PREVALENCE OF BURNOUT SYNDROME AMONG RESPIRATORY THERAPISTS IN SAUDI ARABIA

By

Waleed A. Asiri, BS

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ACCEPTANCE

This thesis, PREVALENCE OF BURNOUT SYNDROME AMONG RESPIRATORY THERAPISTS IN SAUDI ARABIA, by Waleed A. Asiri, BS, was prepared under the direction of the Master Thesis Advisory Committee of the Respiratory Therapy department at Georgia State University. It is accepted by the committee in partial fulfillment of requirements for the Master of Science degree with a concentration in Respiratory Therapy at Byrdine F. Lewis College of Nursing and Health Professions, Georgia State University.

The Master Thesis Advisory Committee, as representatives of the faculty, certifies that this thesis has met all standards of excellence and scholarship as determined by the faculty.

_____

Douglas S. Gardenhire Ed.D, RRT, RRT-NPS, FAARC
Committee Chair

_____

Rachel Culbreth PhD, MPH, RRT
Committee Member

_____

Shi Huh Samuel Shan MS, RRT, RRT-NPS, RRT-ACCS
Committee Member

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Waleed A. Asiri

3780 Towne Crossing

Kennesaw, GA 30144

The director of this thesis is:

Douglas S. Gardenhire, Ed.D, RRT, RRT-NPS, FAARC

Governor's Teaching Fellow

Chair and Clinical Professor

Byrdine F. Lewis School of Nursing and Health Professions

Department of Respiratory Therapy

Georgia State University

P.O. Box4019

Atlanta, GA 30302-4019

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DEDICATION

It always seems impossible until it's done. I will start to express my gratitude to God for providing me with the strength, safety, health, abilities, and all blessings in my whole life. In the midst of this epidemic, I realize more than ever how much a support team is essential to carry on with strength and persistence. My most profound appreciation goes to my incredible parents (Abdullah & Fatima), sister, and brothers for their unlimited support, encouragement, motivation, care, and sincere prayers, making me this strong person during graduate school. Mom and dad, I love you so much, and I cannot thank you enough for all you have done for me. To my best friends, I would like you to know that I was pleased to receive your encouragement and support. Thanks for supporting me all through the ups and downs.

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Waleed A. Asiri

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ABSTRACT

BACKGROUND: Burnout (BO) is the consequence of chronic work-related stress exposure and is a common syndrome noticed in healthcare providers. Three dimensions typify BO syndrome: emotional exhaustion (EE), depersonalization (DP), and low personal accomplishment (PA). Burnout impacts healthcare workers' performance and efficiency, and therefore on the quality of care provided. Despite the growing research work regarding BO syndrome among healthcare providers, Respiratory Therapists' (RTs) BO has not previously been examined. Therefore, it is essential to determine Respiratory Therapists' BO in Saudi Arabia to address the need for developing BO prevention strategies and wellness programs for RTs. **PURPOSE:** The study aimed to assess the prevalence of BO among RTs in Saudi Arabia and examine the association between BO and sociodemographic data and professional satisfaction. **METHODS:** A cross-sectional study involving a convenience sample of RTs in Saudi Arabia was conducted utilizing the Maslach Burnout Inventory (MBI) in addition to questions regarding sociodemographic information and professional satisfaction. **RESULTS:** Two hundred thirty-six RTs (N=236) were surveyed in this study. The majority of the respondents were male n=130 (55.1%), single n=140 (59.3%), and lived in the central region n=136 (57.6%). The age of the participating RTs in the study ranged from 20 to 58 years, with an average of 28.5 years (SD±5.08). The results showed that RTs had a high level of EE with a mean of 31.97, a moderate level for DP with a mean of 11.39, and a moderate level for lack of PA with a mean of 33.58. Age, gender, the role of the RTs, hours of work, and shift schedule of the participants were associated with BO. The workload was the most work factor among RTs associated with BO. Professional satisfaction of work-life balance, the current job, and monthly income were related to the burnout levels across the three subscales. **CONCLUSION:** This study was the first to explore BO by MBI and related factors among RTs in Saudi Arabia. Burnout seemed to be a common problem among RTs in Saudi Arabia

and was associated with sociodemographic information and professional satisfaction. The findings may help to develop effective intervention strategies to limit and prevent BO. More prospective studies are required with a larger number of participants of RTs.

List of Abbreviations

AARC: American Association for Respiratory Care

BO: Burnout

BOS: Burnout Syndrome

CCSC: Critical Care Societies Collaborative

DP: Depersonalization

EE: Emotional Exhaustion

ER: Emergency Room

ICU: Intensive Care Unit

MBI: Maslach Burnout Inventory

PA: Personal Accomplishment

RT: Respiratory Therapy

RTs: Respiratory therapists

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CHAPTER I

Introduction

Respiratory therapists (RTs) are healthcare professionals that provide care and treat patients who suffer from acute or chronic respiratory disease. Respiratory therapists assess, monitor, and handle different patient categories, including adults, pediatrics, and neonates. The American Association for Respiratory Care (AARC) determined responsibilities to cover many aspects such as managing the airway and mechanical ventilators, advising doctors during patient lung therapy and diagnosis, providing patient education, and responding to emergency cases (American Association for Respiratory Care, n.d.-a). Respiratory therapists are accessible in practically all healthcare settings, according to the AARC, including but not limited to intensive care units (ICU), emergency rooms (ER), operating rooms, general care, and outpatient clinics (American Association for Respiratory Care, n.d.-b). Many studies confirmed that qualified RTs administer respiratory therapy (RT) duties would improve patient care and decrease care costs (Becker et al., 2017).

In 1946, the University of Chicago in Illinois introduced RT as a profession (Myers, 2013). The responsibilities of RTs were different back then than they are now, and they worked as oxygen technicians to take care of the oxygen supply in hospitals. Over the years, RT had progressed from essential services to various therapeutic and diagnostic responsibilities in critical care lung disorders, such as mechanical ventilation (Kacmarek, 2013).

Although RT was initially introduced as a profession in Saudi Arabia in the mid-1970s at the military hospital in Riyadh and sent Saudis employees to study RT in the United States, the first RT department was founded in 1975 (Al-Otaibi and AlAhmari 2016). Due to the significance of RTs in critical care, government and private institutions were starting RT

programs to fulfill the increasing demand for RTs in Saudi Arabia (Alotaibi 2015). The first RT program was established in 1987 (Alotaibi 2015).

Problem Area

Burnout syndrome (BOS) is defined as a "prolonged response to chronic emotional and interpersonal stressors on the job," and it was first discovered in 1974 by Herbert Freudenberger, an American psychoanalyst (Maslach, Schaufeli et al. 2001). In 1981, burnout (BO) was further described by Maslach and Jackson as having three primary elements consisted of emotional exhaustion (EE), depersonalization (DP), and lack of personal accomplishment (PA). Emotional exhaustion was characterized by emotional energy lack and absence of motivation because of heavy work demands. Emotional exhaustion leads to DP that could develop negative feelings and dehumanization toward the subjects. Lack of PA was characterized by feeling less self-confidence, unproductivity, and dissatisfaction at work (Maslach, Schaufeli et al. 2001). Maslach Burnout Inventory (MBI), the first standardized tool and the most popular method to measure and detect the BO, is a self-assessment questionnaire that consists of 22 items, each of which is rated on a scale of 0 to 6 depending on the frequency with which the sensation addressed by the item is experienced (Maslach, Jackson et al. 1996). Additionally, according to Maslach, BO is a condition that results from a long-term mismatch between a person and at least one of the six aspects of work. First, workload: an excessive amount of labor and demands prevents recuperation. Second, control: employees do not have enough control over their resources to finish or complete their work. Third, reward: insufficient compensation for a job well done. Financial, social, and intrinsic rewards are possible (i.e., the pride one may experience when doing a job). Fourth, community: employees may not have feel-good relationships with their co-workers and supervisors, which leads to dissatisfaction and a decrease in the probability of receiving social assistance. Fifth, fairness: a person who perceives workplace inequality, such as disparity in workload and pay. Sixth, values: employees feel compelled by their work to

behave against their own beliefs and aspirations or when the organization's values clash with their own. Maslach proposed that these six work qualities were variables that lead to BO, with a decrease in employee health and job performance as BO consequences (Maslach, Schaufeli et al. 2001). Moreover, the World Health Organization (WHO) in May 2019 announced BO as an "occupational phenomenon" in the International Classification of Diseases 11th revision (ICD-11), and it was not considered as a medical case (World Health Organization, 2019). Burnout was separate from potentially related notions such as job dissatisfaction, weariness, occupational stress, and depression. Although BO was linked to these issues, it may exist in the absence of or in addition to them. Burnout was separate from depression as a work-related occurrence. The EE domain of BO had been linked to depression, while the DP and lack of PA domains of BO did not seem to be related to depression or other psychological disorders (West, Dyrbye et al. 2018).

Burnout is a condition that mainly affects doctors, nurses, and social workers, whose jobs need them to deal with continual demands and intense contact with people who have significant physical and emotional requirements. It manifested itself in two ways: seeing patients and co-workers as things rather than people and feeling EE (Balch, Freischlag et al. 2009). Burnout is an expensive issue for both employers and workers because symptoms of BO, such as decreased physical and psychological energy, relationship issues, poor judgment, cynicism, guilt, emotions of ineffectiveness, insomnia, headache, hypertension, anxiety, alcoholism, myocardial infarction, fatigue, and sadness lead to higher absenteeism and turnover rates, which have a detrimental impact on care quality (Balch, Freischlag et al. 2009, Mudallal, Othman et al. 2017). Organization factors included organizational commitment, work overload, working hours, inadequate pay, inadequate incentives, role conflict and ambiguity, poor career progression, a lack of justice, and lack of feedback. Individual factors included age, sex, marital status, work-home interference, demographic variables, personality

characteristics, job satisfaction, job withdrawal, and lack of social support. These factors were linked to BO among healthcare professionals (Aldrees, Aleissa et al. 2013, Selaihem 2013). In contrast, professional practice environment features, social support, and structural and psychological empowerment were linked to lower BO levels (Mudallal, Othman et al. 2017).

