Central.⁹³ There are seventeen (17) primary care health centres, one (1) district health facility providing primary care services and two (2) County Medical Offices of Health (C.M.O.H.) staffed with primary care health workers as well. The N.C.R.H.A. is comprised of two counties, St. George East and County Caroni, but sub-divided into three clusters, St. Joseph, Arima and Chaguanas. Primary health care services are provided through twelve (12) health centres, two (2) district health facilities, two (2) extended care facilities and two (2) C.M.O.H. offices.⁹⁵

These two areas were considered as useful for conducting this study as they represent diverse working environments for primary health care staff. Firstly, the two RHAs serve densely populated areas of the country, which contributes to the overall workload experienced by staff.

Additionally, the different health centres are located in urban, suburban and rural areas of the country, again contributing to differences in workload. Thirdly, there are variations in sizes of facilities depending on the catchment population, therefore some staff work in large facilities, while others work in smaller. Fourthly, there are differences in the categories of staff present, in that while all workers are primary care

workers, some are required to work eight hour shifts, while others are required to only work a daytime slot (8am-4pm). Lastly, staff experience differences in job descriptions, with administrative or clinical duties or a combination of both.

Participants

The participants selected for this study were physicians and nurses working in primary care. The inclusion and exclusion criteria were as follows:

Inclusion Criteria:

- (1) Physicians that occupy the positions of Primary Care Physician I, II, Medical Officer I, County Medical Officer of Health (CMOH) and Medical Officer of Health (MOH).
- (2) Nursing staff that occupy the positions of Primary Care Nurse Manager (PCNM), District Health Visitors (DHVs), Resident Nurses (RNs), District Nurses (DNs) and Enrolled Nursing Assistants (ENAs).

Exclusion criteria:

- (1) Physicians placed in institutions outside of the health centres (e.g. police, prisons) as working hours and requirements are different from health centre staff
- (2) Accident and Emergency workers located within the primary care facilities
- (3) Dental and family planning staff

(4) Workers on extended sick leave or vacation at the time of the study.

Sample Size and Sampling

The sampling frame was determined by obtaining a list of all the physicians and nurses working in primary care in both R.H.As. This was obtained through an official letter to the General Managers of Primary Care in the respective R.H.As, requesting the listing. After applying inclusion and exclusion criteria, 394 primary care workers were found to be eligible for participation. The ratio of nurses to physicians was noted to be approximately 2.5:1. To calculate sample size, the formula for sample size of a cross-sectional study was utilised⁹⁶:

$$n = Z^2 p (1-p) / d^2$$

with a confidence level of 95% ($Z = 1.96$) and a precision (d) of 5%. Here, $p = 50\%$.

Therefore, the sample size was calculated to be:

$$n = 384 \text{ health care workers}$$

The calculated sample size represented a significant (over 5%) proportion of the population, therefore a finite population correction factor was applied, using the formula⁹⁷:

$$n_a = \frac{n_r}{1 + \frac{(n_r - 1)}{N}}$$

Where n_a = the adjusted sample size, n_r = the original required sample size and N = population size.

After using this formula:

$$n_a = \frac{384}{1 + 383/394} = 195 \text{ health care workers}$$

It was estimated that 80% of the respondents would be willing to participate therefore a 20% non-response rate was anticipated and so this was accounted for in the sample size by the following formula:

$$\frac{\text{no. of respondents needed}}{\text{expected \% response rate}} \times 100 = \frac{195 \times 100}{80} = 244 \text{ health care workers}$$

As the ratio of nurses to physicians was noted to be unequal, the ratio was used to calculate proportional representation of nurses and physicians in the sample, as shown in Table 1.

	PHYSICIANS	NURSES	TOTAL
N.W.R.H.A.	57 (48%)	114 (41.5%)	171
N.C.R.H.A.	62 (52%)	161 (58.5%)	223
TOTAL	119	275	394

Table 1: No. and proportion of nurses and physicians in N.W.R.H.A. and N.C.R.H.A.

A proportional stratified sample was used to obtain physicians and nurses. A total of 70 physicians and 174 nurses required surveying between the two RHAs to obtain the complete sample size. These totals are demonstrated in Table 2.

	PHYSICIANS n=70	NURSES n=174
N.W.R.H.A.	34	72
N.C.R.H.A.	36	102
TOTAL	70	174

Table 2: No. of physicians and nurses required for sampling in both R.H.A.s

Due to the sub-divisions into counties and clusters for each R.H.A. the numbers were further broken down by proportions to ensure that all areas were represented (see Table 3).

	N.W.R.H.A.		N.C.R.H.A.		
	SGW	SGC	ST.JOSEPH	ARIMA	CHAGUANAS
PHYSICIANS	18	16	12	13	11
NURSES	32	40	36	40	26
TOTAL	50	56	48	53	37

Table 3: No. of physicians and nurses required for sample in each county/cluster

Instrument Development

A literature search strategy as described in the literature review was performed to identify instruments that measure burnout and factors

associated with it. The questionnaire instrument was divided into six scales with multiple parts. Multiple choice and open ended questions were included. Likert scales were used to quantify respondents' level of agreement with the statements. An informed consent page prefaced the questionnaire, which explained the nature of the project and the requirements for participation.^{8,9}

Section I

The first section comprised socio-demographics, including age groups, gender, ethnicity, educational levels, relationship status, children, years since qualification as a physician or nurse and years of service in primary care.

Section II

The second section involved seven questions enquiring about the workplace and workplace conditions, based on associated factors identified for the development of burnout and psychological distress. These questions assessed working hours, duties, possible work challenges and suggestions for improvement.

Section III

The third section included eleven questions that assessed lifestyle factors that have been identified by the literature as possible associating factors with burnout and psychological distress. These included the presence of chronic diseases, smoking, alcohol, physical exercise, hours of sleep, time spent in recreational activities. A recent history of loss or bereavement was asked, as it may be linked to current symptoms of psychological

distress and was removed as an exclusion criterion for major depressive disorder.⁹⁸ Additionally, a past medical history of depression and anxiety was asked about, as well as a family history of depression.

Physical exercise was categorized into 'none,' 'sufficient' and 'insufficient' based on the WHO recommendations of sufficient time spent exercising in a week for adults 18-64 years of age⁹⁹ and adults aged 65 years and above.¹⁰⁰ Smoking was classified into non-smokers, current smokers and ex-smokers. Current smokers were further classified into light (≤ 10 cigarettes/day) and heavy (≥ 20 cigarettes/ day or ≥ 1 pack/day).¹⁰¹ Those with usage in between these categories were classified as moderate smokers. Alcohol usage was also classified into non-drinkers, low consumption (≤ 2 or less drinks/month), moderate consumption (1 drink/day for women and 2 drinks/day for men), heavy consumption (≥ 15 drinks/week for men and ≥ 8 drinks/week for women) and binge drinking (≥ 5 drinks on a single occasion for men and ≥ 4 drinks on a single occasion for women).¹⁰² Heavy binge drinking was classified as binge drinking on 5/more days for the month.¹⁰³

Section IV

This section consists of the Maslach Burnout Inventory Human Services Survey (MBI-HSS) which has been used extensively in burnout research with respect to measuring burnout levels among professionals in the human services, such as physicians, nurses, social workers, police and therapists.^{8,10,83} It has been considered by some as the gold standard for measurement of burnout.^{8,10,80} The MBI-HSS consists of 22 statements that explore the three core dimensions of burnout, emotional exhaustion (EE),

depersonalization (DP) and personal accomplishment (PA).^{8,9,104} Participants were required to rate the frequency of their personal attitudes and feelings towards work on a seven point Likert scale, ranging from zero (never) to 6 (every day).¹⁰⁴ Each subscale was scored and interpreted independently and scores classified into 'low,' 'medium' and 'high' (see Table 4).¹⁰⁴ Also, using convention from prior literature and from the developers of the scale, high scores on either the EE (≥ 27) or DP (≥ 13) scales indicate burnout, while high scores on the EE, DP and low PA (≤ 33) indicate severe burnout (see Table 4).^{16,47,51-53,104} If one answer on a subscale was unanswered, then it was replaced by an average score based on the number of items answered. However, if two or more answers were missing, then the subscale was treated as missing data.

No. of questions	Burnout subscale	Score Range	Low Score	Moderate Score	High Score
9	EE	0-54	0-16	17-26	≥ 27
5	DP	0-30	0-6	7-12	≥ 13
8	PA	0-48	≤ 33	34-38	≥ 39

Table 4: Scoring of MBI-HSS

Section V

Psychological distress was measured using the General Health Questionnaire-12 (GHQ-12). This is also a widely used and validated twelve item questionnaire, which was developed by Goldberg and used to screen for non-psychotic psychiatric morbidity in the population.^{105,106} Originally designed as 60 item instrument, this is the

shortest version and consists of twelve items that has comparable psychometric properties to the longer versions.^{17,107} Versions of the GHQ have documented use in working populations and among health care workers.^{40,67,91,108} It was developed as a screening instrument to detect those at risk of, or with current common mental health problems, including depression, anxiety, somatic symptoms and social withdrawal.¹⁷ This scale has been endorsed by The Caribbean Health and Research Council (CHRC), which has also indicated that the GHQ can be utilized for the screening of likely mental symptoms.¹⁰⁹ For each statement the participant had to choose one of four responses. Positively worded statements utilize responses of 'More so than usual' to 'Much less than usual'. However, negatively worded statements utilize responses of 'Not at all' to 'Much more than usual.' A binary scoring system was utilized, with the first two responses awarded a score of '0' and the last two given a score of '1'. The cut-off point for determining psychological distress was ≥ 3 , following the convention of the literature.^{40,67,91,108,110}

Section VI

The final section of the questionnaire included the abbreviated version of the COPE inventory, known as the Brief COPE. The COPE inventory was created by Carver et al in 1989 to assess a broad range of coping responses to stress.¹¹¹ The questionnaire consists of 28 items, measuring 14 different coping dimensions; active coping, planning, using instrumental support, using emotional support, venting, behavioural disengagement, self-distraction, self-blame, positive reframing, humor, denial, acceptance, religion, and substance use.¹¹¹ An advantage of this scale is the fact that it was designed from widely accepted theoretical models, as well as the fact

that it can be used to assess situational or dispositional coping.^{112,113} The design is based on the belief that an individual's coping strategies are stable despite different stressors.¹¹² It has also been utilized in different health care settings and among health care workers.¹¹⁴ Each statement has four possible answers, ranging from 'I usually don't do this at all' to 'I do this a lot, ' scored 1 to 4. Each coping strategy correlates to two statements and the most frequently used strategies were identified based on the scores. If one statement for a coping strategy was unanswered, then that strategy was treated as missing.

Ethical Approval

Ethical approval was sought from the Ethics committee at the University of the West Indies (St. Augustine), which was obtained on July 4th 2017 (see Appendix A). Approval was then sought from the respective ethics committees of N.W.R.H.A. and N.C.R.H.A. Ethical approval was granted by N.C.R.H.A. on 5th September 2017 and N.W.R.H.A. on the 3rd November 2017 (see Appendix B and C).

Permission for Use of Scales

Permission was obtained from Mind Garden Inc. to utilize the MBI-HSS for the survey on the 10th September 2017 (see Appendix D). Approval was also granted by GL assessment to utilize the GHQ-12 on the 17th October 2017 (see Appendix E).

Validation of Questionnaire

The MBI-HSS, GHQ-12 and Brief COPE are validated scales utilized for the measurement of intended outcomes and have all been used among health care workers. Pilot testing was performed and Cronbach's alpha was also calculated to measure internal consistency or reliability.

Pilot Testing

Pilot testing was commenced on the 18th October 2017 and was performed among 18 primary care physicians and nurses, with 7 physicians and 11 nurses comprising the group. These participants were recruited through convenience sampling at pharmaceutical and medical association meetings, as well as individuals working in private institutions. However, care was taken that the sample would still reflect the sample to be surveyed in terms of profession and current employment. None of the participants were members of the RHA where the research was to be conducted. Participation was voluntary.

The objectives of the pilot test were to:

- (1) Ascertain the time for completion of questionnaire
- (2) To use feedback information on questions that required clarification
- (3) To use feedback information on questions that may be inappropriately worded or that should be excluded
- (4) To assess whether questions had an appropriate range of responses

The rationale, objectives and the fact that it was a pilot test was explained to participants. They were asked to complete the questionnaire and to

voice their suggestions or concerns after completion, which was documented. From the pilot testing, it was determined that the questionnaire took an average of 12-15 minutes to complete, endorsing the feasibility of administering the questionnaire during working hours in the health centre. The feedback was used to make necessary adjustments to the questionnaire, such as adding in a 'common-law' option to the question about relationship status. Other modifications included specifying 'cigarettes' in the question about smoking, adding in 'moderate' and 'high intensity' exercise along with specific times for exercise and including 'on call duties' to the question about hours worked per week. Re-phrasing of sentences, duplicate items and grammatical errors were corrected.

The participants agreed to the self-administered format of questionnaire distribution, as three cited that the questions made them 'uncomfortable' and would not be receptive to answering in an interviewer administered format. Others felt that an interviewer administered format would be too lengthy to complete in the work environment.

Training

A research assistant was obtained and given a three (3) hour training session on the administration of the questionnaire. The objectives of the research project was explained and the assistant was given the questionnaire to read through, check understanding and ensure interpretation of questions was the same as the investigator. The assistant was also prepped on possible questions or issues that may arise and possible solutions to implement. The assistant was also equipped with

approval letters as well as a name badge to display and given instructions on appropriate conduct within the health centres. The research assistant was of a non-health care background.

Data Collection

Data collection was carried out between October 24th to December 31st. Copies of the approvals with the research proposal and instrument were submitted to the General Manager of Primary Care (GMPC) or the CMOHs of the counties for permission for the investigator and a research assistant to conduct the survey within the respective areas. The cluster leaders were liaised with prior to entering the health centres to facilitate sensitization of staff to the fact that a research project was going to be performed over a particular time period and the names of the investigator and research assistant.

A random sampling method was utilized to select the centres for distribution of the questionnaire, which included health centres, district facilities, County Offices of Health and offices of the General Manager of Primary Care (GMPC). Using the number of persons and ratio of staff that needed to be obtained from each county/cluster, it was determined that 50-75% of sites within a particular cluster/county would have to be selected in order to meet the target sample size. Since each health centre or office represented a mix of required staff members, once that site was selected, questionnaires were distributed within that particular site to those meeting the inclusion criteria.

