UNIVERSITI PUTRA MALAYSIA

EFFECTIVENESS OF STRESS MANAGEMENT PROGRAM ON OCCUPATIONAL STRESS AND COPING STRATEGIES AMONG PUBLIC HEALTH NURSES IN AMMAN, JORDAN

ALKHAWALDEH JA'FAR MOHAMMAD AQEEL

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Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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August 2020

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Occupational stress (OS) has been recognized as one of the most common health problems among nurses worldwide. In particular, about 74% of nurses experience severe occupational stress. Nursing professionals are constantly placed at the forefront in the area of healthcare due to which they are readily exposed to the threat of professional stress. Over the years, more nurses have experienced high level of occupational stress in the workplace, which can lead to many mental and physical disorders. This study aimed to develop, implement and evaluate the effectiveness of stress management interventional program (SMIP) in reducing occupational stress and improving coping strategies (CS) among public health nurses (PHNs). A cluster-randomized controlled trial was carried out in eight comprehensive health care centers (CHCCs); four centers were randomly assigned to each experimental and control group. One hundred and seventy nurses were selected randomly, and data were collected by using the Nursing Stress Scale (NSS) & the Brief Coping Orientations to Problems Experienced Scale (COPE) over three data collection times. Both descriptive and inferential statistics (Repeated measure ANOVA, Independent t-test, Multiple Regression, Chi-square) were used to answer the research questions of this study. The study results showed that both the levels of occupational stress and coping strategies were significantly different between the two study groups over the three data collection points ($P<0.05$). Also, this study indicated the sex of the nurses was slightly correlated with their perceived occupational stress, female nurses perceived slightly lower occupational stress than males on average. Additionally, the study revealed that nurses' age is the most common predictors of work-related stress for Jordanian nurses. In addition, the findings showed that 'Workload' was the strongest stressor perceived by Jordanian PHNs followed by the factor 'Conflict with Physicians. Based on the findings of this study, the stress management interventional program is an effective noninvasive method that can be used to reduce occupational stress levels and improve coping strategies for public health nurses. Therefore, the implementation of stress

management interventions in healthcare is likely to help nurses manage occupational stress in practice.

Keywords: Nurses, Nursing, Occupational Stress, work-related stress, Job stress, Stress Management Interventions program, Coping strategies, Coping skills, Jordan.

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KEBERKESANAN PROGRAM PENGURUSAN STRESS TERHADAP STRES PEKERJAAN DAN KEMAHIRAN MENGATASINYA DALAM KALANGAN JURURAWAT KESIHATAN AWAM DI AMMAN, JORDAN

Oleh

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Stress Pekerjaan (OS) telah diiktiraf sebagai salah satu masalah kesihatan yang paling biasa di kalangan jururawat di seluruh dunia. Khususnya, kira-kira 74% daripada jururawat mengalami OS yang teruk. Profesional kejururawatan sentiasa diletakkan di barisan hadapan dalam bidang penjagaan kesihatan yang mana mereka mudah terdedah kepada ancaman tekanan profesional. Selama bertahun-tahun, lebih banyak jururawat telah mengalami tahap stres pekerjaan yang tinggi di tempat kerja, yang boleh menyebabkan banyak gangguan mental dan fizikal. Kajian ini bertujuan untuk membangunkan, melaksanakan dan menilai keberkesanan program intervensi pengurusan tekanan dalam mengurangkan tekanan pekerjaan dan meningkatkan strategi mengatasi (CS) di kalangan jururawat kesihatan awam (PHNs). Kluster rawak terkawal dijalankan di lapan pusat penjagaan kesihatan komprehensif (CHCC); empat pusat telah ditugaskan secara rawak untuk setiap kumpulan percubaan dan kawalan. Seramai tujuh puluh jururawat dipilih secara rawak, dan data dikumpul dengan menggunakan Skala Stres Kejururawatan & COPE ringkas selama tiga kali pengumpulan data. Kedua-dua statistik deskriptif dan inferensi (pengukuran ANOVA, ujian t-Independent, Regresi Pelbagai, Chi-square) telah digunakan untuk menjawab soalan penyelidikan kajian ini. Hasil kajian menunjukkan bahawa kedua-dua tahap stres pekerjaan dan strategi menangani adalah berbeza dengan kedua-dua kumpulan kajian berbanding tiga titik pengumpulan data (P> 0.05). Selain itu, hasil kajian menunjukkan bahawa jenis tekanan kerja yang paling biasa bagi jururawat Jordan adalah kerana beban kerja, konflik dengan pakar perubatan, tahun pengalaman dan status perkahwinan. Berdasarkan penemuan kajian ini, program intervensi pengurusan stres adalah kaedah noninvasive yang berkesan yang boleh digunakan untuk mengurangkan tahap stres pekerjaan dan memperbaiki strategi menangani jururawat kesihatan awam. Oleh itu, pelaksanaan intervensi pengurusan tekanan dalam penjagaan kesihatan mungkin membantu jururawat menguruskan tekanan pekerjaan dalam amalan.