Healthcare workers who worked in ICUs and ER due to high levels of job stress were often exposed to BO (Poncet, Toullic et al. 2007). The prevalence of BO among critical care healthcare workers was more than 50% and was considered the highest rate compared to other departments. Based on this high rate, the Critical Care Societies Collaborative (CCSC) confirmed that BO significantly negatively affected healthcare quality. Therefore, the evolution of BO in healthcare workers should be addressed (Moss, Good et al. 2016).

Statement of the Problem

Respiratory therapists, as any healthcare workers, are vulnerable to job stress that leads to BO. Working in stressful areas like ICUs and ER, handling critical sick patients, and providing complete quality care for multiple patients cause EE. Despite the enormous burden that BO places on the healthcare system infrastructure, no studies have looked at the incidence of BO among RTs in Saudi Arabia specifically.

Purpose of the Study

This quantitative study aimed to determine the prevalence of BO among RTs in Saudi Arabia and identify the most potent work factor associated with BO. Additionally, the study examined the association between BO and sociodemographic data. This study also reported the association between BO and professional satisfaction.

Research Questions

The research questions aimed to find answers to the following questions:

1. What is the prevalence of burnout among Saudi Arabian RT's using the Maslach Burnout Inventory?

2. What are the associations between sociodemographic and burnout among Saudi Arabian RTs?

3. Which work factor has the strongest association with burnout among Saudi Arabian RTs?

4. Is there an association between professional satisfaction and burnout among Saudi Arabian RTs?

Significance of the Study

This research is noteworthy because it identifies the elements that contribute to BO in healthcare workers. Knowing the prevalence of BO among RTs in Saudi Arabia is crucial because RTs are valuable professionals in the quality care of the organizations. Several types of research have focused on BO in healthcare professions. However, no studies have examined the prevalence of BO among RTs in Saudi Arabia. As a result, future researchers will better grasp BO prevalence among RTs in Saudi Arabia, which will help them develop BO prevention strategies and wellness programs for RTs. Additionally, this research may increase awareness of the need for organizations to provide education and adopt policies to help healthcare employees, particularly RTs, avoid BO.

Delimitations

This study covered a population from various regions in Saudi Arabia of RTs. The findings of this study can only be generalized to this category of therapists. It excludes other healthcare workers and RT non-Saudi, interns, and students from the survey to prevent errors. Data from the therapists were utilized to answer the study questions.

Assumptions

The participants in this research are supposed to answer the questions as honestly and freely as feasible. This study assumed the information is essential since the survey respondents are all Saudi Arabian licensed RTs representing the research population.

Summary

Medical research aims to learn more about everything that potentially influences hospital quality care, such as BO. As a result, several studies have been completed to determine the prevalence of BO among healthcare personnel in various countries and identify the most work characteristic factor causing BO. The research questions to be researched and studied were presented in this chapter. The prevalence of BO among RTs in Saudi Arabia must be determined. It is critical to understand BO frequency among RTs to design BO prevention measures and wellness initiatives for these professionals.

CHAPTER II

Literature of Review

The literature review demonstrated a thorough understanding of all data used in previous researchers' studies to build a clear, strong basis for burnout (BO) among healthcare workers in different countries worldwide. The ultimate goal of the literature review was to explain the problem from several perspectives, illustrate contradictory ideas on the issue, and identify evidence gaps that highlight the need for the present investigation. Google Scholar, PubMed, Science Direct, EBSCOhost, and CINHALL were used to search the literature using a combination of keywords such as burnout syndrome, burnout, burnout and healthcare professionals, burnout and physicians, burnout and nursing, burnout and respiratory therapists, burnout and critical care professionals, and burnout in Saudi Arabia and healthcare professionals. Additional papers were discovered in the evaluated papers' referenced references. This chapter is also sorted and separated into related articles into the following categories:

· Burnout among physicians.

· Burnout among nurses.

· Burnout among critical care professionals.

· Burnout among healthcare professionals in Saudi Arabia.

· Interventions to reduce BO.

Burnout among Physicians

Physicians and other healthcare professionals were more vulnerable to BO than the general population (Arora, Diwan et al. 2013). In surveys of both doctors-in-training and practicing physicians, rates of BO symptoms that had been linked to negative impacts on patients, the healthcare staff, expenses, and physician well-being reached 50% in the United States, which was considered as a public health epidemic (West, Dyrbye et al. 2018). Physicians showed a high BO rate, which was highly subjective and varied based on the

occupational environment and the particular sample; it was calculated to range from 19 percent to 76 percent. Burnout was expected to affect 22 percent of physicians in the United States, 27 percent of physicians in the United Kingdom, 20 percent of physicians in Germany, and between 22 percent and 32 percent of physicians in Italy (Wiederhold, Cipresso et al. 2018). Additionally, older studies in Denmark and Norway showed little evidence of higher BO rates among physicians than in other occupations (West, Dyrbye et al. 2018).

A systematic review of 45 more extensive studies for physicians that used a variant of the Maslach Burnout Inventory (MBI) questionnaire to measure BO and were conducted between 1991 and 2018 fulfilled the inclusion criterion for the qualitative synthesis derived separately by three investigators. According to these studies, emotional exhaustion (EE), depersonalization (DP), and lack of personal accomplishment (PA) rates were 72.0 percent, 68.1 percent, and 63.2 percent, respectively. The frequency of EE, DP, and lack of PA ranged from 0% to 86.2 percent, 0% to 89.9%, and 0% to 87.1 percent, respectively. This systematic analysis of BO prevalence rates for practicing physicians varied significantly, as did BO concepts, measurement processes, and research consistency. These results raised the urgency of establishing a consensus concept of BO and standardizing assessment methods to determine the impact of prolonged workplace stress on physicians (Rotenstein, Torre et al. 2018).

Anesthesiology is unquestionably one of the most demanding surgical specialties, with doctors being exposed to high expectations and stressful conditions regularly, such as handling life-threatening situations (Sanfilippo, Noto et al. 2017). Since tasks required night-time hours, weekends, and festivities, the job style can be viewed as more demanding than other medical disciplines (Sanfilippo, Noto et al. 2017). Burnout in anesthesiology was identified in a systematic study that included fifteen surveys with no restrictions on function

or screening tests used. The MBI questionnaire was included in all experiments, but there were significant variations in risk stratification. Burnout prevalence ranged widely between studies. The most consistently associated BO causes were a stressed work schedule, a younger consultant, and raising children. However, no clear association existed between BO and hospital characteristics, gender, or marital status. Burnout was common among anesthesiologists at all stages of their careers, and certain risk factors were commonly mentioned. On the other hand, given the limited number of studies and the significant variations in methods and reporting approach, further research in this area was needed (Sanfilippo, Noto et al. 2017).

Orthopedic training is mentally, socially, and physically demanding, and the possible adverse effects of BO on surgeons, their patients, and healthcare organizations have piqued interest, highlighting the value of recognizing BO among orthopedic surgeons (Arora, Diwan et al. 2013). A systematic analysis with a total of eight reports looked at BO of orthopedic surgeons found that BO rates for orthopedic surgeons were in the region of 50–60%, more significant than the general population (range: 30–40%), with orthopedic residents having the most considerable prevalence (EE and DP scores), followed by department heads, and faculty members. Burnout was caused by both quantitative (caseload, practice environment, etc.) and personal (perception of unrewarding job, loss of autonomy, etc.) variables; however, individual factors had a greater connection. Despite the high rates of BO among orthopedic surgeons, little research had done in this area, and the factors that cause BO in multiple orthopedic communities should be identified. Effective measures to minimize BO should be implemented (Arora, Diwan et al. 2013).

Burnout among Nurses

Nursing is a high-risk, high-pressure career because nursing responsibilities are complex and require delivering treatment based on routine daily life and patient welfare activities and doing physical work regularly under challenging and stressful circumstances.

As a result, nursing is widely viewed as a profession with a strong chance of BO (Chang and Chan 2015, Luan, Wang et al. 2017). Nursing BO had been confirmed to be higher than most health professions due to involves the delivery of compassionate, empathetic, culturally sensitive, proficient, and spiritual treatment in working conditions with scarce resources and increasing obligations (Khamisa, Oldenburg et al. 2015). Burnout was stated to be higher among South African nurses than among nurses in other countries. South African nurses were comparable to nurses from eight countries regarding EE, DP, and lack of PA (USA, Canada, UK, Germany, New Zealand, Japan, Russia, and Armenia) (Khamisa, Oldenburg et al. 2015). Additionally, nurses in China were experiencing BO due to a severe nursing shortage, a rise in stressful workload in physical, mental, and moral tension, and relatively low pay and devaluation of the career (Li, Guan et al. 2014). Burnout may be influenced by the unit where nurses serve. The incidence of BO among nurses in various departments should be compared and identify predisposing factors that contribute to the frequency of BO (Li, Cheng et al. 2018, Monsalve-Reyes, San Luis-Costas et al. 2018). Burnout was a severe problem that affects the nursing profession and necessitates lawmakers, administrators, and practitioners (Nantsupawat, Kunaviktikul et al. 2017).