The afternoon period was selected as this usually represents a less busy time in the workplace. The Nurse in Charge of the health centre or the

office of the CMOH/ GMPC in the administrative areas was approached firstly and the project and research objectives were explained. A brief sensitization was held with staff and a collection point specific to each site was determined, which was the office of the Nurse in Charge of the health centre or the office of the CMOH/GMPC in most areas. Once agreement was obtained, consent forms were handed out (see Appendix F). Staff had the option to refuse to participate at this point. Once willing, questionnaires were then given out individually and separate envelopes were provided for the consent form and questionnaire to preserve anonymity (see Appendix G). The participants were asked to place the completed questionnaire and consent forms in the sealed envelope and leave it at the collection point upon completion. A box with a lock was placed at the collection point where possible, however this was hardly used. Extra questionnaires were left to accommodate for shift and sessional workers.

Collection was in the afternoon period, initially three (3) days after initial drop off. Reminders were issued to staff members who may have not completed the questionnaire. It was found that most participants had not completed the questionnaires upon returning, but were willing to do so when reminded. Therefore, the investigator and research assistant periodically returned to the site to issue reminders and most staff members handed the completed forms in envelopes directly to the research assistant/investigator.

Data Analysis

All data from the questionnaires was entered into SPSS version 23 by IBM. In instances where there were unanswered questions that would translate to missing values in string variables, the variable was automatically recoded so that blank areas would be treated as a 'missing' value. Descriptive statistics was used to describe the characteristics of the respondents in terms of socio-demographics, work characteristics, lifestyle characteristics and coping styles. Similarly descriptive statistics was used to describe and categorise the scores of the respondents in all three dimensions of burnout (emotional exhaustion, depersonalization and personal accomplishment). These scores were rated as low, medium and high based on pre-determined cut off points (see Table 4). Respondents were then classified as 'burnout' based on scores (high EE and/or high DP scores). Respondents with high EE, high DP and low PA were classified as severe burnout. The point prevalence of burnout and severe burnout were expressed as a frequency (%).

The Cronbach's alpha coefficient was calculated for each dimension of the MBI-HSS (EE, DP and PA), as well as the GHQ-12 and the 14 coping strategies in the Brief COPE.

The chi square test was used to determine statistical significance and the association between the categorical independent variables and dependent variable burnout (yes/no) as well as the dependent variable psychological distress (yes/no). Association between the categorical independent variables and the individual burnout subscales were also done using the chi square test. Each variable was classified as 'low,' 'medium' or 'high'

depending on the cut-off points. However, for the outcome variables EE and DP, the 'low' and 'medium' categories were merged to form a 'medium/low' category against 'high.' For the PA variable, 'medium' and 'high' categories were merged into 'medium/high' against 'low' outcome. This was done to facilitate statistical analysis.

Binomial logistic regression was used to determine the associating and possible predictive factors for burnout and psychological distress.

The Shapiro-Wilk and the Kolmogorov-Smirnov tests for normality were performed for coping styles and found to be significant ($p < .05$). Therefore, coping styles were reported as medians and interquartile ranges to demonstrate the most frequently utilized strategies. The association between burnout and frequently used coping styles was assessed using the Mann-Whitney U test for non-parametric data. This approach was also used for psychological distress and coping styles. The significance value (α) was set at 0.05.

ETHICAL CONSIDERATIONS

Approval was sought from the Ethics Committee of the University of the West Indies (St. Augustine) and the respective ethics committees of N.W.R.H.A. and N.C.R.H.A. before conducting the study. Consent was sought from the respective General Manager of Primary Care (GMPC) or County Medical Officers of Health (CMOH) and the Primary Care Physicians II (Admin.), to visit the health centres and administer the survey.

An informed consent page was administered with the questionnaire explaining the nature and purpose of the study. Recipients were assured of confidentiality and participation was completely voluntary. No monetary incentives were provided. Data collected was kept in a secure, locked cabinet of the Department of Public Health and Primary Care, with only the investigator and supervisor having access to the data.

BUDGET

Maslach Burnout Inventory Manual and License to reproduce	= \$4007.00 TT
General Health Questionnaire-12	= \$2672.00 TT
Photocopy of questionnaires	= \$1200.00 TT
Research Assistant	= \$1000.00 TT
TOTAL	\$8879.00TT

RESULTS

Response rate and non-responders

A total of 272 questionnaires were distributed to the various health centres. Due to the cluster sampling method, changes in staff composition varied on a day to day basis, which allowed for more questionnaires to be distributed than the original sampling calculation. Of the 272 questionnaires, 245 questionnaires were obtained, creating an overall response rate of 90%. However, the response rate varied by occupation. There were 24 staff members that refused to participate, 3 physicians and 21 nurses. Additionally, there were three questionnaires returned with incomplete information, which had to be discarded. Therefore, there were a total of 27 non-responders, 4 physicians and 23 nurses. The response rate among physicians was 95.6% and among nurses, it was 87.3% (see Table 5).

RESPONDERS AND NON-RESPONDERS				
	Distributed Surveys	Response	Refusal to participate	Incomplete Questionnaires
Physicians	91	87	3	1
Nurses	181	158	21	2
Total	272	245	24	3

Table 5: No. of responders and non-responders

Among the non-responders, 14.8% were physicians and 81.5% were nurses. Similarly, 14.8% of the non-responders were male and 81.5% were female (see Table 6).

NON-RESPONDERS			
	Physicians	Nurses	Total
Males	3	1	4
Females	1	22	23
Total	4	23	27

Table 6: Gender and occupation of non-responders

Socio-demographics and Occupational characteristics

There were a total of 245 participants, 87 physicians (35.5%) and 158 nurses (64.5%) and the socio-demographic characteristics are shown in Table 7. The majority of participants were in the 35-44 age group (33.9%), followed by those in 45-54 year age group (25.7%) The lowest proportion was the over 65 year age group, which represented 7.3% of the sample. However, among the two occupations, the majority of physicians were also in the 35-44 year age group (52.9%), followed by the 25-34 year age group (28.7%). The majority of nurses were in the 45-54 year age group (32.3%), followed by the 55-64 year age group (21.5%).

Most participants were female (85.3%), which was seen in both occupations. However, among the physicians, 34.5% were male, as compared to 3.8% of nurses. The dominant ethnicity was those of African

descent (41.6%), closely followed by those of East Indian ethnicity (33.1%). Among physicians, the majority were of East Indian descent (67.8%), while the nurses were mainly of African descent (56.3%). Most participants were married (60%), which was similar among physicians (71.3%) and nurses (53.8%). Most participants had two children (29.4%), but nurses had three or more (29.7%), while most physicians had none (36.8%), followed by two (33%)

Overall, the largest proportion of participants held a diploma/certificate (28.1%), but this differed among occupations, as 43% of nurses held a diploma/ certificate, but 66.7% of physicians held postgraduate qualifications.

A total of 47.1% of physicians had achieved their first qualification 11-20 years prior, but 36.7% of nurses had attained their primary qualification over thirty years ago, which corresponds to the differences in ages between the two groups. However both groups were similar in that most had been in primary care for 5-10 years (35.9%).

Socio demographic characteristics	Physicians n=87 (%)	Nurses n=158 (%)	Total n =245(%)
Age			
25-34	25 (28.7%)	18 (11.4%)	43 (17.6%)
35-44	46 (52.9%)	37 (23.4%)	83 (33.9%)
45-54	12 (13.8%)	51 (32.3%)	63 (25.7%)
55-64	4 (4.6%)	34 (21.5%)	38 (15.5%)
>65	0	18 (11.4%)	18 (7.3%)
Gender			
Male	30 (34.5%)	6 (3.8%)	36 (14.7%)
Female	57 (65.5%)	152 (96.2%)	209 (85.3%)
Ethnicity			
African descent	13 (14.9%)	89 (56.3%)	102 (41.6%)
Indian descent	59 (67.8%)	22 (13.9%)	81 (33.1%)
Mixed (A/I)	4 (4.6%)	20 (12.7%)	24 (9.8%)
Mixed (Other)	11 (12.6%)	25 (15.8%)	36 (14.7%)
Other	0	2 (1.3%)	2 (0.8%)
Relationship Status			
Single	16 (18.4%)	36 (22.8%)	52 (21.2%)
Married	62 (71.3%)	85 (53.8%)	147 (60.0%)
Divorced/Separated	7 (8.0%)	22 (13.9%)	29 (11.8%)
Widow/Widower	1 (1.1%)	9 (5.7%)	10 (4.1%)
Common Law	1 (1.1%)	6 (3.8%)	7 (2.9%)

Socio demographic characteristics	Physicians n=87 (%)	Nurses n=158 (%)	Total n =245(%)
No. of children			
0	32 (36.8%)	23 (14.6%)	55 (22.4%)
1	23 (26.4%)	36 (22.8%)	59 (24.1%)
2	20 (23%)	52 (32.9%)	72 (29.4%)
3 or more	12 (13.8%)	47 (29.7%)	59 (24.1%)
Educational Level			
Diploma/certificate	1 (1.2%)	68 (43%)	69 (28.1%)
Undergraduate	16 (18.4%)	39 (24.7%)	55 (22.4%)
Postgraduate	58 (66.7%)	13 (8.2%)	71 (29%)
Enrolled	11 (12.6%)	17 (10.8%)	28 (11.4%)
Other	0	16 (10.1%)	16 (6.5%)
Missing	1(1.2%)	5 (3.2%)	6 (2.4%)
Years since qualification			
<5	4 (4.6%)	5 (3.2%)	9 (3.7%)
5-10	35 (40.2%)	32 (20.3%)	67 (27.3%)
11-20	41 (47.1%)	40 (25.3%)	81 (33.1%)
21-30	6 (6.9%)	23 (14.6%)	29 (11.8%)
>30	1 (1.2%)	58 (36.7%)	59 (24.1%)

Socio demographic characteristics	Physicians n=87 (%)	Nurses n=158 (%)	Total n =245(%)
Years in Primary Care			
<5	33 (38%)	44(27.8%)	77 (31.4%)
5-10	38 (43.7%)	50 (31.6%)	88 (35.9%)
11-20	13 (14.9%)	36 (22.8%)	49 (20%)
21-30	3 (3.4%)	15 (9.5%)	18 (7.3%)
>30	0	12 (7.6%)	12 (4.9%)
Missing	0	1 (0.6%)	1 (0.4%)

Table 7: Socio-demographic characteristics of participants

The majority of participants were full time workers (85.3%) in that they worked 8am-4pm, whereas only 10.6% worked an eight hour shift system. The lowest frequency was those who worked on a sessional basis and this was more common among nurses. Accordingly, 49.8% of participants worked a 40 hour week, with 27.3% working 41-50 hours a week, which would include on call sessions and private work (see Table 8).

Occupational Characteristics	Physicians n=87 (%)	Nurses n=158 (%)	Total n =245(%)
Job Classification			
Full Time	77 (88.5%)	132 (83.5%)	209 (85.3%)
Full Time/shift system	9 (10.3%)	17 (10.8%)	26 (10.6%)
Part Time/sessional	1 (1.1%)	9 (5.7%)	10 (4.1%)

Occupational Characteristics	Physicians n=87 (%)	Nurses n=158 (%)	Total n =245(%)
Job Requirements			
Clinical	68 (78.1%)	76 (48.1%)	144 (58.8%)
Admin and Clinical	17 (19.5%)	76 (48.1%)	93 (38%)
Admin only	2 (2.3%)	4 (2.5%)	6 (2.4%)
Missing	0	2 (1.3%)	2 (0.8%)
Working Hours			
<40 hours	3 (3.4%)	7 (4.4%)	10 (4.1%)
40	31 (35.6%)	91 (57.6%)	122 (49.8%)
41-50	24 (27.6%)	43 (27.2%)	67 (27.3%)
51-60	16 (18.4%)	12 (7.6%)	28 (11.4%)
>60	13 (14.9%)	4 (2.5%)	17 (6.9%)
Missing	0	1 (0.6%)	1 (0.4%)
Weekends			
0	36 (41.4%)	99 (62.7%)	135 (55.1%)
1-2	23 (26.4%)	37 (23.4%)	60 (24.5%)
3-4	27 (31%)	21 (13.3%)	48 (19.6%)
Missing	1(1.1%)	1 (0.6%)	2 (0.8%)

Table 8: Occupational characteristics of participants

Overall, job requirements were mostly confined to clinical duties (58.8%), but among nurses, an equal proportion were also required to perform

administrative duties (48.1%). Most participants did not work on weekends (55.1%), but 31% of physicians worked 3-4 weekends a month, which was the second highest proportion in this occupation.

Medical History and Lifestyle

Table 9 demonstrates the past medical history and lifestyle characteristics of participants. Most participants (69.4%) did not suffer from any chronic diseases. The majority were also non-smokers (96.7%) and a slight majority were non-drinkers (52.2%). This latter characteristic was apparent among nurses (60.1%), while 52.1% of physicians stated that their consumption of alcohol was low, approximately 1-2 drinks/month or even less. Only 26.5% could be considered to be obtaining sufficient levels of exercise, as recommended by the WHO for adults 18-65 years and those over 65 years.^{78,79} Overall, 58% received 6-8 hours of sleep a night, but 42.4% spent only 2-3 hours per day in leisure activities, followed by 4-6 hours (31.4%).

In terms of recent bereavement, 22% had experienced a loss in the prior six (6) months, which may be a contributing factor to the current mood state. A total of 30 participants (12.2%) had a past medical history of depression/anxiety and 13.9% had a family history of depression.