Kata Kekunci: Jururawat, Kejururawatan, Tekanan Pekerjaan, tekanan kerja yang berkaitan, Stres kerja, Program Stress Management Stress, Strategi penangguhan, Kemahiran mengatasi, Jordan

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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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LIST OF ABREVIATIONS

OS	Occupational Stress
CSs	Coping Strategies
SMIP	Stress Management Interventional Program
PHNs	Public Health Nurses
CHCCs	Comprehensive Health Care Canters
REBT	Rational emotive behavior therapy
MRA	Multiple Regression Analysis
SW	Shapiro-Wilk
RCTs	Randomized Controlled Trials
CCW	clinical care workers
ER	Emergency Department
ICU	Intensive Care Unit
CCU	Critical Care Unit
PSS	Psychosomatic Symptoms
PHCCs	Public Health Care Centres
NSS	Nursing Stress Scale
COPE	Coping Orientations for Experienced Problems

CHAPTER 1

INTRODUCTION

1.1 General Overview

Stress is described as a relationship with the environment that the person considers to burden or exceed his / her resources and that negatively impact his or her well-being (Folkman, Lazarus, Dunkel, Delongis, & Gruen, 1986). Based on this definition, Klassen and Chiu (2010) argues that occupational stress (OS) arises as a result of the incongruity between situational demands and the individual ability to meet all of these demands. The construct "occupational stress" is commonly reported in the literature and is associated with the job demands. These demands are defined as physical, social and organizational dimensions of a career that necessitate continual psychological and physical effort; a response to this effort characterized by physical and emotional exhaustion (Bria, Spânu, Bшban, & Dumitraşcu, 2014; Bakker & Demerouti, 2007). This definition of OS highlights the critical impact of chronic OS on workers ' mental and physical well-being.

Globally, OS has been recognized as one of the most common health issues affecting health care providers (Lua & Imilia, 2011). Nursing is widely regarded as a high-risk profession and, as nursing professionals are always at the forefront of health care, they are readily exposed to the threat of occupational stress (Khamisa, Oldenburg, Peltzer, & Ilic, 2015). According to statistics published in the literature, around 70% of hospital nurses suffer from stress (Fiabane, Giorgi, Sguazzin, & Argentero, 2013). In particular, the literature reports that 40% of public health nurses (PHNs) were subject to a high prevalence of workplace stress (Dehdashti, Karami, Samari, Bahrami, & Jahed, 2018).

In an age of increasing public health challenges, nurses can make a significant difference. The American Public Health Association (2013) describes PHNs as "the practice of improving and protecting the health of communities through medical, environmental and public health sciences knowledge;" thus, they have more roles and responsibilities than other nurses working in hospitals to provide health services. Comprehensive Health Care Centers (CHCCs) are community health centers that have multidisciplinary team including, doctors, registered nurses and pharmacists that providing health care services to people in a certain area, therefore, PHNs working in CHCCs are responsible for variety of activities including primary prevention, such as stress prevention training, secondary prevention, for the identification of possible physical and mental health problems, and tertiary prevention such as the monitoring and co-ordination of physically and mentally ill patients, not only for patients but also for the whole population (Videback, 2011).

Various studies have shown that increased stress among nurses puts them at risk of stressful physical, mental and psychological behavior like headache, restlessness, anger and illness (Happell et al., 2013; Sharma, Dhar, & Tyagi, 2016). The combination of high work stress and a low level of nursing mental health decreases the quality of the nursing staff due to problems in physical health and negative cognitions, physiological hyperarousal and adverse moods (Tajvar et al., 2015). Moreover, in the literature, there is an increasingly evident link between cardiovascular and psychosocial stress (Chandola, Brunner , & Marmat, 2006; Rosengren et al., 2004). In addition to risks to their health and well-being, a high rate of stress among nurses can also lead to burnout, work dissatisfaction and turnover (Tao, Ellenbecker, Wang, & Li, 2015). Also, interest in work may decrease, which in turn may lead to low output and low performance than what is expected from a staff (Khamisa et al., 2015).