Nurses in the emergency department regularly contend with unexpected circumstances and people who might be at risk of death due to their pathologies (Gómez-Urquiza, De la Fuente-Solana et al. 2017). Emergency nurses can experience secondary traumatic stress due to this indirect trauma exposure (Gómez-Urquiza, De la Fuente-Solana et al. 2017). Furthermore, the emergency departments have been described as one of the medical specialty units where people most often harass and threaten health care providers because both reasons mean that emergency responders are at a higher risk of BO than most healthcare professions (Gómez-Urquiza, De la Fuente-Solana et al. 2017). According to reviews, BO was common in emergency nurses (Gómez-Urquiza, De la Fuente-Solana et al.

2017). A meta-analytic study for emergency nursing conducted in June 2016 with the MBI subscales of EE and DP were studied in 13 studies, while the subscale of lack of PA was studied in 11 studies that included a total of 1566 nurses were included in the study found that EE had a prevalence of 31%, DP had a majority of 36%, and lack of PA had a prevalence of 29%. A recommendation from this study was to determine the BO risk profiles of emergency nurses, work environments, and personal considerations (Gómez-Urquiza, De la Fuente-Solana et al. 2017). Another systematic search was conducted between 1997 and 2017 in emergency nurses was performed by using the MBI scale with a total of 11 eligible studies observed that high EE, high DP, and lack of PA were seen in 40.5 percent, 44.3 percent, and 42.7 percent of emergency nurses, respectively. Burnout made it difficult to provide high-quality healthcare facilities and reduces efficiency; however, it was beyond time for nursing leaders and management teams to recognize effective BO prevention strategies (Li, Cheng et al. 2018).

Preventive and remedial therapy for chronic conditions is given to pre-assigned populations of people in primary healthcare units, which differs in several ways from the attention provided in outpatient departments (Monsalve-Reyes, San Luis-Costas et al. 2018). Primary healthcare is delivered in the neighborhood that can be provided for a lengthy period. At the same time, health care in the hospital is shorter, and there is more variety among the patients (Monsalve-Reyes, San Luis-Costas et al. 2018). Although BO and its risk factors in nursing primary care workers, such as age, work seniority, anxiety, and depression, had previously been studied, the prevalence outcomes recorded by the studies differ significantly, with some writers reporting a high level of EE of 5,2 percent and others reporting 31,3 percent. High DP and lack of PA provided similar results, with some writers writing 92.8% of the sample having lack of PA and others saying just 4.3% of the sample having lack of PA. As a result, determining the actual effect of BO on primary care nurses was complex

(Monsalve-Reyes, San Luis-Costas et al. 2018). In September 2017, a meta-analysis of eight studies with a total sample of 1110 primary care nurses found that lack of PA was the most widely affected dimension of BO in primary care nurses, with lack of PA being present in 31% of the sample, followed by EE in 28% of the sample. In contrast, low DP was the least widely affected dimension of BO in primary care nurses, with 15% of the sample (Monsalve-Reyes, San Luis-Costas et al. 2018).

Burnout among Critical Care Professionals

The Intensive Care Unit (ICU) is distinct in terms of the range of hospital facilities offered (Chuang, Tseng et al. 2016). A critical care staff, including intensivists, critical care nurses, pharmacists, respiratory therapists (RTs), and other medical practitioners, provides medical care in ICUs (Chuang, Tseng et al. 2016). ICU admission is possible for those with life-threatening illnesses (Chuang, Tseng et al. 2016). Critical care patients had been expected to have a mortality rate ranging from 10% to 29% (Chuang, Tseng et al. 2016). The job environment and workload influenced BO (Poncet, Toullic et al. 2007). For patients, families, and healthcare staff, an ICU might be a traumatic environment (van Mol, Kompanje et al. 2015). According to an increasing body of evidence, BO among ICU nurses and physicians appears to be a notable consequence of the stressful and consistently high-stress job climate (van Mol, Kompanje et al. 2015). End-of-life questions, rational decision-making, witnessing patients' constant pain, unnecessary treatment or medical futility, miscommunication, and demanding families of patients had been proposed to impact ICU practitioners emotionally (van Mol, Kompanje et al. 2015). Furthermore, ICU patients often lack decision-making capacity; thus, healthcare workers depend on family contact to make decisions, which may cause the communication phase more difficult (van Mol, Kompanje et al. 2015). Moreover, the ICU job climate had been more scientific, necessitating specialized knowledge of advanced life-sustaining medical therapies, both of which may be stressful (van Mol, Kompanje et al. 2015). Burnout had been found to occur at an incredibly high pace in

this demographic, with at least 50% of ICU practitioners ranking high on BO metrics (Moss, Good et al. 2016).

The relative scarcity of urgent care doctors and the need for overnight ICU coverage had raised physician perception and appreciation of BO (Moss, Good et al. 2016). Burnout was often prevalent in critical care physicians (Moss, Good et al. 2016). Symptoms of extreme BO were identified by up to 45 percent of critical care doctors (Moss, Good et al. 2016). Burnout was more than twice as typical in pediatric critical care doctors than in general pediatricians, with a frequency of 71 percent (Moss, Good et al. 2016). Critical care doctors had the most significant incidence of BO compared to other physicians, followed by emergency medical doctors (Moss, Good et al. 2016).

A study was conducted to determine the degree of BO in physicians operating in ICUs in French public hospitals and the causes that contribute to it (patients or organization) (including interns, residents, fellows, and attending physicians), with a total of 189 ICUs took part, with 978 surveys returned (82.3 percent response rate). Additionally, in 46.5 percent of the respondents, there was a substantial degree of BO. Although the model did not have any variables relating to the seriousness of patients' illnesses, operational factors were closely linked to a higher MBI ranking. Workload (number of night shifts a month, duration after the last non-working week, night shift the day before the survey) and strained relationships (such as tension with another intensivist and/or with a nurse) were all separately linked to a higher MBI score. On the other hand, the consistency of partnerships with head nurses and nurses was related to a lower MBI ranking. Around half of the intensivists were burned out to a high degree, and BO tended to be linked to organizational causes but not patient-related factors (Embriaco, Azoulay et al. 2007).

As early as 1987, high rates of severe BO in ICU nurses were recorded (Poncet, Toullic et al. 2007). Several reports had looked at the presence of BO among critical care

nurses, and nurses in critical care had a lot of work to do, a lot of commitments, and just a little power. They must look after infirm patients, perform operations correctly, and react quickly to emergencies, with their ethical area of work also limits their right to make medical or clinical judgments. These influences and personal and work-related problems had been described as the primary causes of BO (Losa Iglesias, Becerro de Bengoa Vallejo et al. 2010). According to several surveys, 25–33 percent of critical care nurses had severe BO symptoms, with up to 86 percent having at least one of the three typical signs. Critical care nurses were more likely than other nurses to undergo BO. Emotional exhaustion (73%) was the most frequent symptom of BO in critical care nurses, accompanied by a sense of lack of PA (60%) and DP (48%) (Moss, Good et al. 2016). Furthermore, International findings had been shown that workplaces with healthier practice environments, more efficient management, good nurse-physician partnerships, and better nurse-to-patient staffing ratios were positively correlated with lower levels of nurse BO. Since critical care nurses were more likely to experience high turnover, work frustration, and BO (Klopper, Coetzee et al. 2012).

A questionnaire study in France was performed in 165 of the 278 ICUs contacted for the analysis had 2,525 nursing staff members, with 2,392 returning questionnaires with full MBI results. The result found that BO was present in one-third of the ICU nursing employees, with 790 (33%) respondents having severe BO symptoms. Four domains were correlated with extreme BO in multivariate analysis: (1) personal traits, such as age. (2) organizational considerations, such as the right to choose days off or membership in an ICU study community. (3) job partnership satisfaction, such as patient issues, relationship with head nurse or doctors. (4) end-of-life causes, such as caring for a sick patient and the number of choices to forego life-sustaining procedures in the previous week (Poncet, Toullic et al. 2007).

Burnout is a significant challenge in health care, but the prevalence of BO had not been assessed in practicing respiratory therapists (RTs). A study was conducted between January and March 2021 at 26 sites throughout the United States to assess BO and leadership dimensions among RTs. The survey was sent out to 3,010 RTs, with a 37 percent response rate. Burnout was indicated by 79% of respondents, with 10% having severe BO, 32% having moderate BO, and 37% having mild BO. During the COVID-19 epidemic, RTs experienced a lot of BO. Burnout was linked with insufficient personnel, inability to finish tasks, and a BO environment, whereas good leadership was protective against BO (Miller, Roberts et al. 2021).

Burnout among Healthcare Professionals in Saudi Arabia

The healthcare system in Saudi Arabia had seen significant changes in structure, scale, breadth, coverage, technology, and the unavoidable influence of greater globalization trends (Batayneh, Ali et al. 2019). Nonetheless, there had only been a few studies documenting BO in Saudi Arabia (Aldrees, Hassouneh et al. 2017). It was critical to determine the incidence of BO in Saudi Arabia to establish measures to address the issue (Alotaibi, Alsalim et al. 2019). The Ministry of Health in Saudi Arabia was working hard to increase the efficacy of health workforce measures to sustain practitioners' well-being and reduce the rate at which they quit the profession (Batayneh, Ali et al. 2019).