Lifestyle Characteristics	Physicians n= 87 (%)	Nurses n= 158 (%)	Total n=245(%)
Chronic Diseases			
Yes	13 (14.9%)	60 (38.0%)	73 (29.8%)
No	74 (85.1%)	96 (60.8%)	170 (69.4%)
Missing	0	2 (1.3%)	2 (0.8%)
Smoking (cigarettes)			
Non-smoker	82 (94.3%)	155 (98.1%)	237 (96.7%)
Light	2 (2.3%)	3 (1.9%)	5 (2.0%)
Moderate	1 (1.1%)	0	1 (0.4%)
Ex-smoker	2 (2.3%)	0	2 (0.8%)
Alcohol			
Non-drinker	33 (37.9%)	95 (60.1%)	128 (52.2%)
Low consumption	45 (51.7%)	52 (32.9%)	97 (39.6%)
Moderate	4 (4.6%)	7 (4.4%)	11 (4.5%)
Heavy	0	2 (1.3%)	2 (0.8%)
Binge	4 (4.6%)	2 (1.3%)	6 (2.4%)
Dangerous Binge	1 (1.1%)	0	1 (0.4%)
Exercise			
None	38 (43.7%)	64 (40.5%)	102 (41.6%)
Insufficient	30 (34.5%)	43 (27.2%)	73 (29.8%)
Sufficient	19 (21.8%)	46 (29.1%)	65 (26.5%)
Missing	0	5 (3.2%)	5 (2%)

Lifestyle Characteristics	Physicians n= 87 (%)	Nurses n= 158 (%)	Total n=245(%)
Hours of Sleep/night			
>8 hrs	3 (3.4%)	8 (5.1%)	11 (4.5%)
6-8 hrs	59 (67.8%)	83 (52.5%)	142 (58%)
4-5 hrs	24 (27.6%)	61 (38.6%)	85 (34.7%)
<4 hrs	1 (1.1%)	3 (1.9%)	4 (1.6%)
Missing	0	3 (1.9%)	3 (1.2%)
Hours of Relaxation/Leisure			
7 hours	8 (9.2%)	16 (10.1%)	24 (9.8%)
4-6	26 (29.9%)	51 (32.3%)	77 (31.4%)
2-3	39 (44.8%)	65 (41.1%)	104 (42.4%)
≤ 1	14 (16.1%)	24 (15.2%)	38 (15.5%)
Missing	0	2 (1.3%)	2 (0.8%)
Recent Bereavement			
Yes	14 (16.1%)	40 (25.3%)	54 (22.0%)
No	73 (83.9%)	118 (74.7%)	191 (78.0%)
Medical History of depression/anxiety			
Yes	12 (13.8%)	18 (11.4%)	30 (12.2%)
No	75 (86.2%)	140 (88.6%)	215 (87.8%)
Family History of depression			
Yes	18 (20.7%)	16 (10.1%)	34 (13.9%)
No	69 (79.3%)	142 (89.9%)	211 (86.1%)

Table 9: Medical history and lifestyle characteristics of participants

Workplace challenges and improvements

The questionnaire asked participants to identify multiple areas which posed specific challenges in the workplace. A total of 242 participants answered this question (98.8%) and the results are presented in Table 10. The biggest challenges overall were opportunities for professional development (78.1%), closely followed by lack of equipment and supplies (71.9%), experiencing physical/verbal abuse in the workplace (53.7%) and fair and manageable workloads (43.8%). The challenges cited varied by occupation, as a larger proportion of physicians indicated that access to adequate equipment and supplies was a challenge (75.6%), as well as physical and verbal abuse from patients (61.6%). Nursing staff indicated that opportunities for professional development and career advancement were lacking (98.1%), followed by lack of equipment and supplies (69.9%). Challenges indicated in the 'other' category included infrastructural issues such as small working spaces. Also noted were unfair wages, as well as issues with timely payment of salaries. Other challenges posed were lack of continuity of care, lazy co-workers and absence of electronic medical records.

Workplace Challenges	Physicians n= 86 (%)	Nurses n= 156 (%)	Total n= 242 (%)
Physical/Verbal Abuse from patients	53 (61.6%)	77 (49.4%)	130 (53.7%)
Job Security	39 (45.3%)	27 (17.3%)	66 (27.3%)
Fair and Manageable workloads	47 (54.7%)	59 (37.8%)	106 (43.8%)
Participation in decision making	26 (30.2%)	49 (31.4%)	75 (31%)
Opportunities for professional development and career advancement	36 (41.9%)	153 (98.1%)	189 (78.1%)
Lack of support, supervision or mentorship	26 (30.2%)	42 (26.9%)	68 (28.1%)
Communication and transparency	21 (24.4%)	55 (35.3%)	76 (31.4%)
Adequate equipment, supplies and support staff	65 (75.6%)	109 (69.9%)	174 (71.9%)

Workplace Challenges	Physicians n= 86 (%)	Nurses n= 156 (%)	Total n= 242 (%)
Working hours	12 (14%)	12 (7.7%)	24 (9.9%)
Roles	14 (16.3%)	29 (18.6%)	43 (17.8%)
Conflict	19 (22.1%)	30 (19.2%)	49 (20.2%)
Other	7 (8.1%)	9 (5.8%)	16 (6.6%)

Table 10: Workplace Challenges

Participants were also asked to suggest improvements to the workplace and only 76.3% of participants responded to this question, as 15 physicians (17.3%) and 33 nurses (21%) did not participate here. The majority in both occupations indicated a need for improvement in available resources (73.3%), specifically in terms of equipment or pharmaceutical and non-pharmaceutical items (49.7%), as well as human resources (23.5%) (see Table 11).

Workplace Improvements	Physicians n= 62 (%)	Nurses n=125 (%)	Total n=187 (%)
Resources (total)	35 (56.5%)	102 (81.6%)	137 (73.3%)
Resources (equip/pharm/nonpharm/lab)	24	69	93
Resources (human)	11	33	44
Working conditions (total)	28 (45.2%)	61 (48.8%)	89 (47.6%)
Working conditions (existing infrastructure)	14	37	51
Working conditions (new)	9	7	16
Working conditions (security/safety)	5	17	22
Leadership/management/HR	13 (21%)	21 (16.8%)	34 (18.2%)
Community	9 (14.5%)	9 (7.2%)	18 (9.6%)
Fairness	6 (9.7%)	5 (4%)	11 (5.9%)
Workload	4 (6.5%)	4 (3.2%)	8 (4.3%)
Career development	3 (4.8%)	4 (3.2%)	7 (3.7%)
Rewards	1 (1.6%)	3 (2.4%)	4 2.1%)
Other	6 (9.7%)	5 (4%)	11(5.9%)

Table 11: Workplace Improvements

The second category of improvements was related to working conditions (47.6%), which were mainly infrastructural, in terms of upgrading of existing facilities. Also indicated in this category was the need for better

security for staff, as safety seemed to be a concern. New additions were also proposed, such as a staff lounge and a staff gym to encourage wellness. Other suggestions included basic requirements such as an infection control area and partitions in screening rooms to ensure confidentiality. The third category was related to improvements in leadership and relationships with management, as well as Human Resource issues. Improvements suggested here included better communication and a less “hands off” approach from management. Human resource issues were related to the need to have job descriptions, role clarification and job permanency.

Burnout

The three dimensions of burnout, Emotional Exhaustion (EE), Depersonalisation (DP) and Personal Accomplishment (PA) were scored individually. The scores were further classified into low, medium and high, based on the criteria set out in Table 4. The proportions of participants that met these criteria are shown in Table 12. The scale demonstrated good internal consistency, as Cronbach’s alpha coefficient for each subscale of the MBI-HSS was calculated, with EE= 0.90, DP= 0.80 and PA=0.72. Using the criteria of high EE/High DP for the presence of burnout, 26.5% met this criterion. Severe burnout was classified as high EE, high DP with low PA scores, with 6.1% meeting this criterion, leading to an overall burnout prevalence of 32.7%.

	BURNOUT DIMENSIONS		
	Emotional Exhaustion (EE) n (%)	Depersonalisation (DP) n (%)	Personal Accomplishment (PA) n (%)
Low	105 (42.9%)	190 (77.6%)	64 (26.1%)
Medium	63 (25.7%)	27 (11%)	55 (22.4%)
High	77 (31.4%)	28 (11.4%)	126 (51.4%)

Table 12: Categorisation of the scores of the three dimensions of burnout

Associated factors

For further analysis, participants were classified into 'burnout' and 'no burnout' groups. To determine the associated factors with burnout, the chi-square and Fisher's exact test for categorical independent variables were used. Factors such as occupation, age groups, the number of children, educational level, years since qualification, working hours, working on weekends and time spent in non-patient care activities were all found to have a significant statistical association with burnout ($p < .05$) (see Table 13). Other socio-demographic variables such as gender, ethnicity, relationship status and years working in primary care were not found to have a statistically significant association. Similarly job

requirements, job classification, presence of chronic diseases, smoking, alcohol consumption, physical exercise, hours of sleep, recent bereavement, past medical history of depression/anxiety, as well as a family history of depression/ anxiety, were not significantly associated with burnout.

Variables	Burnout n=80 (%)	No burnout n=165 (%)	p value*
Occupation			
Doctor	42 (52.5%)	45 (27.3%)	p <.001
Nurse	38 (47.5%)	120 (72.7%)	
Age groups (yrs)			
25-34	18 (22.5%)	25 (15.2%)	p = .002
35-44	37 (46.3%)	46 (27.9%)	
45-54	16 (20.0%)	47 (28.5%)	
55-64	8 (10.0%)	30 (18.2%)	
>65	1 (1.3%)	17 (10.3%)	
No. of children			
0	22 (27.5%)	33 (20.0%)	p = .01
< 3	48 (60.0%)	83 (50.3%)	
≥ 3	10 (12.5%)	49 (29.7%)	

Variables	Burnout n=80 (%)	No burnout n=165 (%)	p value*
Educational Level			
Diploma/certificate	15 (18.8%)	54 (32.7%)	p = .03
Undergraduate	15 (18.8%)	40 (24.2%)	
Postgraduate	31 (38.8%)	40 (24.2%)	
Enrolled	12 (15.0%)	16 (9.7%)	
Other	7 (8.8%)	9 (5.5%)	
Missing	0	6 (3.6%)	
Years since qualification			
< 5 yrs	3 (3.8%)	6 (3.6%)	p = .04
5-10 yrs	25 (31.3%)	42 (25.5%)	
11-20 yrs	34 (42.5%)	47 (28.5%)	
21-30 yrs	7 (8.8%)	22 (13.3%)	
>30 yrs	11 (13.8%)	48 (29.1%)	
Job hours			
< 40 hrs	0	10 (6.1%)	p= .02
40	32 (40.0%)	87 (52.7%)	
41-50	27 (33.8%)	41 (24.8%)	
51-60	13 (16.3%)	17 (10.3%)	
> 60	8 (10.0%)	9 (5.5%)	
Missing	0	1 (0.6%)	

Variables	Burnout n=80 (%)	No burnout n=165 (%)	p value*
Weekends			
0	36 (45.0%)	99 (60.0%)	p = .04
1-2	22 (27.5%)	38 (23.0%)	
3-4	22 (27.5%)	26 (15.6%)	
Missing	0	2 (1.2%)	
Time (hrs) relaxation			
≥ 7	9 (11.3%)	15 (9.1%)	p = .01
4-6	13 (16.3%)	64 (38.8%)	
2-3	42 (52.5%)	62 (37.6%)	
≤ 1	15 (18.8%)	23 (13.9%)	
Missing	1 (1.3%)	1 (0.6%)	

*Chi-square test

Table 13: Significant associations between independent variables and burnout

Subscale analysis was also performed and associations were found between age group and occupation and the EE and DP subscales. Job hours and hours of relaxation/leisure time were significantly associated with EE, while educational level and ethnicity were also associated with DP. The only variable associated with PA was alcohol consumption (see Tables 14, 15 and 16).

Variables	EE High (≥ 27) n=77 (%)	EE Medium/Low (<27) n=168 (%)	p value*
Age Groups			
25-34	16 (20.8%)	27 (16.1%)	.002
35-44	37 (48.1%)	46 (27.4%)	
45-54	15 (19.5%)	48 (28.6%)	
55-64	8 (10.4%)	30 (17.9%)	
>65	1 (1.3%)	17 (10.1%)	
Occupation			
Doctor	39 (50.6%)	48 (28.6%)	.001
Nurse	38 (49.4%)	120 (71.4%)	
Job hours			
< 40 hrs	0	10 (6.0%)	.001
40	30 (39.0%)	89 (52.9%)	
41-50	27 (35.1%)	41 (24.4%)	
51-60	13 (16.9%)	17 (10.1%)	
> 60	7 (9.1%)	10 (5.9%)	
Time (hrs) relaxation			
≥ 7	9 (11.7%)	15 (8.9%)	.022
4-6	13 (16.9%)	64 (38.1%)	
2-3	41 (53.2%)	63 (37.5%)	
≤ 1	13 (16.9%)	25 (14.9%)	
Missing	1 (1.3%)	1 (0.6%)	

*Chi-square test

Table 14: Significant associations between independent variables and Emotional Exhaustion (EE)

Variables	DP High (≥ 13) n= 28 (%)	DP Medium/Low (<13) n= 217 (%)	p value*
Occupation			
Doctor	19 (67.9%)	68 (31.3%)	<.001
Nurse	9 (32.1%)	149 (68.7%)	
Age Groups			
25-44	21 (75.0%)	105 (48.4%)	.002
45-64	7 (25.0%)	94 (43.3%)	
>65	0	18 (8.3%)	
Ethnicity			
African descent	4 (14.3%)	93 (42.9%)	.036
Indian descent	16 (57.1%)	62 (28.6%)	
Mixed	8 (28.6%)	52 (24.0%)	
Other	0	10 (4.6%)	
Educational Level			
Diploma/ certificate	2 (7.1%)	67 (31.8%)	.001
Undergraduate	3 (10.7%)	52 (24.6%)	
Postgraduate	17 (60.7%)	54 (25.6%)	
Other	6 (21.4%)	38 (18.0%)	

*Chi-square test

Table 15: Significant associations between independent variables and Depersonalisation (DP)

Variables	PA	PA	p value*
	Low (<33)	High/Medium (≥ 33)	
	n= 64 (%)	n= 181 (%)	
Alcohol Consumption			
Non-Drinker	24 (37.5%)	104 (57.5%)	.001
Low	31 (48.4%)	66 (36.5%)	
Moderate/Heavy	9 (14.1%)	11 (6.1%)	

*Chi-square test

Table 16: Significant associations between independent variables and Personal Accomplishment (PA)

Logistic regression

Binomial logistic regression was performed to determine the possible prediction variables for the presence of burnout. The odds ratio (OR) are displayed in Table 17. Being in a younger age group (<45 years), was found to have an increased odds of development of burnout [OR 2.91(95% CI 1.66 -5.12)], as compared to older age groups (≥ 45 years). Occupation also played a significant role, as physicians had higher odds of burnout than nurses [OR 2.95 (95% CI 1.17-11.42)].