The OS is caused by a variety of working conditions and compounded by organizational conditions. For example, there is a great deal of job demands, low autonomy, lack of support, witnessing death cases, and organizational poor physical structure, poor task management and interpersonal relationships which may cause workplace stress (Ahola, Toppine-Tanner,& Seppaner, 2017; Pereira et al., 2014; Inoue, Versa, & Matsuda, 2014). In the majority of the cases, psychological and physical abuse, dealing with death, the lack of personnel and high frequency of patients are the root causes of stress in PHNs (Starc, 2018). Regarding Jordan, the high level of occupational stress was caused by work exhaustion, nursing staff shortages, unsatisfied salaries, and conflicts with physicians which have a negative effect on the mental and physical health of Jordanian nurses (Abualrub & Al-Zaru, 2008b).

In order for nurses to overcome OS, they have to learn and acquire the skills of coping. Coping is defined, as "constantly changing cognitive and behavioral efforts towards managing specific inner / external demands which are judged to exceed the person's resources" by Lazarus and Folkman (1987). The stated definition of coping is consistent with the adopted OS definition, which occurs when the demands exceed the available resources. Coping strategies (CSs) are approaches widely used in the management of work-related stress by nurses (Kam-Weng, Kwok-Bun, Lee, & Yiu-Chung, 2007). CSs are classified as effective and ineffective in terms of their results. Effective CSs make it easy for nurses to return to a stable condition, which in turn decreases the negative consequences of stress (Happell et al., 2013). On the other hand, ineffective CSs increase the negative consequences of stress (Buurman, Mark, Beijer & Olff, 2011). Healthcare professionals use CSs to mitigate the potential effects of negative feelings due to stress at work, help the nurses develop their situational tolerance and avoid the adverse effects of stress (Ramezanli, Koshkaki, Talebizadeh, & Jahromi, 2015).

Stress management involves the development and implementation of techniques or measures to minimize or monitor work stress (Happell et al., 2013). Therefore, it is essential, in order to determine an organization-focused action plan, to evaluate

specific OS sources in a given place of work and nurses ' CSs and their results. The established strategy leads to reducing or eliminating OS sources improving health care practices and the implementation of the correct stress management programme (Cho, 2012). Two categories of interventions to reduce stress were identified in the nursing literature. The first category focuses on improvements to reduce or eliminate stressors within corporate practices, procedures and cultures (Hall, Doran, & Pink, 2008; Ho, Chang, Shih, & Liang, 2009). The second category focuses on Cognitive-Behavioral Interventions (CBIs) which have shown their effectiveness in minimizing nursing stress (Mimura & Griffiths, 2003), such as cognitive behavioral therapy, meditation and relaxation response (Calder Calisi, 2017; Klatt, Steinberg, Marks, & Duchemin, 2012; Tajvar et al., 2015). The current study is underpinned by Lazarus & Folkman's cognitive theory of stress and coping (1987), which illustrated that an individual's appraisal of stressors is at the core of stress experience. For example, the way people appraise stressful events determines their responses to it. Stresses are impacted by a wide range of personal and contextual factors such as but not limited to skills, barriers, facilitators, resources, social norm, and capacities (Mechanic, 1978). Therefore, people's perceptions of a stressful event can be modified by learning adaptive coping strategies to reduce stress experienced (Lazarus & Folkman, 1987). This study used a person-focused intervention and focused on the implementation of an interventional stress management program among PHNs to reduce their occupational stress and improve their coping strategies with work-related stress.

1.2 Problem Statement

Several studies indicate that healthcare professionals are at the highest rates of OS and at the highest rates in terms of adverse effects, including burnout compared to other occupations such as academics, software engineers, athletes and lawyers (Bria et al., 2014). In addition, a literature review shows that OS is highly prevalent in health care providers and that about 40% of PHNs are severely stressed (Makhaita, Sabra, & Hafez, 2014). In Jordan, several studies revealed that Jordanian nurses experienced higher levels of OS (Hamaideh & Ammouri, 2011b; Hamdan-mansour, Al-Gamal, Puskar, Yacoub, & Marini, 2011).