Among physicians in Saudi Arabia, the primary two studies were conducted in Jeddah, the first in 2003 with the primary goal of order to estimate the prevalence of BO among both family medicine residents and practicing family physicians in the Joint Program of Family and Community Medicine in Jeddah with a sample size of 88 physicians; it revealed that the prevalence of BO among family medicine residents and postgraduation family physicians in the Joint Program of Family and Community Medicine in Jeddah was higher than the national average. Sixty-three percent of doctors said they were emotionally

exhausted. Burnout was shown to be linked to a lack of family support, supervisor support, and leisure activities (Selaihem 2013). In 2008, a second study was conducted among physicians with a sample size of 373 doctors, and the primary goal was to determine BO among Saudi women doctors solely working at the ministry of health facilities in Jeddah city. Burnout was found to be prevalent in 7.3 percent of the population. Approximately 66.7 percent of female doctors were found to be in a condition of extreme EE, 47.8% were DP, and 33.3 percent had a lacking sense of PA (Selaihem 2013). Recently a study of plastic surgery residents found a significant level of BO (71 percent with a high degree of BO on the EE scale). Physician BO had been linked to medical mistakes and poor patient care (Aldrees, Hassouneh et al. 2017). Furthermore, BO was reported by 47 percent of plastic surgery residents in Saudi Arabia. Burnout was also reported by 45 percent of otolaryngology residents. Half of the orthopedic residents in the eastern province and one-third of Jeddah's pediatricians scored high on EE (Alotaibi, Alsalim et al. 2019).

In nursing in Saudi Arabia, there was little knowledge of BO and study on the occurrence and causes of BO (Batayneh, Ali et al. 2019). Haifa in 2010, collected data using the MBI, a validated survey created by Maslach in 2006. Thirty-seven female Saudi nurses working at a tertiary center answered, and despite the modest size of the survey, it revealed that 70% of the nursing staff was BO. Al-Turki et al., in 2010, wanted to see how much each of the three BO aspects affected 198 foreign nurses working in the same Saudi Arabian hospital. According to the findings, 46% of participating nurses had high EE levels, 42% had high levels of DP, and 28% had low levels of lack of PA (Batayneh, Ali et al. 2019). According to Al-Turki et al, nurses working in the wards had much greater EE and DP than nurses working in critical areas such as operating rooms (Batayneh, Ali et al. 2019). Moreover, in 2012, 158 nurses participated in a study at Tabuk Military Hospital, with the findings revealing a 75.9% frequency of BO (Habadi, Alfaer et al. 2018). When nurses

became too stressed, proper measures must be taken to ensure that their practice's quality and safety are not jeopardized (Alharbi, Wilson et al. 2016). The nurses' well-being and patient safety were the two key concerns in this situation, both of which were jeopardized when nurses experienced considerable BO. As a result, BO was a crucial factor to investigate in Saudi Arabia, where past research on this phenomenon has been limited (Alharbi, Wilson et al. 2016).

Intervention to Reduce Burnout

Physician-directed interventions aimed at individuals and organization-directed interventions aimed at the working environment were the two significant types of BO interventions (Panagioti, Panagopoulou et al. 2017). Mindfulness or cognitive-behavioral methods were often used in physician-directed interventions to improve work competence, communication skills, and personal coping mechanisms. Simple schedule adjustments, workload reductions, and more ambitious changes to practices and whole health care organizations were examples of organization-directed interventions. Improved collaboration, modifications in work assessment, supervision to decrease job demand and increase job control, and more involvement in decision-making were typical examples (Panagioti, Panagopoulou et al. 2017).

Although several interventions had been examined in a variety of occupations, including carers and healthcare workers, it is still unclear whether interventions were successful. Individual interventions provided results that were likely internally valid, but they may lack generalizability due to the absence of randomization. The current evidence on physician BO interventions was inadequate to suggest specific interventions (Wiederhold, Cipresso et al. 2018).

Organization-directed interventions were intended to address the root causes of work stress and were anticipated to have long-term effects. This kind of intervention attempted to decrease tensions by implementing work processes such as task restructuring, work assessment, and supervision to lower job demand, improve job control, or increase decision-making involvement. Physicians' work hours were decreased in several initiatives to prevent BO. Even though the quality of patient treatment did not improve and there were some worries regarding the time spent on their formation and their connection with patients, these studies had shown that doctors who followed the programs were more pleased with their work and were considerably less tired. Increased social support within an oncology team has also been proven to reduce BO. Communication training amongst nursing team members had also been found to be an effective intervention for BO prevention. Maintaining an effective and suitable connection among team members seemed to reduce BO by teaching emotional awareness and emotional management skills. To guarantee doctors' well-being, hospitals have created a range of programs to address various personal and professional problems. Some organizations had implemented cognitive-behavioral training on multiple topics, including time management, relaxation techniques, focused breathing, meditation methods, self-awareness training, and support for a healthy work environment (Wiederhold, Cipresso et al. 2018).

While organization-directed interventions aimed to achieve long-term changes through the reorganization of the work environment, individual interventions could be adapted for those already in the process of BO. We must remember that BO symptoms persist over time and contribute to stress-related health issues, reduced work performance, and, as a result, worse patient care quality (Wiederhold, Cipresso et al. 2018).

Individual interventions were mainly focused on improving work abilities and coping skills and improving resilience via enhanced emotional regulation and relaxation activities. Studies involving participants in a harmful emotion training program had proven to help reduce negative affect and boost positive affect in various diseases, including anxiety, depression, and work stress. Regrettably, there is currently no unanimity (Wiederhold, Cipresso et al. 2018).

Twenty independent comparisons from 19 trials were included in the meta-analysis found that physician interventions were linked to modest but substantial decreases in BO. When compared to physician-directed interventions, organization-directed interventions had a more significant therapeutic impact. Although there was evidence that therapies targeting experienced doctors and provided in primary care were more successful than programs targeting less experienced physicians and given in secondary care, the differences between the two groups were not significant (Panagioti, Panagopoulou et al. 2017).

CHAPTER III

Methodology

In this study, the researcher explored the occurrence of burnout (BO) among Respiratory Therapists (RTs) in Saudi Arabia. The researcher used the Maslach Burnout Inventory (MBI) questionnaire to investigate the prevalence of BO among RTs working in multi hospitals of Saudi Arabia. This chapter demonstrated a review of the methods and procedures used to conduct this study.

Research Questions

The research questions aimed to find answers to the following questions:

1. What is the prevalence of burnout among Saudi Arabian RT's using the Maslach Burnout Inventory?
2. What are the associations between sociodemographic and burnout among Saudi Arabian RTs?
3. Which work factor has the strongest association with burnout among Saudi Arabian RTs?
4. Is there an association between professional satisfaction and burnout among Saudi Arabian RTs?

Instrumentation

The researcher used a 36-item survey to investigate the prevalence of BO among RTs working in Saudi Arabia. The survey consisted of the MBI questionnaire, which is the most commonly used self-assessment tool to determine the risk of BO. It was designed and structured by Maslach and Jackson (Maslach, Schaufeli et al. 2001). Maslach Burnout Inventory is a seven-point Likert scale of 22 items self-reported (0=never, 6=every day) and consists of three subscales: nine questions evaluate emotional exhaustion (EE) (a drained, exhausted sensation resulting from excessive psychological and emotional demands); five questions estimate depersonalization (DP) (a propensity to see others in an overly distant, impersonal way); and eight questions evaluate lack of personal accomplishment (PA) (a sense

of competence and accomplishment) (Maslach, Schaufeli et al. 2001). The permission and licenses were obtained from Mindgarden to use the copyrighted measure for this online research can be found in appendix A. The second part of the survey contained three yes or no questions and one multiple-choice to know the work characteristics associated with BO and dimensions of professional satisfaction. The third part of the survey consisted of sociodemographic questions that included age, gender, marital status, geographical location, type of hospital, educational level, experience in a year, working hours, duty shift, and the specific role of the RTs (Appendix B). Because English is the primary language at our multi-cultural hospitals, and all participants are expected to be proficient in English, the English version of the questionnaire was utilized.

Research Design

This study consisted of a cross-sectional electronic survey distributed via social media (Twitter RT accounts, Snapchat RT accounts, WhatsApp RT groups, and Telegram RT groups).

Study Sample

This study sample consisted of a convenience sample that included RTs working either at public or private hospitals in Saudi Arabia. Participants were provided the survey with an invitation cover letter explaining the primary purpose of this study and assuring them of confidentiality. The survey was distributed through an online link in a tweet on the Tweeter™ app was tweeted by the student investigator and got 107 retweets and 53 likes. RT celebrities retweet about the study during the first week and the following week of distributing the survey. A total of 80 messages were sent to Saudi RTs through WhatsApp™. A total of 236 responses were able to be used in data analysis, and six responses were refused to participate in the study. The inclusion criteria were that all qualified and accredited RTs worked in Saudi Arabia with a diploma, bachelor's, master's, or doctoral degrees. In contrast,

other health care providers, such as nurses, physicians were excluded. Additionally, RT non-Saudi, interns and students were excluded.

Protection of Human Subject

Georgia State University Institutional Review Board (IRB) reviewed the research proposal to protect human subjects' rights. This research proposal was approved by the Georgia State University Institutional Review Board (H22039) (Appendix C).

Procedure

After receiving IRB approval, the survey link was administered to the social media websites. To improve the response rate, a reminder was sent to the RTs one week after the initial distribution (Cook, Wittich et al. 2016).

Informed Consent and Invitation Letter

All participants in this research got an electronic invitation letter with informed consent, which was presented on the first page of the survey. Each participant must read the initiation and agree to participate before proceeding to the survey. If a subject refuses to participate in the research, the survey was terminated immediately without further action. The informed consent and invitation letter for this study can be found in appendix D.

Ethical Considerations

A password excel file was generated from the Google survey results to guarantee the security and confidentiality of the gathered data. There was no collection of personally identifying information. Only the principal investigator (Dr. Gardenhire, thesis chair) and the student investigator accessed that file.

Data Collection

The survey was conducted online using Google Forms, linked to the study being shared on social media platforms (Twitter, Telegram, Snapchat, and WhatsApp).