Variables	OR (95% CI)
Age gps.	
<45yrs	2.91 (1.66-5.12)
≥45 yrs (reference)	
Occupation	
Doctor	2.95 (1.69-5.14)
Nurse (reference)	
Educational level	
Diploma/certificate (reference)	
Undergraduate	1.35 (0.59-3.08)
Postgraduate	2.79 (1.33-5.85)
Enrolled	2.70 (1.05-6.93)
Other	2.80 (0.89-8.77)

Table 17: Logistic regression for significant socio-demographic variables and burnout

Having no children or having less than three children was associated with higher odds of burnout, particularly with having no children [OR 3.27 (95% CI 1.37-7.78)] and less than 3 children [OR 2.83 (95% CI 1.32-6.10)]. After adjustment for age groups, having less than three children still remained significant [OR 2.370 (95% CI 1.079-5.203)], while having zero children was no longer significant (see Table 18).

Variables	OR (95% CI)	Adjusted OR (AOR) (95% CI)
No. of children		
0	3.27 (1.37-7.78)	2.18 (0.87-5.42)
<3	2.83 (1.32-6.10)	2.37 (1.08-5.20)
≥ 3 (reference)		

*adjusted for age

Table 18: Logistic regression for number of children and burnout

Possessing postgraduate education or being enrolled in a training programme was also found to have higher odds of burnout as compared to those whose highest achieved educational level was that of a diploma/certificate.

Persons who had achieved their qualification < 30 years prior were at a higher odds of burnout, specifically those with 5-10 years [OR 2.60 (95% CI 1.14-5.91)] and 11-20 years [OR 3.16 (95% CI 1.43-6.96)] since achievement. This was no longer significant after adjustment for confounding. The number of working hours per week was significantly associated, as those working 41-50 hrs [OR 2.0 (95% CI 1.06- 3.74)] and >50 hours/week [OR 2.45 (95% CI 1.22-4.93)] had higher odds of burnout than those who work 40 hours or less/ week. The adjusted OR (AOR) was not significant in this case. Also working 3-4 weekends a month showed higher odds of burnout, but this did not remain significant after adjustment. Spending less than four hours a day in non-patient care

activities (relaxation, leisure time) was associated with greater odds of burnout. After adjustment, spending 2-3 hours was still found to have higher odds [OR 2.41 (95% CI 1.24-4.70) (see Table 19).

Variables	Unadjusted OR (95% CI)	Adjusted OR (AOR) (95% CI)
Years since qualification		
< 5yrs	2.18 (0.47 -10.11)	0.70 (.09-5.12)
5-10 yrs	2.60 (1.14-5.91)	0.59 (0.14-2.57)
11-20 yrs	3.16 (1.43-6.96)	0.93 (0.25-3.39)
21-30 yrs	1.39 (0.48 – 4.06)	0.57 (0.16-2.07)
≥ 30 yrs (reference)		
Hours of work/week		
≤ 40 hours (reference)		
41-50	2.0 (1.06-3.74)	1.70 (0.85 -3.42)
> 50 hours	2.45 (1.22-4.93)	1.65 (0.71-3.80)
Weekends		
0 (reference)		
1-2	1.59 (0.83-3.05)	1.45 (0.70-3.03)
3-4	2.33 (1.17 -4.61)	1.65 (0.76-3.56)

Variables	Unadjusted OR (95% CI)	Adjusted OR (AOR) (95% CI)
Hours of relaxation/day		
≥ 4 hrs (reference)		
2-3	2.43 (1.32-4.49)	2.41 (1.24-4.70)
≤1	2.34 (1.05 -5.23)	2.28 (0.95-5.43)

*adjusted for age, gender, occupation, relationship status, educational level and no. of children

Table 19: Logistic regression for significant variables and burnout

Regression performed on individual subscales revealed that similar to the overall burnout score, younger persons had higher odds of high scores on the Emotional Exhaustion scale [OR 2.87 (1.62-5.08)] and Depersonalisation scales [OR 2.33 (1.21-4.51)] (see Table 20).

Variables	EE OR (95% CI)	DP OR (95% CI)	PA OR (95% CI)
Age (yrs.)			
<45	2.87 (1.62-5.08)	2.33 (1.21-4.51)	-
≥45 (ref)			
Occupation			
Nurse (ref)			-
Doctor	2.57 (1.47-4.48)	2.57 (1.47-4.48)	

Table 20: Logistic regression for significant socio-demographic variables and subscales of burnout

Participants that worked more than 40 hours a week had increased odds of high scores on emotional exhaustion scale, particularly those that worked 41-50 hours [OR (2.17 (1.15-4.10))] and > 50 hours a week [OR 2.44 (1.20-4.96)]. However, this did not remain significant after adjustment for socio-demographic variables. Those who received < 4 hours of relaxation/leisure time a day also had increased odds of high EE scores, but after adjustment for potential confounders, only those who were able to achieve 2-3 hours remained significant.

Ethnicity and educational level was not significant on regression for depersonalization scores.

Variables	EE OR (95% CI)	EE AOR (95% CI)*
Job Hours ≤40 (ref)		
41-50	2.17 (1.15-4.10)	1.94 (0.95-3.97)
>50	2.44 (1.20-4.96)	1.62 (0.70-3.73)
Time (hrs.) relaxation >4 (ref)		
2-3	2.34 (1.26-4.32)	2.35 (1.17-4.72)
≤1	1.87 (0.82-4.24)	1.79 (0.73-4.39)

*adjusted for age, gender, occupation, relationship status, educational level and no. of children

Table 21: Logistic regression for significant occupational and lifestyle variables and emotional exhaustion (EE) subscale

Alcohol consumption was found to be significantly predictive of low personal accomplishment scores. This was seen with both low consumption [OR 2.04 (1.10-3.77)] and moderate/heavy consumption [OR 3.55 (1.32-9.51)]. After adjustment, participants with moderate/heavy consumption had approximately four times the odds of low personal accomplishment scores as compared to non-drinkers (see Table 22).

Variables	PA OR (95% CI)	PA AOR (95% CI)*
Alcohol consumption		
Non-drinker (ref)		
Low	2.04 (1.10-3.77)	1.94 (0.99-3.76)
Moderate/Heavy	3.55 (1.32-9.51)	4.11 (1.45-11.65)

*adjusted for socio-demographics, bereavement, past history of depression/anxiety and family history of depression

Table 22: Logistic regression for significant independent variables and personal accomplishment (PA) subscale

Psychological Distress

Cronbach's alpha coefficient for the GHQ-12 was 0.83, demonstrating good reliability. The prevalence of psychological distress was 25.3%, utilizing the GHQ-12 cutoff of 2/3 for cases. The median score and IQR was 1 (0-3). To determine the associated factors with burnout, the chi-square and Fisher's exact test for categorical independent variables were used. Factors such as age groups, hours of relaxation and a past medical history of depression were found to be significantly associated as shown

in Table 23. The other independent variables that were also used in the analysis of burnout were found to be not significantly associated with psychological distress.

Variables	PSYCHOLOGICAL DISTRESS		
	Yes n= 62(%)	No n=183(%)	p value
Age groups (yrs)			
25-34	14 (22.6%)	29 (15.8%)	p = .01
35-44	29 (46.8%)	54 (29.5%)	
45-54	13 (21.0%)	50 (27.3%)	
55-64	5 (8.1%)	33 (18.0%)	
>65	1 (1.6%)	17 (9.3%)	
Time (hrs) relaxation			
≥ 7	4 (6.5%)	20 (10.9%)	p = .02
4-6	11 (17.7%)	66 (36.1%)	
2-3	32 (51.6%)	72 (39.3%)	
≤ 1	14 (22.6%)	24 (13.1%)	
Missing	1 (1.6%)	1 (0.5%)	
Past medical history of depression/ anxiety			
Yes	16 (25.8%)	14 (7.7%)	p < .001
No	46 (74.2%)	169 (92.3%)	

Table 23: Significantly associated factors with psychological distress

Logistic Regression for psychological distress

Binomial logistic regression was also performed to identify predictor variables with distress and the results are displayed in Tables 24 and 25. Similar to burnout, younger age groups had higher odds of psychological distress [OR 2.73 (95% CI 1.48-5.04)], as compared to older persons (>45 years).

Variables	OR (95% CI)
Age gps. <45 yrs ≥45 yrs (reference)	2.73 (1.48-5.04)

Table 24: Logistic regression for age and psychological distress

Spending < 4 hours/ day in non-patient care activities was also found to have a higher odds ratio for 2-3hrs/day [OR 2.55 (95%CI 1.28 – 5.07)] and ≤ 1 hr./day [3.34 (95% CI 1.42 -7.88)], which remained significant after adjustment. An OR of 4.2 (95% CI 1.19 -9.23) was noted for those with a past medical history of depression/anxiety and current psychological distress, which was significant after adjustment.

Variables	OR (95% CI)	AOR (95% CI)
Hours of relaxation/day		
≥ 4 hrs (reference)		
2-3	2.55 (1.28 – 5.07)	2.48 (1.19 - 5.16)
≤ 1	3.34 (1.42 -7.88)	3.56 (1.42 -8.90)
Past medical history of depression/anxiety		
No (reference)		
Yes	4.2 (1.19 -9.23)	3.89 (1.57 – 9.66)

*adjusted for age, gender, occupation, relationship status, educational level, no. of children and recent bereavement

Table 25: Logistic regression for psychological distress

Burnout and Psychological distress

A significant statistical association was noted between the two main outcomes, burnout and psychological distress. There were 39 participants that were classified as both burnout and having psychological distress representing 48.8% of the burnout group (see Table 26). Only 13.9% of the non-burnout group also experienced psychological distress.

Psychological Distress	Burnout	No Burnout	p value
	Yes	39 (48.8%)	23 (13.9%)
No	41 (51.2%)	142 (86.1%)	

Table 26: Association between burnout and psychological distress

Coping Styles

Fourteen separate coping styles were assessed by the Brief COPE questionnaire. The Cronbach alpha coefficient was 0.74. Table 27 displays the median and IQR of the different coping mechanisms. The highest scoring coping strategies were the use of religion, planning, positive reframing, active coping and acceptance.

Coping Styles	Median and IQR
Self-Distraction	5.0 (4.0-6.0)
Active Coping	6 (5.0-8.0)
Denial	2 (2.0-3.0)
Substance Abuse	2 (2.0-2.0)

Coping Styles	Median and IQR
Emotional Support	5 (4.0-6.75)
Instrumental Support	5 (4.0-6.0)
Behavioural Disengagement	2 (2.0-3.0)
Venting	4 (3.0-5.0)
Positive Reframing	6 (5.0-8.0)
Planning	7 (5.0-8.0)
Humor	4 (3.0-6.0)
Acceptance	6 (5.0-8.0)
Religion	7 (5.0-8.0)
Self-Blame	4 (2.25-5.0)

Table 27: Median and Interquartile Ranges (IQR) of coping styles

Burnout and coping styles

Several coping styles were found to have a significant relationship with burnout. Participants in the burnout group had significantly higher scores in the self-distraction, denial, behavioural disengagement, humor and self-blame coping styles. Those without burnout exhibited significantly higher scores in the use of religion as a coping mechanism. (see Table 28).

COPING STYLES	BURNOUT (median and IQR)	NO BURNOUT (median and IQR)	p value*
Self –Distraction	5.0 (4.0-6.0)	5.0 (4.0-6.0)	p=.004
Active Coping	6.0 (5.0-7.0)	7.0 (5.0-8.0)	p=.229
Denial	2.0 (2.0-4.0)	2.0 (2.0-3.0)	p=.012
Substance Abuse	2.0 (2.0-2.0)	2.0 (2.0-2.0)	p=.370
Emotional Support	5.0 (4.0-6.0)	5.0 (4.0-6.75)	p=.855
Instrumental Support	5.0 (4.0-6.0)	5.0 (4.0-6.25)	p=.753
Behavioural Disengagement	3.0 (2.0-4.0)	2.0 (2.0-3.0)	p <.001

COPING STYLES	BURNOUT (median and IQR)	NO BURNOUT (median and IQR)	p value*
Venting	4.0 (3.0-5.0)	4.0 (3.0-6.0)	p=.298
Positive Reframing	6.0 (4.0-8.0)	6.0 (5.0-8.0)	p=.461
Planning	6.0 (5.0-8.0)	7.0 (6.0-8.0)	p=.209
Humor	4.0 (3.0-6.0)	4.0 (3.0-5.0)	p =.036
Acceptance	4.0 (3.0-6.0)	4.0 (3.0-5.0)	p=.682
Religion	6.0 (4.0-8.0)	8.0 (6.0-8.0)	p= .004
Self –Blame	4.0 (2.0-5.0)	4.0 (2.0-4.0)	p =.005

*Mann-Whitney U test

Table 28: Relationship between burnout and coping styles

Psychological distress and coping styles

Scores for self-distraction, denial, behavioural disengagement, venting and self-blame were significantly higher among those with psychological

distress. Similar to burnout, religion scores were significantly higher in those without psychological distress (see Table 29).

* Mann-Whitney U test

Table 29: Relationship between psychological distress and coping styles

DISCUSSION

In this study, there were 245 participants, 35.5% were medical physicians and 64.5% were nurses. Most participants were between 35-44 years, although the majority of nurses were 45 years and older. Approximately 36% had been working in primary care for between 5-10 years. The majority were non-smokers, non-drinkers, but were also non-compliant with exercise, either receiving none or insufficient levels. Most received between 6-8 hours of sleep, but spent an average of only 2-3 hours per day in relaxation. A small proportion had a past medical history of depression/anxiety and 13.9% had a family history of depression.