As a result of such OS, healthcare professionals, including nurses, are more prone to substance abuse (Moustou, Panagopoulous, Montgomery, & Benos, 2010), depression (Hakanen & Schaufeli, 2012), insomnia, higher rates of suicidal ideation (Shanafelt et al.,2011) and behavioural disorders such as smoking and excessive coffee ingestion (Kaur & Olive, 2016).

Furthermore, high OS correlated with a risk of developing psychological disorders (Emine & Do, 2017), so it may negatively affect physical and psychological health, increase the rates of sickness absence, increase nursing staff turnover, and weak job commitment. These resultant impacts may, in turn, lead to suboptimal performance which is also reported as an outcome of OS among nurses (Nayomi, 2016; Alhamwan & Muala, 2015).

Moreover, the issue of the nursing shortage is evident in global literature (Nabirye, Brown, Pryor, & Maples, 2011). The demands, job duties as well as the workload increase in the clinical settings as a result of the nursing shortage, and could increase the OS, particularly among nurses. Nurses also acknowledge that they have made certain medical errors in a high-pressure situation, for example, when there is a lack of nursing staff (Garrett, 2008). There is also a chance of continued loss of nurses because of OS and pressure of this kind could impair the capacity and productivity of nurses (Uğur, Acuner, Goktas, & Senoglu, 2007).

Therefore, nursing managers and leaders should identify and use stress strategies such as CBIs in order to improve CSs to manage stress better and adverse effects of OS among PHNs (Guerrer & Bianach, 2008; Makhaita et al., 2014). As work stress decreases, it will promote a higher level of patient care and a better quality of life for healthcare workers (Amarneh, 2017). Addressing OS also has a direct impact on increased job satisfaction, which eventually will reduce staff turnover and increase patient care (Tao et al., 2015). Several researchers suggested that stress management and mitigation techniques be used to reduce stress and enhance the CSs of nurses (Chinaveh, 2013; Ettorre & Greco, 2015; Sailaxmi & Lalitha, 2015). This research will, therefore, provide valuable data on sources of stress and the effectiveness of using a program of stress management to minimize OS and improve CSs among PHNs in Jordan.

Recent studies have shown that the risk of developing psychological disorders decreases when cognitive therapy is applied among highly stressed nurses (Emine & Do, 2017). Additionally, a recent meta-analysis showed that yoga-based stress reduction is effective in reducing physiological stresses (Pascoe, Thompson, & Ski, 2017) and also, enhance the effectiveness and performance of nurses (Tajvar, Saraji, Ghanbarnejad, Omidi, Hosseini, et al., 2015). Therefore, SMIPs is needed to decrease OS and improve levels of CSs among PHNs.

Regarding Jordan, several studies revealed that Jordanian nurses suffer from high levels of occupational stress and lack of coping strategies to manage their stress in an appropriate way in clinical practice (Khrais et al., 2018; Hamaidah et al., 2011c; Hamdan-Mnsour et al. 2011). This high level of OS among nurses effects on many critical nursing issues in Jordan. For example, In Hamaideh's (2011c) study to examine the relation between OS levels in Jordan's nurses and quality of life, results indicated that there was a high correlation between OS levels and low quality of life. In a recent study conducted in Jordan by Khrais et al (2018), the results confirmed that Jordanian nurses have a high OS and are receiving low support from organizations. This leads to burnouts, high turnover rates, and poor-quality care. Also, OS affects the intention of nurses to remain in work and performance among Jordanian nurses. Nurses who have higher OS levels report that they record low performance and intention to stay at work compared to nurses who report low levels of work stress (Abualrub, 2004; Abualrub & Al-Zaru, 2008). Moreover, the high level of occupational stress have a negative effect on the mental and physical health of Jordanian nurses (Abualrub & Al-Zaru, 2008).

One category of interventions to reduce stress was identified in the Jordan nursing literature that focuses on reduce or eliminate stressors within health care organizations by improve their practices, procedures and cultures (Hamdan-Mnsour et al. 2011; Abualrub & Al-Zaru, 2008b). Therefore, without adequate preventive measures to solve the problem, the high levels of OS are therefore expected to worsen rapidly in the near future and will have a direct impact on Jordan health system by increase the turnover rate among nurses to 36% (Alhamwan et al., 2015). Also, the negative impact of stress on the quality of nursing care, level of the patient care and quality of life for Jordanian nurses (Amarneh, 2017). Consequently, this will have a negative impact on the patients' outcomes and the rating of hospitals. There is no much on stress interventional programs for nursing staff to treat OS in the local literature. Therefore, this gap in research must be filled by the current study.