Data Analysis

Statistical Package for the Social Sciences (SPSS) version 27.0, SPSS Inc. in Chicago, IL, will be used to verify, clean, modify and analyze the raw data once it is collected. All

sociodemographic data were subjected to descriptive statistical analysis. Continuous variables provided means and standard deviations, whereas categorical variables yielded numbers and percentages. For examining comparisons between two continuous variables, independent samples T-Tests were used to assess the relationship between each sociodemographic factor and the degree of BO. Additionally, a one-way ANOVA test was used for factors with more than two variables. Independent samples T-Tests were also calculated to investigate the association between professional satisfaction and BO. Statistical significance was defined as a *p* value of less than 0.05.

Summary

This chapter described the instrument, sample description, inclusion and exclusion criteria, informed permission, IRB approval, and data analysis. The participants were assured that the survey would not damage them. The study's primary goal was to look at the incidence of BO among RTs in Saudi Arabia. After data collection, a statistical analysis was performed to determine the prevalence of BO.

CHAPTER IV

Results

The purpose of this chapter was to evaluate the prevalence of burnout (BO) among respiratory therapists (RTs) in Saudi Arabia and identify the work factors most strongly associated with BO. Additionally, this study sought to examine the association between BO and sociodemographic data and professional satisfaction.

Research Questions

The research questions aimed to find answers to the following questions:

1. What is the prevalence of burnout among Saudi Arabian RT's using the Maslach Burnout Inventory?
2. What are the associations between sociodemographic and burnout among Saudi Arabian RTs?
3. Which work factor has the strongest association with burnout among Saudi Arabian RTs?
4. Is there an association between professional satisfaction and burnout among Saudi Arabian RTs?

Sociodemographic Findings

The study included a convenience sample of RTs in Saudi Arabia. A total of 236 respondents were surveyed, and 6 respondents were refused to participate. The majority of the respondents were male n=130 (55.1%), single n=140 (59.3%), and lived in the central region n=136 (57.6%). The age of the participating RTs in the study ranged from 20 to 58 years, with an average of 28.5 years (SD±5.08). Significantly, more than three-quarters of participants had a bachelor-level respiratory therapy qualification, worked in critical care (ICU and ER), and worked 12 hours per day. The mean career experience was 4.22 years and ranged from 1 to 26 years. More than half of the respondents worked in their shift as an alternative between day and night. The sociodemographic characteristics of the participating RTs are summarized in table 1.

Table 1: Sociodemographic characteristics of the study sample of 236 RTs

Sociodemographic Characteristics		N (%)
Age (years)	Mean (±SD)	28.5 (±5.08)
	Min/ Max	20/58
Gender	Male	130 (55.1%)
	Female	106 (44.9%)
Marital Status	Single	140 (59.3%)
	Married	96 (40.7%)
Region	Central Region	136 (57.6%)
	Eastern Region	40 (16.9%)
	Northern Region	7 (3.0%)
	Southern Region	20 (8.5%)
	Western Region	33 (14.0%)
Type of Hospital	Ministry of Health Hospital	116 (49.2%)
	Non-ministry	92 (39.0%)
	Private Hospital	28 (11.9%)
Educational Level	Diploma	13 (5.5%)
	Bachelor	188 (79.7%)
	Master	33 (14.0%)
	Doctoral	2 (0.8%)
Years of Experience (years)	Mean SD	4.22 (±4.17)
	Min/ Max	1/26
Role	Administration	10 (4.2%)
	Education	18 (7.6%)

	Critical Care (ICU and ER)	187 (79.2%)
	Non-critical Care	10 (4.2%)
	Outpatient	4 (1.7%)
	Others	7 (3.0%)
Hours Per Day (hrs)	12 hrs	190 (80.5%)
	8 hrs	46 (19.5%)
Shift	Day	79 (33.6%)
	Night	21 (8.9%)
	Alternative	136 (57.6%)

Findings Related to Research Question 1

The study's primary aimed to determine the prevalence of BO among RTs in Saudi Arabia. The first research question asked, " What is the prevalence of burnout among Saudi Arabian RT's using the Maslach Burnout Inventory?" RTs answered this research question via 22 items on a 7-points scale ranging from 0 "Never" to 6 "Every Day." The scores of the Maslach Burnout Inventory (MBI) on details were tabulated in table 2.

Table 2: Maslach Burnout Inventory (MBI) scoring*

Categorization	High	Moderate	Low
EE	27 or over	17-26	0-16
DP	13 or over	7-12	0-6
PA	39 or over	32-38	0-31

*Ref: MBI third edition.

EE: Emotional Exhaustion, DP: Depersonalization, PA: Personal Accomplishment

In this study, the Saudi Arabian RTs exhibited a high emotional exhaustion (EE) level with a mean of 31.97 (SD ±12.24). Regarding depersonalization (DP), the data analysis showed that RTs had a moderate level with a mean of 11.39 (SD ±6.49). Participants also

experienced moderate levels of lack of personal accomplishment (PA) with a mean of 33.58, (SD ±8.14). Additionally, the reliability coefficients (Cronbach's alpha) for the three subscales ranged from 0.64 to 0.87 in this study. The prevalence of BO among RTs in Saudi Arabia is demonstrated in table 3.

Table 3: The prevalence of BO among RTs in Saudi Arabia (N=236).

Categorization	Mean	±SD	Cronbach's alpha
EE	31.97	±12.24	.87
DP	11.39	±6.49	.64
AP	33.58	±8.14	.73

EE: Emotional Exhaustion, DP: Depersonalization, PA: Personal Accomplishment

More than half n=161 (68.2%) of the RTs scored higher than 27 for EE. Nearly n=100 (42%) of the RTs scored higher than 13 for DP. However, n=87 (36.9%) of the RTs had low scores on lack of PA less than 31. The frequency and percentage of BO among RTs in Saudi Arabia were listed in table 4.

Table 4: The frequency and percentage of BO among RTs in Saudi Arabia (N=236).

Categorization	N (%)		
	High	Moderate	Low
EE	161 (68.2%)	43 (18.2%)	32 (13.6%)
DP	100 (42.4%)	74 (31.4%)	62 (26.3%)
PA	79 (33.5%)	70 (29.7%)	87 (36.9%)

EE: Emotional Exhaustion, DP: Depersonalization, PA: Personal Accomplishment

Findings Related to Research Question 2

The second question asked, " What are the associations between sociodemographic and burnout among Saudi Arabian RTs?" Data results depending on the T-test were listed in

table 5, including sociodemographic data for two variables only, EE, DP, PA, the mean score, and standard deviation of all RTs.

The age of the RTs showed a significant association with DP (T= 2.40, p =0.017). Around n=186 (78.9%) of the young RTs had a high of DP with a mean of 11.91 (±6.41) in comparison with older RTs 9.46 (±6.48).

The gender of the RTs was associated with DP (T= 2.04, p =0.042). More than half of male RTs n=130 (55.1%) had a high of DP with a mean of 12.15 (± 7.07) contrasted with female RTs 10.47 (±5.58).

There was a significant association of work hours with the burnout dimensions of EE (T= 3.88, p=0.000) and DP (T= 3.07, p = 0.002). More than three-quarters of participants n=190 (80.5%) who worked for 12 hrs per day had a high of EE with a mean of 33.45 (±11.87), and a high of DP with a mean of 12.02 (±6.47) compared to the RTs who worked for 8 hrs per day.

Table 5: The association of sociodemographic data with BO.

Sociodemographic Characteristic		N= 236 (%)	EE Mean (± SD)	DP Mean (± SD)	PA Mean (± SD)
Age (years)	20-30	186 (78.9%)	32.67 (±12.07)	11.91 (±6.41)	33.52 (±8.18)
	>31	50 (21.1%)	29.38 (±12.63)	9.46 (±6.48)	33.84 (±8.09)
	T-test		T= 1.69, *p*= 0.091	T= 2.40, *p*= 0.017*	T= -0.24, *p*= 0.80
Gender	Male	130 (55.1%)	30.56 (± 12.66)	12.15 (± 7.07)	32.69 (± 7.99)
	Female	106 (44.9%)	33.70 (±11.53)	10.47 (±5.58)	34.68 (±8.23)
	T-test		T=-1.97, *p*=0.050	T= 2.04, *p*= 0.042*	T= -1.88, *p*= 0.061
Marital Status	Single	140 (59.3%)	32.39 (±12.36)	11.55 (±6.50)	33.14 (±8.59)
	Married	96 (40.7%)	31.37 (±12.11)	11.17 (±6.49)	34.23 (±7.45)
	T-test		T= 0.62, *p*= 0.53	T= 0.43, *p*= 0.66	T= -1.01, *p*= 0.31

Years of Experience (years)	1-5	177 (75%)	31.39 (±11.96)	11.38 (±6.44)	33.58 (±7.96)
	>6	59 (25%)	32.11 (±13,17)	11.44 (±6.68)	33.59 (±8.75)
	T-test		T= -0.10, *p*= 0.92	T= -0.05, *p*= 0.95	T= -0.00, *p*= 0.99
Hours Per Day (hrs)	12 hrs	190 (80.5%)	33.45 (±11.87)	12.02 (±6.47)	33.51 (±8.01)
	8 hrs	46 (19.5%)	25.86 (±11.97)	8.80 (±5.94)	33.91 (±8.76)
	T-test		T= 3.88, *p*=0.000*	T= 3.07, *p*= 0.002*	T= -0.30, *p*=0.76

*: Significant

EE: Emotional Exhaustion, DP: Depersonalization, PA: Personal Accomplishment

A one-way ANOVA test evaluated the association of sociodemographic data for more than two variables with three dimensions of burnout, including EE, DP, lack of PA among all RTs, which were scheduled in table 6.

An association was considerably noticed among RTs' role with EE (F= 3.44, *p*= 0.005). RTs who worked in critical care had a high mean of EE 36.00 (±13.34). In contrast, a low mean of EE 20.20 (±13.75) was noticed among RTs who worked in administration.