Coping Styles	Psychological Distress (median and IQR)	No Psychological Distress (median and IQR)	p value*
Self -Distraction	5.0 (4.0-7.0)	5.0 (4.0-6.0)	p =.001
Active Coping	6.5 (5.0-8.0)	6.0 (5.0-8.0)	p=.936
Denial	3.0 (2.0-4.0)	2.0 (2.0-3.0)	p <.001
Substance Abuse	2.0 (2.0-2.0)	2.0 (2.0-2.0)	p= 0.236
Emotional Support	5.0 (4.0-6.25)	5.0 (4.0-6.0)	p= .629
Instrumental Support	5.0 (4.0-7.0)	5.0 (4.0-6.0)	p=.638
Behavioural Disengagement	3.0 (2.0-4.0)	2.0 (2.0-3.0)	p< .001
Coping Styles	Psychological Distress (median and IQR)	No Psychological Distress (median and IQR)	p value*
Venting	4.5 (3.75-6.0)	4.0 (3.0-5.0)	p=.028

Positive Reframing	6.0 (4.0-8.0)	6.0 (5.0-8.0)	p=0.98
Planning	6.0 (5.0-8.0)	7.0 (5.25-8.0)	p= .266
Humor	4.0 (3.0-6.25)	4.0 (3.0-5.0)	p=.071
Acceptance	6.0 (5.0-8.0)	6.0 (5.0-8.0)	p=.488
Religion	6.0 (4.0-8.0)	8.0 (5.25-8.0)	p= .001
Self-Blame	4.0 (3.0-5.25)	3.0 (2.0-4.0)	p <.001

The non-response rate varied between the two occupations. It was found that doctors were more receptive to participation than nursing personnel generally. The tendency to participate among nurses was related to whether other members of the nursing group were willing to fill out questionnaires, particularly the nurse in charge. The example was set from the leadership within the health centre and guidance seemed to have been taken accordingly. Doctors were usually the minority in the health centre setting, varying from one to three and functioned autonomously. Many had also achieved postgraduate level of education and had therefore conducted their own research projects, which possibly increased their willingness to participate.

The overall prevalence of burnout was found to be 32.7%. This was similar to another study among nurses and physicians in Singapore, where there was an overall prevalence of 33.3%.¹¹⁵ However occupation showed a significant difference in our study, as 48.3% of physicians were classified as burnout as compared to 24.1% of nursing staff, with the odds of physicians having burnout approximately three times that of nurses. Examining individual occupations, the prevalence among primary care physicians was similar to that of family physicians in Europe,⁵² where 43% were categorized as burnout as well as among family physicians in Switzerland (42%)⁵³ and Egypt (41.9%).¹¹⁶ Other studies in Europe indicated prevalence rates among primary care physicians between 25-32%.^{51,117,118} On the other hand, this prevalence was lower than the levels found among family physicians in the U.S in 2014 (63.1%), but closer to the initial prevalence of 51.3% in 2011.¹⁵ Adriaenssens et al¹¹⁹ in their systematic review found an average burnout prevalence of 26% among emergency nurses, which is similar to the finding in this study, but lower than that among Intensive Care Nurses (33%).¹²⁰

The prevalence of burnout in both occupations is therefore comparable to findings in both developed and developing countries, suggesting that a common thread runs through all. This could best be explained by the organizational environment and the six mismatches described within it, which are related to workload, control, reward, community, fairness and values. Even though this environment will vary from country to country and even within different settings within the same country, these imbalances can still arise despite having optimal resources and technological advancements. This may be because there is no rule that all

six mismatches must be present, one may dominate the other and a single incompatibility may be sufficient to trigger symptoms. For example, Lee et al.¹²⁹ noted in their meta-analysis that doctors in the USA that worked in environments where career development and safety cultures were priorities, experienced lower levels of emotional exhaustion than European counterparts.¹²⁹ However, presence of work-life conflicts which particularly results from increased workload, led to higher levels.¹²⁹ Lack of control over the work environment on its own has been linked to the emotional exhaustion dimension.^{5,50,55,62} It would be necessary to perform further research and exploration into the work environment of the two RHAs to determine which factors played the greatest role.

The differences in the workplace may play a role in the private sector as well, which if these constructs are correct, should reflect a lower prevalence of burnout. This is because in this setting, resources are more readily available than public and physicians usually have autonomy, particularly in their own practice and can also dictate workload and pace. Focus is placed on the doctor-patient interaction instead of on quality metrics that are reported to a higher authority. Fee for service, return visits and patient feedback may provide a type of reward. However, this may only be seen in areas where the physician is completely private, as those who practice in both may be vulnerable to burnout, as there is an increased workload, work hours and less time for leisure.

A significant association was found with respect to age and the occurrence of burnout, which is a consistent finding in most studies, irrespective of occupation. The findings are essentially similar, younger age groups demonstrate a greater odds for the presence of burnout.^{15,44,52,56,57, 116,117,118,121}

In this study, participants less than 45 years had 2.5 times the odds of existing burnout, as compared to those older. Examining the individual subscales, younger age groups had higher odds of emotional exhaustion and depersonalization, but there was no relationship to personal accomplishment. Shanafelt et al found that being older than 65 years had lower odds of burnout as compared to those less than 35 years.¹⁵ Soler et al found that each additional ten years of age was protective, while Siu et al¹²² and See et al⁵⁶ similarly noted that each additional year older was protective for physicians, as did Embriaco et al among nurses.¹²⁰ Also amongst nurses, Ohue et al found that those between 26-30 years of age had a significant association with burnout.⁵⁸ Gomez-Urquieza et al noted in their meta-analysis of burnout among nursing professionals that there was a significant inverse relationship between burnout and age, particularly in the dimensions of emotional exhaustion and depersonalization, although the mean effect sizes were small.⁵⁹ Many studies indicate that burnout is rooted in the workplace or organizational environment and so the association between age and burnout could possibly be explained by the fact that younger healthcare workers have less experience and have not yet developed effective coping strategies required for their working environment.^{123,124} Therefore, older workers have adapted and survived and are therefore less prone to development of burnout. Another possibility is that younger workers are often experiencing changes in roles, such as in the domain of family life, as well as performing clinical/administrative duties and undergoing training and examinations for career advancement.¹²² This attempt to strike a balance may increase the vulnerability to stressors and development of burnout. However, Shanafelt et al postulated that this finding across studies may

be related to high job turnover rates for burnt out workers, therefore those who remain in the job never experienced burnout in the first place.¹⁵ This is a plausible explanation as there has been evidence of burnout workers experiencing low levels of job satisfaction,^{50,61,73,83,121,122,125,126,127} intent to leave their jobs^{15,52,55,58,67,128} or make career changes.^{63,118}

Having no children or less than three children was associated with higher odds of burnout on regression. This was supported by Siu et al,¹²² as well as Soler et al¹⁵ and Wallace Bain,⁵⁰ where each additional child was protective of development of burnout. After adjustment for age, where it could be expected that younger persons might have less children than older workers, as they had not yet completed their family, having no children was found to be no longer significant, but having less than three children was still a significant predictor for burnout. However, other studies did not find this characteristic to be a predictor.^{53,129,130} The view would be that having children should contribute to exhaustion, but as discussed previously, the emotional exhaustion of burnout is different from the exhaustion that comes with being busy or engaged in multiple tasks, as for the latter, satisfaction follows completion of tasks. Workers with children have scored higher on the personal accomplishment scale.¹²³ Higher empathy scores in other studies have also been noted, which is often affected by burnout.^{28,76} For parents, children are often as important as work, providing balance and focus and even possibly a distraction from occupational stressors.

A higher educational level, specifically postgraduate attainment demonstrated higher odds for burnout. This is not a consistent finding in prior research, as Soler et al found that having further qualifications

actually was protective for physicians.⁵² Other studies, if educational level was included in the survey, did not find this relationship was significant.^{116,130} This result is likely linked to the fact that physicians who had the higher prevalence of burnout, were also in the majority with respect to attainment of postgraduate qualifications (66.7%) vs nurses (5%). However, being enrolled in a training programme was also predictive of burnout and the proportions of physicians enrolled (12.6%), as compared to nurses (10.8%), were not very different. This can be reflective of difficulty in achieving work-life balance and ties back into workers attempting to juggle full working days, classes, assignments and home and family life.

The amount of time spent in relaxation or leisure time was found to be a predictor of burnout. Those who spent 2-3 hours per day in leisure time were found to have higher odds of burnout as compared to those who were able to spend four or more hours a day relaxing. This can be seen as a reflection of work-life balance, as participants were asked about time spent in relaxation or leisure time. This again is linked to lack of work-life balance, which has been found to be significantly associated with burnout.^{15,47,50,51,122,126,131,132} Although there is no fixed recommendation for the amount of leisure time required on a daily basis, to achieve an ideal work-life balance, approximately seven hours a day would be optimal.^{133,134} This is a model situation and the reality is that most persons average four to five hours a day, as work demands are constantly increasing in all fields.^{133,134}

Leisure activities are important to allow recovery time from occupational stressors which would include physical activity, indulging in hobbies and spending time with family among others.¹³⁵ Related to the ability to have

time for relaxation and work-life balance are working hours, where working >40 hours per week,^{12,15,50,53,57,115,121,126,131} as well as working on weekends,^{50,52} have both been linked to burnout. These were significant on regression but not after adjustment for confounding. Most physician participants in this survey worked more than 40 hours a week (60.9%), as compared to nurses. Therefore, it is not surprising that reduced amounts of time for relaxation would be significantly related to burnout.

Gender has found repeated associations with burnout in research, with a predilection for females being affected,^{12,15,55,115,123,136} although some studies have indicated males may be more affected, particularly in the depersonalization dimension.^{51,52,53,118} However, no association was found in this study, possibly due to the sample consisting mainly of females, although this is consistent with the demographic patterns of primary care in the public health system. Youssef also demonstrated a dominance of females in medical school (67%) in Trinidad⁴⁷ and Wallace-Bain among physicians in the Bahamas (64.7%)⁵⁰ and no association was found in these studies as well. Prior research has also found that being married is protective, possibly as married workers experience more personal fulfillment, similar to having children and also enjoy additional support from their partners.^{15,58,123,136} Kotb et al in Egypt contradicted this where married workers had a higher odds of burnout,¹¹⁶ while Soler et al found that being married increased the odds of exhaustion, but was protective of the development of low personal accomplishment.⁵² Marital status was not significant in this study, which is similar to others.^{44,117,122} Variations in this finding across studies may be due to differences in cultures, traditions and expectations of being married or single, as well as the quality of the

relationship. Having qualified <10 years prior has been found to increase the odds of burnout in previous work, but this is most likely related to the age of participants and indeed was found to no longer be significant after adjustment for confounding.^{52,117,131} The number of years in the current job was not found to be associated with burnout, as it has in other studies.^{52,53}

Most of the participants were self-reported non-smokers and either did not consume alcohol or were low consumption. According to the PANAM STEPS survey in Trinidad and Tobago, 21.1% of participants were current smokers in 2011, which was a higher proportion than the health care workers surveyed in this study (3.3%).¹¹¹ Among the Trinidadian population, 29.7% were lifetime abstainers from alcohol while 52.2% of healthcare workers were self-reported non-drinkers.¹³⁷ However, the distinction was not made as to whether they were lifetime abstainers as opposed to current non-drinkers as done in the PANAM STEPS survey. These are positive findings, as primary prevention, promotion of wellness behaviours and behavioural modification among patients are important aspects of the primary care staffs' duties and responsibilities. Health workers that practice healthy behaviours are more likely to initiate preventative counseling and promote behavior change.¹³⁸ Additionally, health workers that follow healthy lifestyles are perceived as more credible in the eyes of the patient and are therefore more influential and motivating.¹³⁹ However, the same could not be said for exercise, where most workers (73.5%) did not achieve recommended levels, which was slightly higher than the general population in 2011 (67.6%). These variables were not significantly associated with burnout in this study, but smoking and alcohol use have been correlated with burnout in prior research, which may

be related to these substances being used as coping strategies for stress.^{52,68,116} Alcohol use was associated with personal accomplishment scores, with moderate to heavy alcohol consumption having four times the odds of low personal accomplishment scores as compared to non-drinkers. Soler et al also corroborated this finding, as well as noting that increasing drinking was also related to low scores.⁵² Personal accomplishment is related to self-esteem, especially as it pertains to feelings of achievement of personal goals. As aforementioned, engaging in alcohol use may be due to feelings of failure and requiring a method to cope with those feelings.

Engaging in exercise has been found to be protective in other studies.^{56,116,122,126} Hours of sleep was also not significantly related, contrary to Soler.⁵² However, Lebensohn found that waking rested was a protective factor,⁶⁸ whereas Wallace-Bain asked about irregular sleep patterns, which was found to be significantly associated with burnout.⁵⁰ The quality of sleep was not assessed in this study.

Generally, although work is considered a positive influence on mental health, the local work environment can become a major contributor to the development of burnout.^{64,140} It has been postulated that mismatches arising between the worker and the work environment can make the difference between an engaged worker and a burnout one.⁸⁰ These discrepancies revolve around workload, resources, control, reward, work-life balance, community, values, fairness and the degree of meaning from work.⁸⁰ Some of these mismatches can be reflected in the most common challenges identified by participants, which were lack of equipment and supplies, opportunities for professional development and career advancement, physical/verbal abuse from patients and fair and

manageable workloads. Also identified were the ability to participate in decision making, as well as communication and transparency. Upgrades in resource availability and functionality, particularly in the domains of equipment, pharmaceutical and non-pharmaceutical items, was the most common improvement suggested by participants.