Several studies have examined the stress management interventional program in reducing occupational stress among nurses (Cutshall et al., 2011; Saedpanah, Salehi, & Moghaddam, 2016). However, some critical knowledge gaps have been identified in the literature in relation to the effectiveness of the occupational stress program and coping strategies for PHNs, therefore, calls for the development of new knowledge to illustrate, Firstly, most of the previous randomized controlled trials (RCTs) focused only on the evaluation of an effective SMIP and its impact on reducing occupational stress, but none of the studies examined the effectiveness of the stress management program on improving coping strategies for nurses (Calder Calisi, 2017; Fang & Li, 2015; Hersch et al., 2018; Klatt et al., 2012). Secondly, most randomized controlled trial (RCTs) were held among nurses in acute settings (Klatt et al., 2012; Nazari, Mirzamohamdi & Yousefi, 2015), this study is among the few studies that focused on public health nurses working at Comprehensive Health Care Centers (CHCCs). PHNs in this respect is an important group, especially in developing countries because of their critical role in community health. Therefore, the PHNs need to manage OS and develop CSs that will be beneficial not only to patients but the community as a whole by becoming familiar with effective SMIP. Therefore, the lack of evidence on the effectiveness of the SMIP on OS and CSs among PHNs requires new knowledge or baseline data on the problem.

Thirdly, there is a lack of RCTs that used combination therapy (multimodal approach) at the same program (Fang & Li, 2015; Moody et al., 2013). Fourthly, the majority of the RCTs were performed without double-blinding procedures (Singh & Jain, 2017). Lastly, to the best of our knowledge, in Arabic-speaking countries, in particular, Jordan, no experimental studies have been conducted. Therefore, this study is designed to examine the effectiveness of the SMIP in reducing OS and improving CSs among PHNs in Jordan with the aim of addressing the apparent research gaps.

1.3 Significance

It is widely known that nurses working in public health centers experience high levels of stress (Li et al., 2014). This stress comes from personal responsibility, high workload, change of climate, nursing patients who have complex care needs, the

lack of teamwork and high family responsibilities (Evans, 2002; I. H.-H. W. Lee, 2002).

Stress, which also lead to dysfunctional CSs, such as smoking and unhealthy lifestyle, can lead to physical and psychologic diseases (Örtqvist & Wincent, 2006). Additional evidence highlights the negative impact of stress on the quality of nursing work (Lim, Bogossian, & Ahern, 2010). Numerous studies have found that the origins and the negative effect of OS on nursing workers in Western societies such as the European countries and the united States of America (USA) (Burgess, Irvine, & Wallymahmed, 2010; Casado et al., 2008). There are significant differences in the OS between nurses of diverse medical backgrounds who live in a different community and receive different levels of social support (Hamaideh, 2012). This is because the interaction between nurses and the condition or environment in which patients are taken care of usually results in stress (Evans, 2002). In addition, OS may occur as a result of the interplay between multiple other factors, such as culture, pressure and local forces (Orly, Rivka, Rivka, & Dorit, 2012). This study was undertaken due to some reasons, including increased administrative requirements on employees, the excited restriction on the function of multidisciplinary teams, workforce shortages, and the imbalance between the education acquired in the nursing schools and the skills needed in the actual clinical practice.

The results of this study will serve as a guideline for nursing managers and policymakers to modify plans, procedures and protocols to make use of appropriate stress prevention strategies for Jordan nurses and OS management. Such strategies will not only help improve nurses ' health but will also increase their care quality and satisfaction in the workplace. This will have a positive impact on the patients` outcome and the rating of hospitals. Furthermore, this study helped nurses to identify the signs of stress, reduce OS level and improve individual CSs to manage OS more effectively in practice. In addition, it contributed to the proof that PHNs, especially in eastern culture, have an effective SMIP. The research further provided a Jordanian interpretation of the degree to which nurses understood the stress issue in international literature. For future studies, this study provides baseline data for other researchers to investigate the issue in greater depth through qualitative design and in other contexts. Finally, this study is considered one of the first studies which provide empirical data on the effectiveness of SMIP for OS and CSs in PHNs, both from an international and national perspective.