Additionally, the lack of PA was associated with the shift schedule of the participants (F= 6.16, *p*= 0.002). RTs who worked at day shift had a low mean 31.96 (±9.23) in a lack of PA. However, RTs who worked at night shift had a high mean 38.80 (±5.66) in a lack of PA.

Table 6: The association of sociodemographic data with BO.

Sociodemographic Characteristic		N= 236 (%)	EE Mean (± SD)	DP Mean (±SD)	PA Mean (± SD)
Region	Central	136 (57.6%)	33.52 (±11.59)	11.82 (±6.56)	33.79 (±8.20)
	Eastern	40 (16.9%)	30.57 (±12.10)	11.27 (±7.41)	33.42 (±8.23)
	Northern	7 (3.0%)	33.00 (±11.95)	13.42 (±5.28)	36.14 (±4.41)
	Southern	20 (8.5%)	29.10 (±10.15)	10.95 (±5.93)	35.95 (±8.84)

	Western	33 (14.0%)	28.84 (±14.25)	9.63 (±5.41)	30.96 (±7.67)
	ANOVA		F= 1.51, *p*= 0.19	F= 0.95, *p*= 0.43	F= 1.48, *p*= 0.20
Type of Hospital	MOH	116 (49.2%)	31.79 (±12.22)	11.42 (±6.17)	34.45 (±8.17)
	Non-MOH	92 (39.0%)	32.60 (±12.97)	11.46 (±7.13)	32.60 (±8.28)
	Private	28 (11.9%)	30.67 (±9.93)	11.07 (±5.72)	33.21 (±7.41)
	ANOVA		F= 0,29, *p*= 0.74	F= 0.04, *p*= 0.96	F= 1.35, *p*= 0.25
Education Level	Diploma	13 (5.5%)	35.76 (±14.60)	13.61 (±7.79)	33.69 (±12.15)
	Bachelor	188 (79.7%)	32.38 (±11.86)	11.65 (±6.32)	33.67 (±7.78)
	Master	33 (14.0%)	29.12 (±12.97)	9.48 (±6.55)	32.66 (±8.63)
	Doctoral	2 (0.8%)	16.50 (±0.70)	4.00 (±1.41	40.50 (±0.70)
	ANOVA		F= 2.18, *p*= 0.09	F= 2.47, *p*= 0.06	F=0.62, *p*= 0.60
Role	Administration	10 (4.2%)	20.20 (±13.75)	8.50 (±6.39)	32.80 (±14.05)
	Education	18 (7.6%)	27.27 (±13.51)	11.55 (±8.10)	29.38 (±9.23)
	Critical Care	187 (79.2%)	36.00 (±13.34)	13.25 (±8.61)	32.00 (±8.04)
	Non-critical	10 (4.2%)	28.40 (±13.45)	13.40 (±6.86)	33.60 (±6.56)
	Outpatient	4 (1.7%)	33.33 (±11.34)	11.42 (±6.11)	34.09 (±7.62)
	Others	7 (3.0%)	27.57 (±17.58)	10.57 (±10.48)	32.85 (±9.87)
	ANOVA		F= 3.44, *p*= 0.005*	F= 0.67, *p*= 0.64	F= 1.16, *p*= 0.32
Shift	Day	79 (33.6%)	29.45 (±12.34)	10.34 (±5.90)	31.96 (±9.23
	Night	21 (8.9%)	34.61 (±10.65)	11.57 (±5.26)	38.80 (±5.66)
	Alternative	136 (57.6%)	33.03 (±12.25)	11.98 (±6.93)	33.72 (±7.46)
	ANOVA		F= 2.71, *p*= 0.06	F= 1.61, *p*= 0.20	F= 6.16, *p*= 0.002*

*: Significant, MOH: Ministry of Health

EE: Emotional Exhaustion, DP: Depersonalization, PA: Personal Accomplishment

Findings Related to Research Question 3

The third question asked, " Which work factor has the strongest association with BO among Saudi Arabian RTs?". Around half of the RTs believed that "excessive workload and demands" was the most work characteristic factor associated with BO with (45.8 %) n=108. In comparison, "insufficient control over the resources needed to complete tasks" was the minor work characteristic factor associated with BO with (4.7 %) n=11. Table 7 illustrates the work characteristic factors associated with BO among RTs.

Table 7: Work characteristic factors associated with BO among RTs. (N=236).

Work Characteristic	N (%)
Excessive workload and demands	108 (45.8%)
Conflict in values	16 (6.8%)
Lack of adequate reward	48 (20.3%)
Absence of positive communication	28 (11.9%)
Absence of fairness	25 (10.6%)
Insufficient control over the resources needed to complete tasks	11 (4.7%)

Findings Related to Research Question 4

The fourth question asked, " Is there an association between professional satisfaction and burnout among Saudi Arabian RTs?" Responses to three survey questions regarding professional satisfaction were presented in table 8.

Work-life balance was associated with EE (T=10.97, P=0.000) and DP (T=5.67, P=0.000). Around 63.6% of the RTs were not satisfied with their work-life balance had a high of EE with a mean of 37.38 (SD±9.92) and a high of DP with a mean of 13.12 (SD±6.22).

There was a significant association of current job satisfaction with EE (T=7.99, P=0.000), DP (T=5.08, P=0.000), and lack of PA (T=-3.35, P=0.001). More than half of the

RTs were not satisfied with their current job had a high of EE with a mean of 37.22 (SD±10.65), a high of DP with a mean of 13.29 (SD±6.22), and a low mean in lack of PA with a mean of 31.97 (SD±7.55).

An association was noticed for the participants' monthly income with EE (T=2.49, P=0.013). There was a high prevalence percentage of 75% of the RTs unsatisfied with their monthly income had high EE with a mean of 33.11 (SD±11.72).

Table 8: The association of professional satisfaction with BO.

Professional Satisfaction		N= 236 (%)	EE Mean (± SD)	DP Mean (±SD)	PA Mean (± SD)
Work-life Balance	Yes	86 (36.4%)	22.55 (±10.03)	8.38 (±5.83)	33.95 (±8.91)
	No	150 (63.6%)	37.38 (±9.92)	13.12 (±6.22)	33.38 (±7.69)
		T-test	T=10.97, P=0.000*	T=5.67, P=0.000*	T=-0.51, P=0.60
Current Job	Yes	109 (46.2%)	25.87 (±11.12)	9.19 (±6.10)	35.46 (±8.43)
	No	127 (53.8%)	37.22 (±10.65)	13.29 (±6.22)	31.97 (±7.55)
		T-test	T=7.99, P=0.000*	T=5.08, P=0.000*	T=-3.35, P=0.001*
Monthly Income	Yes	59 (25%)	28.57 (±13.23)	11.23 (±6.56)	34.66 (±8.29)
	No	177 (75%)	33.11 (±11.72)	11.45 (±6.48)	33.66 (±8.09)
		T-test	T=2.49, P=0.013*	T=0.22, P=0.82	T=-1.16, P=0.24

*: Significant

EE: Emotional Exhaustion, DP: Depersonalization, PA: Personal Accomplishment

Summary

This chapter presented the results from the data received in assisting in answering the research questions. Two hundred thirty-six students (N=236) were surveyed in this study. The majority of the respondents were male n=130 (55.1%), single n=140 (59.3%), and lived in the central region n=136 (57.6%). The age of the participating RTs in the study ranged

from 20 to 58 years, with an average of 28.5 years (SD±5.08). The results revealed that RTs had a high level of EE with a mean of 31.97. Regarding DP and lack of PA, the data analysis showed that RTs had a moderate level with a mean of 11.39 for DP and 33.58 for lack of PA.

Young RTs, male RTs, and 12 hrs of work per day were associated considerably with a high mean of DP. There was a significant association of the high mean of EE with RTs who worked in critical care and RTs who worked for 12 hrs per day. Additionally, RTs who worked on the day shift were associated with a low mean on lack of PA. "Excessive workload and demands" is the most work distinguishing factor among RTs associated with BO with 45.8 percent.

Moreover, many RTs had a high mean of EE and DP because they were dissatisfied with their work-life balance. More than half of the RTs were dissatisfied with their current job had a high mean of EE, DP, and a low mean of PA. The majority of RTs who were dissatisfied with their monthly income had a high mean of EE.

CHAPTER V

Discussion

The purpose of this chapter was to go through the results from Chapter VI. The chapter includes six major parts: an overview of the study, discussion of results, implications for future research, recommendations for future research, limitations, and conclusion.

Overview of the Study

The purpose of this study was to answer four questions regarding the prevalence of burnout (BO) among respiratory therapists (RTs) in Saudi Arabia (SA), the association between burnout with sociodemographic data, and professional satisfaction. Additionally, identify the most work characteristic factor associated with BO. The following research questions guided the study:

1. What is the prevalence of burnout among Saudi Arabian RT's using the Maslach Burnout Inventory?
2. What are the associations between sociodemographic and burnout among Saudi Arabian RTs?
3. Which work factor has the strongest association with burnout among Saudi Arabian RTs?
4. Is there an association between professional satisfaction and burnout among Saudi Arabian RTs?

Discussion

The first question asked, "What is the prevalence of burnout among Saudi Arabian RT's using the Maslach Burnout Inventory?" This research question's overall findings revealed that RTs had a high emotional exhaustion (EE) level, a moderate level of depersonalization (DP), and moderate levels of lack of personal accomplishment (PA). Emotional exhaustion was generally considered the most predictive of BO from the three subscales (Maslach and Leiter 2016). This was consistent with a survey conducted in the United States among RTs confirmed that seventy-nine percent of RTs reported BO, 10% with

severe, 32% with moderate, and 37% with mild BO (Miller, Roberts et al. 2021). The result of this study was consistent with multiple studies in different countries that confirmed BO was prevalent among critical care healthcare professionals at a rate of more than 50%, the highest incidence compared to other departments (Moss, Good et al. 2016). Furthermore, a few research studies on BO among healthcare professionals in Saudi Arabia (Al-Omari, Al Mutair et al. 2020).