For physicians, the most common challenge indicated was resource inadequacy, followed by physical and verbal abuse from patients. Although not linked in this study, inadequate equipment and other resources has been connected to physician burnout in other studies, as it influences job satisfaction.^{13,125} This also applies to job control as indicated by the ability to participate in decisions^{13,55,60,62,121,129,132} and workload.^{50,58,60,121} Workplace violence has also been found in regional studies and occurs commonly in healthcare settings. These challenges are connected, as at the time this study was conducted, the country was experiencing economic setbacks, with reduced funding for staffing, purchasing and repair of equipment, as well as shortages in pharmaceutical and non-pharmaceutical items. Job losses may also have contributed to an increase in the use of the free public health system. All of these factors combined would result in numerous frustrations in the system, such as increased waiting times, inability to fill prescriptions as well as an inability to have presenting complaints addressed completely, increasing the likelihood of abusive behaviours. Key players in physician satisfaction are not related directly to compensation or rewards, but are rooted in patient contact and interaction,^{37,64} as well as the ability to provide quality patient care.¹⁴¹ Therefore, it is not surprising that these were the two most important challenges for physicians. For nurses, lack

of resources was second to opportunities for professional development and career advancement. This certainly reflects an organizational issue, which is concerning, as it will also impact on job satisfaction and motivation. It is also important to address this concern, as provision of training and continued education is a recommendation to improve the fit of the employee in the working environment.¹⁴¹

Prevalence of estimated psychological distress was not significantly higher in physicians (31%) than in nurses (22.2%) and the overall prevalence was found to be 25.3%. This was similar to other studies among mixed groups of health care workers.^{40,67,142} The prevalence was similar to the 26% found among family and internal medicine physicians in the USA.¹³ However, it was slightly lower than the prevalence among hospital physicians and nurses in Jamaica (27.4%),⁴⁰ palliative care physicians and nurses in Singapore (28.2%)¹¹⁵ and health workers in Taiwan (27.9%).¹⁴²

Similar to burnout, age groups were significantly associated with psychological distress, where those younger than 45 years had approximately twice the odds of distress than those older. This was also substantiated by Tzeng et al, where younger workers also had higher odds of distress.¹⁴² Lindo et al found that those who had professional experience of <10yrs were at higher odds of distress, which could also be related to age, but this specific variable was not found to be significant in this study.⁴⁰ Despite gender differences being described for many mental health disorders, with mainly females being affected, no association was found in this study. Other socio-demographic variables, such as marital status, educational level and number of children were also not significantly related

to distress, similar to the findings in other studies.^{40,115,128,142,143} This suggests that other factors, possibly personal or work related factors were influencing factors in the development of distress. Smoking and alcohol use were also not found to be significant as also noted in Tzeng et al.¹⁴²

Studies have found significant associations between the occupational environment and the development of psychological distress.^{13,40,143} Linzer et al found that factors such as less resources, chaotic work environment and poor job control were all correlated to the development of distress in the workplace.¹³ Similarly, Lindo et al noted work related stress was predictive of distress, as well as a fear of coming to work.⁴⁰ This fear was rooted in facing unpredictable situations at work, as well as enduring threats to personal security, of which the latter was reflected in the answers of the participants in this study.

Similar to burnout, the less time spent in relaxation or leisure per day, the higher the odds of distress. In this case, both 2-3 hrs of relaxation per day and 1 or less hours were predictive. Spending time in enjoyable activities, whether it be socializing, indulging in hobbies, exercising or sporting activities, finding time for family or just simply being home, has always been promoted as important for general well-being and mental health. Persons who are able to engage in enjoyable leisure activities have reported greater life satisfaction, engagement and feelings of accomplishment.¹⁴⁴ The ability to have free time and utilize it is indicative of work-life balance and allows for stress relief, development of positive emotions, as well as recovery and recuperation. Therefore, it can be expected that workers who are unable to participate in such will not have the benefit of diversionary

activities, which will buffer stressful situations. They will therefore be left vulnerable to the development of distress and burnout.

In this study, participants with a prior history of depression or anxiety had nearly four times the odds of existing distress. This finding is not unexpected, as the GHQ-12 is designed to measure psychological well-being based on the presence of symptoms of depression, anxiety, somatic symptoms and social withdrawal and is sensitive to transient states. Certain questions overlap with the DSM-V criteria for depression (e.g. loss of concentration, sleep disturbances, low self-esteem, feeling depressed, anhedonia) and anxiety (worrying, loss of concentration, sleep disturbances, feeling under strain) and so it is possible that persons with depression or anxiety will also score higher on the GHQ-12. However, the past history of depression or anxiety was self-reported and whether the participant was undergoing treatment or had completed management were not ascertained. This would be important to explore further, as a person who had successfully completed treatment would not be expected to score positively for psychological distress, unless there was an undiagnosed comorbid mental disorder.

A significant association was also found between the occurrence of burnout and psychological distress.^{131,143,145} There may be several reasons for this finding. There has been considerable discussion in the literature over the relationship between burnout, depression and anxiety. The relationship between burnout and depression has been more heavily considered, with several arguments on the matter.¹⁴⁶ Certainly, chronic stress plays a dominant role in the development of both burnout and depression, but the specific areas where this stress arises may determine whether burnout

develops or depression. Cross-sectional studies do show a relationship between the two and sometimes anxiety.¹⁴⁶ However, longitudinal studies have given conflicting results, with some demonstrating a unidirectional relationship where burnout preceded depression or vice versa.¹⁴⁶ Another demonstrated development of depression and burnout in tandem.^{20,146} The reality is that there may be a circular relationship, with one influencing the development of the other leading to exacerbations of the original state.¹⁴⁶

Despite this, the general agreement is that they are indeed two separate constructs, but they may lie along a similar causal pathway.^{80,146} This is supported in part by this study by as a past medical history of depression or anxiety was significantly associated with distress, but it was not linked to burnout. Hansen et al suggested that a past and family history of depression were also linked to burnout, but this was not found in this study.¹⁴⁷

The predisposing factors for both burnout and distress are rooted in exposure to chronic stressors. However, the stressors in burnout have been mainly identified to lie within the work environment and these arise when there are mismatches between the worker and the working environment. Psychological distress as manifested by depression and anxiety is influenced by a multitude of factors, including genetic, developmental, socio-economic and medical history among others. The occurrence of burnout, particularly emotional exhaustion and cynicism (depersonalization) can result in physiological manifestations, such as lack of sleep or disrupted sleep patterns, as well as decreased immune functions, all of which are related to increased cortisol levels.²¹ This leads to a lack of internal resources, such as the reduced psychological ability and the energy

to deal with stressors.²¹ Similarly, the presence of distress, as manifested by depression or anxiety may impact on concentration, energy levels and self-esteem, which in turn may affect the assessment of workload, perceived job control and interactions with colleagues and supervisors.²¹ All of these may contribute to the development of burnout (see Fig.1).

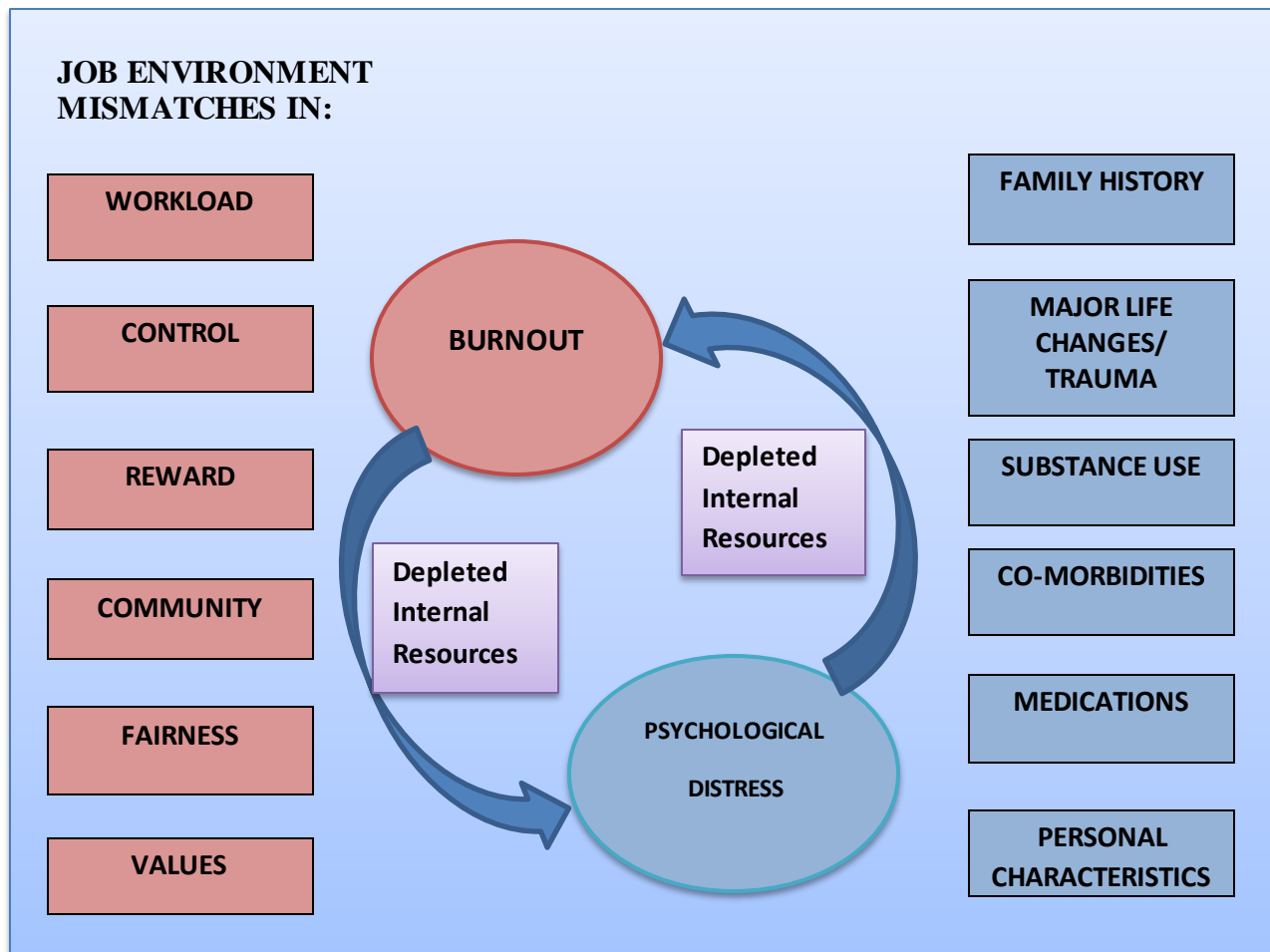


Fig.1. Risk factors for the development of burnout and distress and the possible relationship between the two outcomes

Another explanation for the association may lie in the scales themselves.

The emotional exhaustion subscale of the MBI has demonstrated significant moderate to high correlations with different screening tools for

depression, as well as the GHQ.^{68,127,143,145,148} The depersonalization and personal accomplishment subscales have lower correlations in prior research.^{68,127,143,145,148} Small correlations have also been noted for anxiety with the three dimensions of burnout.²⁴ Since the EE and DP subscales represent the core dimensions used in the definition of burnout, this may account for the relationship between the two outcomes.

The most frequently used coping styles were planning, religion, active coping, positive reframing and acceptance. The majority of these reflect active or problem focused strategies, where the attempt is to face the issue and resolve it, whether by taking action (active coping), seeking advice or help from others (instrumental support) or coming up with a strategy on what to do (planning).^{149,150} Emotion focused strategies have been linked to poor mental health outcomes, including burnout, as the problem is viewed as out of a person's control and so an attempt is made to see it in a different light (positive reframing) or using humour.^{26,124,149,150} However, context is important, as an individual's coping style is embedded in personality factors, as well as social and cultural influences.³⁴ Therefore, what may be seen as inappropriate in one setting may be perfectly acceptable in another.

Significant associations were found between the occurrence of burnout and the use of denial, behavioural disengagement, humour, religion, self-blame and self-distraction as coping styles. Denial, self-blame, behavioural disengagement and self-distraction are all avoidant or escapist coping styles, sometimes termed 'dysfunctional' strategies and are associated with poor mental health as well.^{26,34,114,149,150} The scores for the avoidant styles were all higher in the burnout group. This is similar to Lemaire and

Wallace²⁵ where denial was significantly correlated with increased scores on the EE scale as well as in Montero Marin et al²⁶ where it had a significant relationship with all burnout subtypes. Hutchinson⁸⁷ and Pejuskovic⁵⁴ also found that escape-avoidant strategies had correlations with higher scores on both EE and DP scales. The use of humour was also higher among the burnout group, which may appear to be a singular finding, as it had been negatively correlated to the presence of high EE scores in a previous study²⁵ and on the surface seems to be a good strategy. Having a sense of humour and laughter therapy are recommendations for conditions such as depression and anxiety. However, humour is an emotion focused style, where the effects of the stressor are dealt with, instead of trying to identify and remove the cause where possible.³⁶ Humour can actually be cynical, hostile, or even self-deprecating and therefore reflective of low self-esteem, which suggests that it is not necessarily an appropriate response and the types of humor used are important. The use of humour being associated with burnout, particularly emotional exhaustion, has also found in prior research.^{25,112}

The use of religion as a coping style was found to be significantly higher in the non-burnout group. This was supported by Koh et al where health care workers that were less spiritual had higher odds of increased burnout and psychological distress.¹¹⁵ Religion can provide a context for the occurrence of stressful situations, provide perspective and meaning for these occurrences and encourage acceptance. Religious persons also focus more on altruism, which is at the heart of the healthcare profession. Prayer and rituals can help bring about control and discipline in daily life and just generally provide hope, meaning and purpose. Importantly as well, with

religious practice often comes establishment of a community, with social relationships forming with similarly minded persons, creating a sense of belonging, a support network and reducing isolation. In this way, religious coping can be seen as a protective factor for burnout.

There were similar findings with respect to the occurrence of psychological distress. The significantly related coping styles were self-distraction, denial, behavioural disengagement, religion, self-blame and venting. Again, aside from religion, these strategies are avoidant coping styles.^{26,34,114,149,150} In behavioural disengagement, the person gives up on trying to deal with issues, whereas in self-distraction, which is a variation of disengagement, there is an attempt to ignore the present situation.¹⁵¹ Seeramreddy et al also found this association with self-blame and self-distraction with the occurrence of psychological distress.¹⁵² Anxiety has been significantly associated with self-blame as well as behavioural disengagement and denial.^{84,151} Depression has also been associated with self-distraction.^{84,151} Scores for religious coping were also higher in those who were not psychologically distressed, similar to burnout. The reasons are likely to be the same, in that religion has positive effects in an individual's life. This finding was also supported by Youssef,⁴⁷ who found that practicing faith daily was significantly associated with a decreased prevalence of depression and Monetro Marin,²⁶ where religion had a negative correlation to the diagnosis of anxiety.

STRENGTHS AND LIMITATIONS

This study had a good response rate (90%), which was higher than what had been encountered in prior studies among health workers, particularly in a self-administered format. The two R.H.A.s selected incorporate some of the largest catchment areas of the island and represent a variety of primary care facilities, both rural and urban, large and small within the regions. The selected instruments were also validated instruments appropriate for the measurement of outcomes and recommended cut off points were used. A proportional stratified sampling method was also employed to ensure that both occupations were accordingly represented.

The study design was cross-sectional in nature and so a temporal relationship could not be determined between the associated variables and the outcomes. The findings were restricted to the N.W.R.H.A. and N.C.R.H.A. and this limited the external validity of the study. Since burnout is rooted in the workplace and organizational characteristics, it can be expected the other R.H.A.s may have different findings, as organizational culture varies.

The GHQ-12 reports a single score that suggests mental distress and possible mood disorder symptomatology. However, it cannot be used for definitive diagnosis of depression and anxiety and so appropriate screening and diagnostic tools would still have to be employed. The self-administered format, while suitable to encourage disclosure for sensitive topics, has a few disadvantages. Participants had to be issued several reminders in order to complete and retrieve the questionnaire, which was

time consuming. Additionally, there were missing responses which limited analysis.

Finally, many of the questions were of a delicate nature and led to refusals to participate and non-response in some areas. Those who participated may not have answered truthfully, as there would be fears of disclosure and consequent victimization. This could have led to social desirability bias, where participants responded in a way that would produce a more positive image of themselves. This could have resulted in an underestimation of the prevalence of burnout and psychological distress.

RECOMMENDATIONS AND CONCLUSION

Tackling burnout and psychological distress can be performed at two levels, either at the level of the individual, or the organization or both. Addressing the issue can also be done through prevention or intervention. Prevention is easier, safer, and cheaper and decreases the likelihood of long term consequences. However, it does not address the workers that are already experiencing mental health issues.

Systematic reviews of interventions have demonstrated that organizational interventions produce greater reductions in the prevalence of workplace mental health issues as compared to individual strategies.^{153,154,155,156} The most effective strategy though, was a combination of the two.^{153,158} The usages of organizational and combined approaches have produced encouraging results for burnout, with effects that last up to one year.¹⁵⁶ The effects of individually directed interventions have been found to last up to six months and rarely exceed this time frame unless reminder sessions are offered.¹⁵⁶ However, organizational interventions are fewer in number to evaluate, as they are more expensive to implement and require commitment from executive leadership.^{32,156} Therefore, it makes sense to start approaches at the individual level. Many different individualized approaches have been utilized in both categories of occupation, with small to moderate success in the short term, but so far reviews have not identified one strategy to be superior to another. Some are applicable to mainly developed countries, such as utilization of electronic patient reported outcomes (PROs),¹⁵⁸ reduction of time spent on electronic medical records and changes in pay for performance metrics.¹⁵⁹ However, in the setting of Trinidad, not all of these interventions are

applicable and the economic climate must also be considered. Therefore, low cost and overall low resource strategies should be considered.

One of the first steps at the individual level is recognition or enhancement of awareness.^{32,64,160} Mental health awareness and destigmatisation of this issue can be achieved through sensitization sessions, which can be incorporated into employee orientation and staff meetings, with a special focus on younger workers and physicians.⁴⁵ Workers and supervisors should be made aware of the existence of mental health issues in the workplace, be vigilant for development of signs and symptoms of distress, particularly in these groups and know how and when to seek help.³² Importantly staff should be reassured that once issues are recognized, they would be approached in a non-punitive manner, creating a more supportive environment.¹⁶⁰ A recommendation is that every worker should actually have a personal physician, even physicians.⁴⁵

Provider self-care should be emphasized. This can be achieved through wellness measures as well as maintenance of work-life balance.^{45,64,154} Wellness promotion includes ensuring adequate sleep, diet, exercise, pursuing spiritual and religious involvement, maintaining social relationships and fostering a positive approach to life.⁴⁵ Exercise was an underutilized strategy among the primary care health workers, although it was similar to the overall population in Trinidad and Tobago.¹³⁷ Still, as it has been found to be protective in prior research, it should be encouraged. Staff should also be made aware of the importance of finding balance in their lives and this would be along the lines of finding time on a daily basis for family, leisure, relaxation or hobbies. Included in this

would also be utilization of vacation days, which employees frequently do not utilize, preferring accumulation or payment for days not used.

Daily actions that can be implemented by the individual include recording things for which one is grateful.^{154,161} The 'Three Good Things' tool produced sustained reductions in burnout symptoms among medical students.¹⁶¹ This device allows the participant to document three good things that occurred on a daily basis. This allows for the focus to be placed on recognition of and acknowledgement of positive feelings and emotions. Other daily tasks include taking breaks during the workday, as well as recognizing the individual's own personal stressors and activities that provide re-energising.¹⁶⁰ These strategies require minimal resources and commitment and can be incorporated into the work schedule.

In terms of interventions at the individual level, the common overarching theme is provision of support. Support from colleagues, as well as supervisors are important for the protection of good mental health and are linked to development of resilience.³⁷ Balint groups have been implemented in the United Kingdom and USA, as well as Schwartz centre rounds in the US and Canada.³⁷ Both of these provide a non-judgemental space for sharing, talking and discussing workplace challenges, as well as difficult patients. This is important, as it facilitates support and reduces isolation that may occur in the primary care setting, where there are sometimes only a few staff members in one health centre. These groups also allow employees to have feelings normalized and validated, reducing the aura of stigmatization. These groups can be successfully implemented in low resource settings, but do require trained leaders to facilitate.³⁷

Another strategy that has gained in popularity of late has been mindfulness training. This intervention can be useful for both burnout and distress and can be done at an individual level, in group formats, or even online.¹⁵⁷This is therefore suitable for the primary care setting and additionally the sessions themselves are approximately two hours long and can be performed weekly.^{156,157} Other interventions include Cognitive Behavioural Therapy (CBT), resiliency training and teaching of effective coping strategies through stress management workshops. All of these interventions however do require some degree of interest and commitment from the executive leadership.

As organizational approaches have been found to be effective, this level should also be attempted. The World Health Organisation (WHO) recommends that firstly a good case should be made for the protection of employee mental health.¹⁴⁰The decision makers in N.W.R.H.A. and N.C.R.H.A. should be approached by and informed through meetings or presentations on the importance of this problem, the evidence of its existence and the benefits to the organization in addressing it. These would include increased productivity, efficiency, reduced absenteeism and better patient outcomes. Importantly, it also leads to retention of workers, which is important for maintaining skills and knowledge within the organization.¹⁴⁰These factors in the long term actually reduce costs, as there is improvement in quality, safety and reduced litigation incidents.³²Once organizational commitment is obtained, the next step would be to develop a strategy, which would involve creating an employee wellness committee, which can be independent or incorporated into an existing group, such as the Occupational Safety and Health

committees (OSH). One of the first tasks of this committee would be to establish an employee mental health policy, which would then be utilized to implement wellness strategies into the workplace.¹⁴⁰

Similar to individual interventions, reviews have not found one organizational strategy to be superior to another.^{153,155,156,157} Some feasible programmes that can be implemented are readily available stress management workshops. Employee assistance programmes (EAP) are already in existence, but care has to be taken to ensure that they are staffed with experienced facilitators and confidentiality is preserved. The work day structure should be reviewed as well. Working hours were not found to be a significant predictor in this study, but workflow is a factor that can be examined as well. The health centres commence clinics from 8am and there are no limits to patient numbers, therefore clinics are ended with the last patient. Staff frequently refrains from taking breaks as the workflow can be continuous. Scheduled break times can be implemented to alleviate this. Regular and open communication between staff or staff representatives and management is imperative and management should also invite staff input into decision making. This can be reflected at the health centre level as well, where regular meetings between team members should be mandated, to facilitate communication, foster teamwork and discuss challenges and troubleshooting of issues.

The workers themselves indicated that they did not feel that there were enough opportunities for professional development and career advancement. Training is important to ensure the fit of the employee into the environment and following on from this, there must be pathways for employees to utilize newly acquired skills. For some departments, this

would require review and re-assessment of organizational charts and pathways for promotion. Employees that can work in areas where there may be a better fit will reduce job mismatch and consequent burnout and distress. However, as found in this study, being enrolled in a training programme increased the odds for burnout and so allotted time for training that can be incorporated into the workplace should be considered. Finally, the organization should be willing to support additional wellness strategies, such as provision of gyms for employee use and annual physicals for workers.

Further research is needed to closely examine the associations that were found in this study. This would include exploring the reasons as to why physicians were more affected than nurses and specific workplace characteristics that may be contributing to the development of burnout and distress. An interesting comparison that should be explored as well is the prevalence of these outcomes in the private sector.

Prospective studies should be done to elucidate the temporal relationship between the variables and the development of outcomes to clarify which are indeed predictors and therefore which can be addressed through preventative measures. Randomised controlled trials (RCTs) will also be useful to evaluate intervention strategies to determine which are the most appropriate for the current environment and allow for specification of the recommendations.

The mental health of health workers is an area of expanding interest. Within primary care in N.W.R.H.A. and N.C.R.H.A., the prevalence was comparable to international studies. Given the consequences of this in the

workplace, this must be addressed. In primary care, it is particularly important given the fact that these are front-line workers for whom a close relationship with patients is essential. Most predictive factors were socio demographic in nature and therefore difficult to alter, but certain issues with work life balance and coping were elucidated, which could be targeted. Promoting wellness strategies, resilience and a supportive workplace environment may go a long way to improving the health of workers in both the short and long term.

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**APPENDIX A: ETHICAL APPROVAL FROM UNIVERSITY OF THE
WEST INDIES (ST. AUGUSTINE)**



THE UNIVERSITY OF THE WEST INDIES

ST AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

CAMPUS ETHICS COMMITTEE

E-mail: campusethics@sta.uwi.edu

July 4, 2017

Rohan Maharaj (Aruna Singh-Gopaul)

Primary Care and Public Health Unit

Department of Paraclinical sciences

Email: rohan.maharaj@sta.uwi.edu/qaika@yahoo.com

Dear Dr. Maharaj,

Ref: CEC 250/07/17-The prevalence of burnout, psychological distress and frequently used coping strategies among primary care health workers in the North West (N.W.R.H.A.) and North Central Regional Health Authorities (N.C.R.H.A.)

I write to advise that your application for research on the above captioned topic has been reviewed and approved on behalf of Campus Ethics Committee

Sincerely

Shivananda Nayak (Prof.)

Chairman

Campus Ethics Committee

Sn

APPENDIX B: ETHICAL APPROVAL FROM N.C.R.H.A.



OFFICE OF THE CHIEF EXECUTIVE OFFICER

3rd Floor, Building 39, Eric Williams Medical Sciences Complex, Uriah Butler Highway,
Champs Fleurs PBX: (868)-225-4673 Ext: 2490 / 3089 / 5091 D.L. (868)-662-5579 Fax:
(868)-663-0671

September 5th, 2017

Dr. Aruna Singh-Gopaul
Student (UWI)
EWMSC
Mt. Hope.

Dear Dr. Singh-Gopaul,

Approval to Conduct Research Project in the NCRHA

Reference is made to the subject at caption.

Please be informed that approval has been granted for research entitled – **“The prevalence of burnout, psychological distress and frequently used coping strategies among primary care health workers in the North West (N.W.R.H.A.) and North Central Regional Health Authorities (N.C.R.H.A.)”**

The commencement of this research indicates that you have understood and accepted the responsibility of maintaining the confidentiality of all data and information collected and processed.

The NCRHA wishes you every success in this undertaking, and looks forward to receiving a **HARD** and **SOFT** copy of your Project Report within two (2) weeks of completion.

Sincerely,

Davlin Thomas
Chief Executive Officer (Ag.)

s.c: *Ms. Vernessar Cummings – Manager, Business Planning and Support (Ag.), NCRHA*
Public Health Observatory, NCRHA

Board Members: Mr. Steve De Las (Chairperson), Mr. Elvin Edwards (Deputy Chairperson), Mr. Randolph Clouden, Ms. Wendy Ali, Ms. Yvonne Bullen-Smith, Ms. Marie Ayoung-Chee, Mr. Stewart Smith, Dr. Maria Bartholomew

APPENDIX C: ETHICAL APPROVAL FROM N.W.R.H.A.



**Office of the General Manager,
Health Policy Research and Planning**
North West Regional Health Authority
#39 Dundonald Street
Port of Spain
Tel: 625-1295 ext. 1215, 1245
Fax 623-3310
Email: health.services@nwrha.co.tt

November 3rd, 2017

Dr Rohan Maharaj
Unit of Public Health and
Primary Care
University of the West Indies
St Augustine

Attention: Dr Aruna Singh-Gopaul

Dear Dr Maharaj

Re: The Prevalence of Burnout, Psychological Distress and Frequently used coping Strategies among Primary Care Health Workers in the North West Regional Health Authority and North Central Regional Health Authority

The North West Regional Health Authority wishes to convey **approval** to conduct the aforementioned research.

Please be advised that all findings are to be submitted to the office of the **Chief Executive Officer, North West Regional Health Authority, #39 Dundonald Street, Port-of-Spain** upon completion of research and before publication of same.

Thanking you in advance for your co-operation.

Respectfully

Mrs. Lauren K. Maharaj
General Manager,
Health Policy Research and Planning
NWRHA
Secretary, Ethics Committee

#39 DUNDONALD STREET, PORT OF SPAIN.

CHAIRMAN: MS. LISA AGARD, DEPUTY CHAIRMAN: DR. IAN RAMNARINE
DIRECTORS: DR. ADELLE-LISA CHANG ON, MS. MARGARET CHOW,
MS. DEBRAH LEWIS, MR. JOEL MARTINEZ, MR. GIRJA TIWARY.

APPENDIX D: PERMISSION TO USE MBI-HSS

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Maslach Burnout Inventory™

Instruments and Scoring Keys

Includes MBI Forms:

Human Services - MBI-HSS

Medical Personnel - MBI-HSS (MP)

Educators - MBI-ES

General - MBI-GS

Students - MBI-GS (S)

Christina Maslach
Susan E. Jackson
Michael P. Leiter
Wilmar B. Schaufeli
Richard L. Schwab

Published by Mind Garden, Inc.

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www.mindgarden.com

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APPENDIX E: PERMISSION TO USE GHQ-12

**GL Assessment Ltd
GENERAL HEALTH QUESTIONNAIRE – 12 ITEMS (GHQ 12)
USER AGREEMENT**

Please Note that the Terms and Conditions of this agreement are **non-negotiable**. Modifications to the agreement will **not be accepted** and the agreement will not be actioned.

Agreement Dated : ...6th October 2017...