More than half of the RTs (68.2%) scored high for EE. Nearly of the RTs (42%) scored high for DP. These findings were compatible with a study of critical care nurses that found EE was (73%), and DP (48%) (Moss, Good et al. 2016). Respiratory therapists had low scores on lack of PA, around (36.9%). In contrast, critical care nurses had a high percentage of lack of PA, about (60%) (Moss, Good et al. 2016). The frequency of EE, DP, and lack of PA ranged from 0% to 86.2 percent, 0% to 89.9%, and 0% to 87.1 percent, respectively (Rotenstein, Torre et al. 2018).

The reliability coefficients (Cronbach's alpha) for the three subscales ranged from 0.64 to 0.87 in this study. The findings of Maslach & Jackson, who reported the Cronbach's alpha values that ranged from .71 to .90 in a study of 1316 respondents (Maslach, Jackson et al. 1996). The allowable alpha values range from 0.70 to 0.95, according to various sources. A low alpha value may be caused by a few numbers of questions, weak item inter-relatedness, or heterogeneous constructs (Tavakol and Dennick 2011).

The second question asked, "What are the associations between sociodemographic and burnout among Saudi Arabian RTs?" The total results of this study question showed that age, gender, RTs' role, hours of work, and shift schedule had a significant association with burnout dimensions.

This research confirmed that the young age of RTs had a high mean of DP compared with older age. These results had similarities with different cross-sectional studies of doctors

that had found association relationships between BO with age and gender (Chuang, Tseng et al. 2016, West, Dyrbye et al. 2018). Maslach, in his research, found that age was a significant predictor of burnout (Maslach et al. 2001). Six studies of healthcare providers in critical care indicated that young age was a risk factor for burnout (Chuang, Tseng et al. 2016).

The study showed that male RTs had a high mean of DP. A study found that male physicians had a high mean of DP (Raggio and Malacarne 2007). These results proved that gender was a risk for burnout among ICU staff in four cross-sectional studies (Chuang, Tseng et al. 2016). However, a study found that there was no association between gender and burnout. Differences in subjects, instruments, jobs, research methods, and nations may have contributed to the disparity (Chen, Yang et al. 2013).

Respiratory therapists who worked for 12 hours per day had a high mean of EE and DP, contrasted to RTs who worked for 8 hours. Many working hours were linked to burnout in two studies (Chuang, Tseng et al. 2016). According to Galván et al, being on-call for more than 36 hours a week increased the risk of BO (Galván, Vassallo et al. 2012). The findings emphasized that RTs had a significant association of work schedule with BO. A work schedule was the most frequently linked BO cause (Sanfilippo, Noto et al. 2017).

The respiratory therapist role and BO were considerably associated in this research. Respiratory therapists who worked in critical care had a high mean of EE. These results explain that healthcare workers who work in ICUs and ER were express high levels of burnout (Poncet, Toullic et al. 2007). In contrast, a low mean on EE for the administration of RTs illustrate the vulnerability to exposure to low BO.

There was no association between educational level and years of experience with BO. This was in line with the results of Garrett and McDaniel (2001), who found no statistically significant association between education level and years of service with BO (Garrett and McDaniel 2001).

The third question asked, " Which work factor has the strongest association with burnout among Saudi Arabian RTs?". In the context of this study, almost half of the RTs believed that "excessive workload and demands" was the most work characteristic factor associated with BO. The excessive workload for the RTs in Saudi Arabia was due to shortages in the market (Alotaibi 2015). These results agreed with a study for nursing in China experiencing BO due to a severe nursing shortage and a rise in stressful workload (Li, Guan et al. 2014). Poncet confirmed that workload could influence BO (Poncet, Toullic et al. 2007).

The fourth question asked, "Is there an association between professional satisfaction and burnout among Saudi Arabian RTs?" According to the data obtained from the results chapter, professional satisfaction of work-life balance was linked to EE and DP. The current job was associated with all three dimensions of burnout. Professional satisfaction of monthly income was related to EE.

Sixty-four of RTs were not satisfied with their work-life balance, and there was a significant association with a high mean of EE and DP. These results, similar to Shanafelt et al. in their article "Burnout and satisfaction with work-life balance among us doctors relative to the overall US population," discovered that physicians were more likely than the general population to be unsatisfied with their work-life balance (Shanafelt, Boone et al. 2012).

More than half of the RTs were not satisfied with their current job and considerably associated with all three dimensions of burnout. This association was comparable with a study that confirmed the relationship of job satisfaction with EE, DP, and lack of PA (Piko 2006). A study found that low work satisfaction was shown to be a predictor of BO, although causation was challenging to establish, especially in a cross-sectional study. On the other hand, BO was likely to have many causes, with work satisfaction being one of them (Myhren, Ekeberg et al. 2013). In health care, the association between work satisfaction and BO had

been established. More recent research showed that a few aspects of job satisfaction might substantially contribute to occupational BO among doctors. However, there is still debate in this field (Zhang and Feng 2011).

The results showed a high rate of 75% of the RTs unsatisfied with their monthly income and associated considerably with a high mean of EE. These results matched a study that found less satisfied workers with their pay report a higher degree of EE (Ogresta, Rusac et al. 2008). A study approved those employees dissatisfied with their pay rate were more likely to quit their jobs (Acker 1999).

Mindfulness or cognitive-behavioral methods were often used in physician-directed interventions to improve work competence, communication skills, and personal coping mechanisms. Simple schedule adjustments, workload reductions, and more ambitious changes to practices and whole health care organizations were examples of organization-directed interventions (Panagioti, Panagopoulou et al. 2017). While organization-directed interventions aimed to achieve long-term changes through the reorganization of the work environment, individual interventions could be adapted for those already in the process of BO (Wiederhold, Cipresso et al. 2018).

To reduce BO, physicians' work hours were decreased in several initiatives. Increased social support within an oncology team has also been proven to reduce BO. Communication training amongst nursing team members had also been found to be an effective intervention for BO prevention. Maintaining an effective and suitable connection among team members seemed to reduce BO by teaching emotional awareness and emotional management skills. To guarantee doctors' well-being, hospitals have created a range of programs to address various personal and professional problems. Some organizations had implemented cognitive-behavioral training on multiple topics, including time management, relaxation techniques,

focused breathing, meditation methods, self-awareness training, and support for a healthy work environment (Wiederhold, Cipresso et al. 2018).

Implications for Future Research

The study findings provide an in-depth insight into the prevalence of BO among RTs in Saudi Arabia. The study further adds to the extant literature by assessing the relationship between BO, sociodemographic data, and professional satisfaction. This study's information may be used to design targeted interventions to prevent and reduce RTs burnout.

Additionally, this research may increase awareness of the need for organizations to provide education and adopt policies to help RTs avoid BO. The findings also stress the necessity for informing RTs about the available sources for continuing education on BO. This study's findings will contribute to future practice-informed research on BO.

Study Limitations

While this study has important strengths, several limitations exist. A convenience sample consisting of social media responses is a limitation of this study. While social media can be used to recruit, social media respondents may not be representative of the larger RT population in Saudi Arabia. Future studies should replicate this study using a reliable sampling frame. The questionnaire also consisted of self-report data, which is subject to recall bias. Finally, this study did not assess COVID-19 factors associated explicitly with BO, which may be a significant driver of BO among Saudi Arabian RTs in the current healthcare climate.

Recommendations for Future Research

Further research is highly recommended due to the lack of research that measures the prevalence of BO among RT globally and in Saudi Arabia. This study opens the window for further studies on RTs, involving job satisfaction in Saudi Arabia. Moreover, replication with a more significant number of participants is strongly recommended to validate and generalize this study's findings. This study could also recommend future studies in the effectiveness of

BO programs to help clinicians cope with BO. Finally, after the immediate danger of COVID-19 has passed, follow-up investigations are required to evaluate progression or even a possible rebound impact of psychiatric symptoms.

Conclusion

To our knowledge, this is the first study to investigate the prevalence of BO, identify the work factors associated with BO, and examine the association between BO with sociodemographic data and professional satisfaction among RTs in Saudi Arabia by Maslach Burnout Inventory survey research. Overall, the study findings revealed that RTs had a high mean level of EE with a moderate mean level of DP and a lack of PA. "Excessive workload and demands" was the most work distinguishing factor among RTs associated with BO. Additionally, the association of BO with sociodemographic data and professional satisfaction were addressed.

Future researchers will better understand the incidence of BO among Saudi Arabian RTs, which will aid in the development of BO prevention measures and wellness programs for RTs. This study adds to the limited body of knowledge about the prevalence of BO among RTs. Finally, this study may raise awareness of the necessity for organizations to offer education and policy to assist RTs in avoiding BO.

Appendix A: Permission to Use MBI

www.mindgarden.com

To Whom It May Concern,

The above-named person has made a license purchase from Mind Garden, Inc. and has permission to administer the following copyrighted instrument up to that quantity purchased:

Maslach Burnout Inventory forms: Human Services Survey, Human Services Survey for Medical Personnel, Educators Survey, General Survey, or General Survey for Students.

The three sample items only from this instrument as specified below may be included in your thesis or dissertation. Any other use must receive prior written permission from Mind Garden. The entire instrument form may not be included or reproduced at any time in any other published material. Please understand that disclosing more than we have authorized will compromise the integrity and value of the test.

Citation of the instrument must include the applicable copyright statement listed below. Sample Items:

MBI - Human Services Survey - MBI-HSS:
I feel emotionally drained from my work.
I have accomplished many worthwhile things in this job.
I don't really care what happens to some recipients.