1. LICENSEE'S NAME *Please type all details and send back as Word doc attachment*

LICENSEE : : Dr. Aruna Singh-Gopaul(note 1).....
 Address : #41 Graceland Heights, Cantaro Village.....
 Santa Cruz.....
 Country : Trinidad, West Indies
 VAT Number (if applicable) :(note 2)

Contact Name if Different from above:

Name : Aruna Singh-Gopaul.....
 Title : Dr.....
 Phone : 868-359-0565..... Fax :868-676-8061.....
 Email : gaika@yahoo.com.....

Invoice Address if Different from above: *(credit account form is required for invoicing – note 3)*
same as above.....

For Credit Card Payments please phone (UK) 0330 1235375 (International) +44 1793 516347

GL READER CODE (Mandatory- note 4)... 258409.....L

QUALIFICATION CODE (Mandatory – note 4)... PER.....

For student licensees the following are also required- (note 5):

University Course and supervisor's name :

Supervisor's GL Reader Code

Supervisor's GL Qualification Code

2. CONTEXT OF GHQ-12 USE

- **PROJECT (note 6):** The prevalence of burnout, psychological distress and frequently used coping strategies among primary care health workers in the North West and North Central Regional Health Authorities

- Number of expected study participants : 245
- Number of administrations of the questionnaire per participant : 1
- **TOTAL NUMBER OF ADMINISTRATIONS (note 7) :** 245
- **Planned study date:** Start 11 | 17 End 01 | 18
month/year month/year

APPENDIX F: INFORMED CONSENT



THE UNIVERSITY OF THE WEST INDIES
ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES
CAMPUS ETHICS COMMITTEE
CONSENT TO PARTICIPATE IN RESEARCH
Phone: 645-3232 Ext: 5021 Email: campusethics@sta.uwi.edu

Complete Protocol Title	The prevalence of burnout, psychological distress and frequently used coping strategies among primary care health workers in the North West and North Central
Principal Investigator	Dr. Rohan Maharaj
Co-Investigators	Dr. Aruna Singh-Gopaul
Research Site(s)	North West and North Central Regional Health Authorities
Sponsors	Not Applicable

Why is this research being done?

Mental health issues among health care workers are important to ascertain as development of psychological distress and burnout can negatively impact productivity and the quality of healthcare provision. The information collected in this research will help to identify the effects of the work environment on the health of doctors and nurses. This should aid in the development of strategies to address, encourage and sustain optimal mental health among staff.

What is the duration of taking part in the study (for each subject)?

The survey will take approximately fifteen (15) to twenty (20) minutes to complete and each participant will be required to complete only one survey.

What will happen to me?

You will be invited to participate in a questionnaire survey at your workplace, after which, upon completion, you will be asked to place the questionnaire in an envelope which will be sealed and placed in a collection box. The box will be retrieved by the investigator and a research assistant three days after administration.

What is in in for me?

The results of the survey will provide valuable knowledge on the mental health of health workers, which is an often overlooked area. This will be used to make recommendations for improvements in working conditions, as well as to encourage the development of sustainable strategies that address and recognise the importance of healthy staff members.

What will happen if I drop out of the study early?

Participation is completely voluntary and there are no consequences to your refusal to participate, nor to dropping out.

What are my responsibilities if I join and what about confidentiality?

Your responsibility will be to complete the questionnaire and answer all questions as honestly as possible. All responses will be kept confidential and will be unavailable to your colleagues and supervisors.

What if I get hurt in the study?

There will be little risk of harm from this study, as it requires completion of a questionnaire. No invasive procedures or investigations will be required.

CONSENT

I have read and understood this explanation. The researcher has also explained the study to me. I have had a chance to ask questions and have them answered to my satisfaction. I agree to take part in this study. I have not been forced or made to feel like I had to take part.

I have read the attached experimental Subject's Rights, which contain some important information about research studies. I have also read the Authorisation to use my Private Health Information. **I must sign this Consent Form, the Experimental Subject's Rights and the Authorisation to use my Private Health Information. I will be given a signed copy of each to keep.**

Print Name of Subject

Signature of Subject

Date

Signature of Person conducting the informed consent discussion

Date

Role of person named above in the research project


Signature of Second Witness

Date

This document was approved by
Campus Ethics Committee on:

By Chairman:

4th July 2017

 (Prof S Nayak)

This document expires on:

4th February 2018

REQUEST FOR PERMISSION TO USE AN INDIVIDUAL'S PRIVATE HEALTH INFORMATION**Name of Study:**

The prevalence of burnout, psychological distress and frequently used coping strategies among primary care health workers in the North West and North Central Regional Health Authorities

Investigators:

Dr. Rohan Maharaj, Dr. Aruna Singh-Gopaul

What is private health information?

Private health information is any information that can be traced back to you. We need your permission to use your private health information in this research study. The type of private health information that will be used and shared for this study includes:

- Your past and present physical and mental health information
- Information that can be used to contact you
- Results of your medical tests and DNA
- Questionnaires and information on your drug/alcohol usage and that of your family.

Who else will see my information?

Only the investigators will see the completed questionnaires

How long will the investigators use and share my information?

The questionnaires will be used for a period of six (6) months after data collection is completed. This period will end in May 2018.

What if I change my mind about sharing my research information?

You reserve the right to discontinue participation at any time and the questionnaire will be destroyed

Do I have the right to see and copy my research information?

Yes

If you agree to share your information, you should sign this form below. You will receive a copy of this form.

I agree to share my information as described in this form**Print Name****Signature****Date**

If you have questions or concerns about your privacy and the use of your personal medical information, please contact the investigator at the telephone number listed in the consent form.

APPENDIX G: QUESTIONNAIRE INSTRUMENT

The information that you record in this questionnaire will be treated with extreme confidentiality.

Your identity will be unknown to us. Thank you for your time.

Please answer ALL questions as truthfully as you can.

Please place a **TICK (✓)** in the box next to the appropriate response

SECTION I: SOCIO-DEMOGRAPHICS

(1) Please specify your current age group:

- less than 25 yrs 25-34 yrs 35-44 yrs 45-54 yrs 55-64 yrs
 more than 65 yrs

(2) Please specify your gender/sex:

- Male Female

(3) Please indicate your ethnicity:

- Afro-Trinidadian Indo-Trinidadian Mixed (Afro/Indo)
 Mixed (Other)
 Other (please indicate) _____

(4) Please indicate your current relationship status:

- Single Married Divorced/Separated Widow/Widower
 Common Law

(5) How many children do you have?

- 0 1 2 3 or more

(6) Please choose the option that best describes your highest achieved educational level:

- Diploma/certificate Undergraduate (BSc./M.B B.S.)
- Postgraduate (PgDip/ MSc/MPhil/ PhD)
- Currently enrolled in a training/postgraduate programme
- Other _____

(7) Please indicate how many years since achievement of your first medical/nursing qualification:

- less than 5 years 5-10 yrs 11-20 yrs 21-30 yrs
- more than 30 yrs

(8) How many years have you worked in primary care?

- less than 5 years 5-10 yrs 11-20 yrs 21-30 yrs
- more than 30 yrs

SECTION II: OCCUPATION AND WORKPLACE

(9) What is your current occupation within the organization?

- Medical Doctor Nurse/Nursing Assistant

(10) Which of the following do you work?

- Full time Full time-shift system Part-time/sessional

(11) Which of the following best describes your job requirements?

- Clinical duties Administrative and clinical duties
- Administrative only

(12) How many hours/ week do you work (including extra sessions, private work or on call)?

- less than 40 hours 40 hours 41 -50 hrs 51-60 hrs
 more than 60 hrs

(13) How many weekends/month do you work?

- None 1-2 3-4

(14) What, in your opinion, do you see as challenges in your main workplace? (please tick all that apply)

- Physical and verbal abuse from patients
 Job security
 Fair and manageable workloads
 Worker participation in decision making
 Opportunities for professional development and career advancement
 Lack of support, supervision or mentorship
 Open communication and transparency
 Access to adequate equipment, supplies and support staff
 Working hours
 Lack of defined roles
 Conflict with other staff members
 Other _____

(15) What would you like to see made available in your workplace to improve your working environment?

SECTION III: LIFESTYLE

(16) Do you currently suffer from any chronic medical conditions (e.g. Hypertension, Diabetes, Asthma, Arthritis, Epilepsy)?

Yes No

(17) Do you smoke cigarettes?

Yes No Ex-Smoker

(18) If yes, how much per day?

(19) Do you drink alcohol?

Yes No

(20) If yes, how often?

1-2 drinks/month 7 or less drinks/week 8-14 drinks/week

more than 14 drinks/week

4-5 drinks on one day a month

4-5 drinks on one day for 5 or more times/month

(21) How much physical exercise do you get in a week?

- None at all
- at least 20-30 minutes/day of moderate or high intensity exercise
- at least 20-30 minutes of moderate intensity exercise 2-3 times/ week
- at least 20-30 mins of high intensity exercise 2-3 times/week
- at least 30 minutes of moderate/high intensity exercise 5 times/week

(22) How much sleep do you get in a night?

- more than 8 hrs
- 6-8 hrs
- 4-5 hrs
- less than 4hrs

(23) How many hours/ day do you spend in non-patient care activities
(e.g. *leisure time, relaxation, spending time with family/friends*)?

- at least 7 hours/day
- 4-6 hours
- 2-3 hours
- 1 hour or less

(24) Have you experienced any recent loss or bereavement within the last six (6) months?

- Yes
- No

(25) Have you ever been diagnosed with depression or anxiety?

- Yes
- No

(26) Do you have a family history of depression?

- Yes
- No

SECTION IV:

Please use the numbered scale provided below to answer how often you may experience the feelings expressed in the statements.

	0	1	2	3	4	5	6
HOW OFTEN:	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

(27) How often:

0-6

Statements:

- (a) _____ I feel emotionally drained from my work.
- (b) _____ I feel used up at the end of the workday.
- (c) _____ I feel fatigued when I get up in the morning and have to face another day on the job.
- (d) _____ I can easily understand how my patients feel about things.
- (e) _____ I feel I treat some patients as if they were impersonal objects.
- (f) _____ Working with people all day is really a strain for me.
- (g) _____ I deal very effectively with the problems of my patients.
- (h) _____ I feel burned out from my work.
- (i) _____ I feel I'm positively influencing other people's lives through my work.
- (j) _____ I've become more callous toward people since I took this job.

- (k) _____ I worry that this job is hardening me emotionally.
- (l) _____ I feel very energetic.
- (m) _____ I feel frustrated by my job.
- (n) _____ I feel I'm working too hard on my job.
- (o) _____ I don't really care what happens to some patients.
- (p) _____ Working with people directly puts too much stress on me.
- (q) _____ I can easily create a relaxed atmosphere with my patients.
- (r) _____ I feel exhilarated after working closely with my patients.
- (s) _____ I have accomplished many worthwhile things in this job.
- (t) _____ I feel like I'm at the end of my rope.
- (u) _____ In my work, I deal with emotional problems very calmly.
- (v) _____ I feel patients blame me for some of their problems

SECTION V

In the next few questions, we would like to know how your health has been in general over the past few weeks

Please place a tick (✓) in appropriate box

(28) Have you recently been able to concentrate on what you're doing?

- Better than usual Same as usual Less than usual
 Much less than usual

(29) Have you recently lost much sleep over worry?

- Not at all No more than usual Rather more than usual
 Much more than usual

(30) Have you recently felt that you were playing a useful part in things?

- More so than usual Same as usual Less so than usual
 Much less than usual

(31) Have you recently felt capable of making decisions over things?

- More so than usual Same as usual Less so than usual
 Much less than usual

(32) Have you recently felt constantly under strain?

- Not at all No more than usual Rather more than usual
 Much more than usual

(33) Have you recently felt you couldn't overcome your difficulties?

- Not at all No more than usual Rather more than usual
 Much more than usual

(34) Have you recently been able to enjoy your normal day to day activities?

- More so than usual Same as usual Less so than usual
 Much less than usual

(35) Have you recently been able to face up to your problems?

- More so than usual Same as usual Less so than usual
 Much less than usual

(36) Have you been feeling unhappy or depressed?

- Not at all No more than usual Rather more than usual
 Much more than usual

(37) Have you been losing confidence in yourself?

- Not at all No more than usual Rather more than usual
 Much more than usual

(38) Have you been thinking of yourself as a worthless person?

- Not at all No more than usual Rather more than usual
 Much more than usual

(39) Have you been feeling reasonably happy, all things considered?

- More so than usual About same as usual Less so than usual
 Much less than usual

SECTION VI

(40) *These items deal with ways you've been coping with the stress in your life. There are many ways to try to deal with problems. These items ask what you've been doing to cope. Obviously, different people deal with things in different ways, but we are interested in how you've tried to deal with it. Each item says something about a particular way of coping. We want to know to what extent you've been doing what the item says; how much or how frequently. Don't answer on the basis of whether it seems to be working or not — just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.*

*Please place a **tick (✓)** where it is applicable*

	I usually don't do this at all	I do this a little bit	I do this a medium amount	I do this a lot
I turn to work or other substitute activities to take my mind off things				
I concentrate my efforts on doing something about the situation I'm in				
I say to myself "this isn't real."				
I use alcohol or other drugs to make myself feel better.				
I get emotional support from others				
I give up trying to deal with it.				

	I usually don't do this at all	I do this a little bit	I do this a medium amount	I do this a lot
I try to take action to try to make the situation better.				
I refuse to believe that it has happened.				
I say things to let my unpleasant feelings escape.				
I get help and advice from other people				
I use alcohol or other drugs to help me get through it.				
I try to see it in a different light, to make it seem more positive.				
I criticize myself				
I try to come up with a strategy about what to do.				
I get comfort and understanding from someone.				
I give up the attempt to cope				
I look for something good in what is happening				
I make jokes about it.				

	I do this a little bit	I do this a medium amount	I do this a lot	I usually don't do this at all
I do something to think about it less, such as going to movies watching TV, reading, daydreaming, sleeping, or shopping				
I accept the reality of the fact that it has happened.				
I express my negative feelings.				
I try to find comfort in my religion or spiritual beliefs				
I try to get advice or help from other people about what to do				
I learn to live with it				
I think hard about what steps to take				
I blame myself for things that happened				
I pray or meditate				
I make fun of the situation				

THANK YOU FOR YOUR PARTICIPATION!!