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MBI - Human Services Survey for Medical Personnel - MBI-HSS (MP):
I feel emotionally drained from my work.
I have accomplished many worthwhile things in this job.
I don't really care what happens to some patients.

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MBI - Educators Survey - MBI-ES:
I feel emotionally drained from my work.
I have accomplished many worthwhile things in this job.
I don't really care what happens to some students.

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Cont'd on next page

MBI - General Survey - MBI-GS:

I feel emotionally drained from my work.
In my opinion, I am good at my job.
I doubt the significance of my work.

MBI - General Survey for Students - MBI-GS (S):

I feel emotionally drained by my studies.
In my opinion, I am a good student.
I doubt the significance of my studies.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

Appendix B: Survey

Section 1: Maslach Burnout Inventory (MBI) Human Services Survey for Medical Personnel

Please answer each of the following statements by circling the number that best describes you:

	Statement	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
1.	I feel emotionally drained from my work.	0	1	2	3	4	5	6
2.	I feel used up at the end of the workday.	0	1	2	3	4	5	6
3.	I feel fatigued when I get up in the morning and have to face another day on the job.	0	1	2	3	4	5	6
4.	I can easily understand how my patients feel about things.	0	1	2	3	4	5	6
5.	I feel I treat some patients as if they were impersonal objects.	0	1	2	3	4	5	6
6.	Working with people all day is really a strain for me.	0	1	2	3	4	5	6
7.	I deal very effectively with the	0	1	2	3	4	5	6

	problems of my patients.							
8.	I feel burned out from my work.	0	1	2	3	4	5	6
9.	I feel I'm positively influencing other people's lives through my work.	0	1	2	3	4	5	6
10.	I've become more callous toward people since I took this job.	0	1	2	3	4	5	6
11.	I worry that this job is hardening me emotionally.	0	1	2	3	4	5	6
12.	I feel very energetic.	0	1	2	3	4	5	6
13.	I feel frustrated by my job.	0	1	2	3	4	5	6
14.	I feel I'm working too hard on my job.	0	1	2	3	4	5	6
15.	I don't really care what happens to some patients.	0	1	2	3	4	5	6
16.	Working with people directly puts too much stress on me.	0	1	2	3	4	5	6
17.	I can easily create a relaxed atmosphere	0	1	2	3	4	5	6

	with my patients.							
18.	I feel exhilarated after working closely with my patients.	0	1	2	3	4	5	6
19.	I have accomplished many worthwhile things in this job.	0	1	2	3	4	5	6
20.	I feel like I'm at the end of my rope.	0	1	2	3	4	5	6
21.	In my work, I deal with emotional problems very calmly.	0	1	2	3	4	5	6
22.	I feel patients blame me for some of their problems.	0	1	2	3	4	5	6

Section 2: Causing of burnout and professional satisfaction

Please answer each of the following questions by selecting one answer that describes your opinion.

23- Are you satisfied with your work-life balance?

a) Yes

b) No

24- Are you satisfied with your current job?

a) Yes

b) No

25- Are you satisfied with your monthly income?

a) Yes

b) No

26- What is the most work characteristic factor causing burnout?

a) Excessive workload and demands

b) insufficient control over the resources needed to complete tasks

c) Lack of adequate reward

d) Absence of positive communication with colleagues and manager

e) Absence of fairness

f) Conflict in values (personal values and goals aren't in line with those of the organization)

Section 3: Sociodemographic Data:

Please answer each of the following questions by selecting one answer that describes you:

27- What is your age?

_____

28- What is your gender?

a) Male

b) Female

29- What is your marital status?

a) Single

b) Married

30- In which region of Saudi Arabia do currently practicing Respiratory therapy profession?

a) Central region

b) Eastern region

c) Northern region

d) Southern region

e) Western region

31- What type of hospital in which you are working?

a) Ministry of Health hospital

b) Non- Ministry of Health hospital

c) Private hospital

32- What is your educational level?

a) Diploma

b) Bachelor

c) Master

d) Doctoral

33- How many years of experience you are working as a respiratory therapist?

_____

34- What is your role?

a) Administration

b) Education

c) Critical care (ICU and ER)

d) Non-critical care (ward and long-term)

e) Outpatient (such as diagnostics and pulmonary rehabilitation)

f) Others

35- How many hours do you work per day?

a) 12 hours

b) 8 hours

36- What is your shift?

a) Day

b) Night

c) Alternative

Appendix C: IRB Approval

INSTITUTIONAL REVIEW BOARD

Mail: P.O. Box 3999
Atlanta, Georgia 30302-3999
Phone: 404/413-3500

In Person: 3rd Floor
58 Edgewood
FWA: 00000129

July 19, 2021

Principal Investigator: Douglas Gardenhire

Key Personnel: Asiri, Waleed A; Gardenhire, Douglas

Study Department: Georgia State University, Respiratory Therapy

Study Title: Prevalence of Burnout Syndrome among Respiratory Therapists in Saudi Arabia

Submission Type: Exempt Protocol Category 2

IRB Number: H22039

Reference Number: 366272

Determination Date: 07/16/2021

Status Check Due By: 07/15/2024

The above-referenced study has been determined by the Institutional Review Board (IRB) to be exempt from federal regulations as defined in 45 CFR 46 and has evaluated for the following:

1. Determination that it falls within one or more of the eight exempt categories allowed by the institution; and
2. Determination that the research meets the organization's ethical standards

If there is a change to your study, you should notify the IRB through an Amendment Application before the change is implemented. The IRB will determine whether your research continues to qualify for exemption or if a new submission of an expedited or full board application is required.

A Status Check must be submitted three years from the determination date indicated above. When the study is complete, a Study Closure Form must be submitted to the IRB.

This determination applies only to research activities engaged in by the personnel listed on this document.

It is the Principal Investigator's responsibility to ensure that the IRB's requirements as detailed

in the Institutional Review Board Policies and Procedures For Faculty, Staff, and Student Researchers (available at gsu.edu/irb) are observed, and to ensure that relevant laws and regulations of any jurisdiction where the research takes place are observed in its conduct.

Any unanticipated problems resulting from this study must be reported immediately to the University Institutional Review Board. For more information, please visit our website at www.gsu.edu/irb.

Sincerely,

Jamie Zaikov, IRB Member

Appendix D: Informed Consent and Invitation Letter

Georgia State University

Title: Prevalence of Burnout Syndrome among Respiratory Therapists in Saudi Arabia

Principal Investigator: Douglas S. Gardenhire, EdD, RRT-NPS, FAARC

Student Principal Investigator: Waleed A. Asiri, BSRT.

Dear Respiratory Therapist:

You are invited to take part in a research study. It is up to you to decide if you would like to participate in the research or not. The research will look at the degree of burnout among Respiratory Therapists in Saudi Arabia. Your role in the study will last for less than 15 minutes.

Waleed A. Asiri, a master's student at Georgia State University, is doing the study under the supervision of Dr. Douglas S. Gardenhire, Chair and Clinical Associate Professor in the Department of Respiratory Therapy. Your participation in this research is entirely optional, and you may withdraw at any time. You are not penalized if you submit a blank survey at any point. You will be asked to take the following survey if you agree to participate in this research. It should take no more than 15 minutes to complete the survey. All answers are kept private. Respondents will not be identified by their names, codes, or IP addresses. The information you give will only be used for research purposes. All surveys will be removed after they have been collected.

Purpose:

The study aims to determine the prevalence of burnout among respiratory therapists in Saudi Arabia and identify the most work characteristic factor causing BO. Additionally, the study will examine the association between burnout and sociodemographic data. You are invited to participate in this research study because you are a respiratory therapist in Saudi Arabia.

Procedures:

If you decide to take part, you will fill out a survey with 36 questions. Confidentiality is essential in data collection; hence, the researcher will inform the participants that the data they provide is secure, so they do not fear victimization. The participants' rights are permanently preserved and safeguarded. Respondents to this survey will remain anonymous.
If you decide to agree to participate, you will be asked to click the link and check the agree button. After that, you will be asked to fill out the questionnaire.

- A total of 36 questions will be asked.
- The first 22 questions are statements. you will need to choose what statement describes you with each of them.
- The rest of the questions are true/false and multiple-choice.
- Please select the option you are in favor of for each question.
- This survey will take less than 15 minutes to complete.

Risks:

In this study, you will not have any more risks than you would on an average day of life. No injury is expected from this study, but if you believe you have been harmed, contact the research team as soon as possible.

Benefits:

This study is not designed to benefit you personally. Overall, we hope to gain information about the prevalence of burnout among respiratory therapists in Saudi Arabia.

Voluntary Participation and Withdrawal:

You do not have to be in this study. If you decide to be in the research and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. The participants' rights are permanently preserved and safeguarded. Respondents to this survey will remain anonymous.

Contact Information:

Please get in touch with Dr. Douglas S. Gardenhire at dgardenhire@gsu.edu or 404-413-1224 in case any of the following occur:

- If you have questions about the study or your part in it.
- If you have questions, concerns, or complaints about the study.

The IRB at Georgia State University reviews all research that involves human participants. You can contact the IRB if you would like to speak to someone not involved directly with the study. You can contact the IRB for questions, concerns, problems, information, input, or questions about your rights as a research participant. Contact the IRB at 404-413-3500 or irb@gsu.edu.

Consent:

Your completion and submission of the survey imply that you agree to participate in this research. Please note that you may withdraw at any time by not completing or by clicking the disagree button.

Thank you in advance for your cooperation

Sincerely,

Douglas S. Gardenhire, EdD, RRT-NPS, FAARC

Waleed Asiri, BSRT

Please note: If you agree to participate in this research, please continue with the survey. You can print a copy of the form for your records.

- o I Agree
- o I Disagree

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