1.4 Research Objectives

1.4.1 General Objective

The study is aimed at developing, implementing and evaluating the effectiveness of the stress management interventional program to reduce occupational stress and improve coping strategies among public healthcare nurses in Amman, Jordan.

1.4.2 Specific Objectives

1- To identify the sources of occupational stress among Jordanian public health nurses in the workplace.
2- To determine the association between the occupational stress scores of Jordanian public health nurses and their selected socio-demographic variables.
3- To determine the significant variables that predict the difference in occupational stress levels among public health nurses in Amman, Jordan.
4- To evaluate the effectiveness of the interventional stress management program in reducing levels of occupational stress among public health nurses in Amman, Jordan.
5- To evaluate the effectiveness of the interventional stress management program in improving coping strategies among public health nurses in Amman, Jordan.

1.5 Research Questions

This study was guided by the following questions, which are consistent with research objectives:

1- What stressors do public health nurses report as most stressful and least stressful at baseline?
2- What are the socio-demographic variables associated with occupational stress of public health nurses in Amman, Jordan?
3- What are the significant variables predicting the difference in levels of occupational stress among public health nurses in Amman, Jordan?
4- What effect does the interventional stress management system have on occupational stress among public health nurses in Amman, Jordan?
5- What effect does the interventional stress management program have on coping strategies among public health nurses in Amman, Jordan?

1.6 Research hypothesis

In this experimental study, two variables have been examined: OS and public health nursing CS following participation in experiment. A SMIP was performed by the experimental group and no intervention was provided by the control group. Null hypotheses were set at $P< 0.05$. Both measures for the dependent variables, OS and CS need to be statistically significant for the null hypotheses to be rejected. The null hypotheses that guided this study are:

1- H0: There is no significant association between socio-demographic characteristics of the respondents and occupational stress scores.
2- H0: The predictors do not collectively account for a statistically significant proportion of the variance in the occupational stress.
3- H0: There are no significant differences in mean occupational stress scores between experimental and control groups at baseline, post-intervention and after two months of follow-up assessment.
4- H0: There are no significant differences between experimental and control groups in the baseline, post-test and two-month follow-up assessment of coping strategies mean scores.

1.7 Overview about community health care system in Jordan

Jordan is known for its quality medical services and is one of the major medical tourism destinations in the Middle East and the region of North Africa (Ajlouni & Musa, 2013). There are two main sectors in Jordan's health care system: the public / semi-public sector and the private sector. Both areas cover hospitals, clinics of primary care, pharmacies and other supporting services. In Jordan, there are 106 public and private hospitals with 12081 beds. The majority of these hospital beds are in the public sector (67 per cent) and private hospitals are the remainder (Ministry of Health Hashemite Kingdom of Jordan, 2017).

Public health care centers (PHCCs) in Jordan offer quick access to medical services, vaccination, child care and chronic disease management services. They operate in both urban and rural areas and varies from smaller individual clinics to large multi-clinical facilities. Home health care is limited in Jordan and is supported primarily by the private sector. While home care services are intended to decrease treatment costs, the majority of patients in Jordan are unable to afford home care, because public or private health insurance is not included in their costs. In Jordan, there are no long-term care services, and patients need to stay long in acute care clinics (in some cases for several months). As the Jordanian population ages, home health care and long-term care are important to reduce the pressure on acute care facilities (Nazer & Tuffaha, 2017). The PHNs in Jordan provide nursing practice to improve and protect the health of communities through medical, environmental and public health sciences knowledge;" thus, they have more roles and responsibilities than other nurses working in hospitals to provide health services. Comprehensive Health Care Centers (CHCCs) are community health centers that have multidisciplinary team including, doctors, registered nurses and pharmacists that providing health care services to people in a certain area, therefore, PHNs working in CHCCs are responsible for variety of activities including primary prevention, such as stress prevention training, secondary prevention, for the identification of possible physical and mental health problems, and tertiary prevention such as the monitoring and co-ordination of physically and mentally ill patients, not only for patients but also for the whole population (Videback, 2011).

PHCCs consist of 110 comprehensive centers, 377 primary centers, 186 peripheral (secondary) centers, 504 motherhood centers and 419 dental clinics. In Amman, the capital of the Hashemite kingdom of Jordan, there are 23 comprehensive centers, 63 primary centers, 28 peripheral (secondary) centers, and 67 dental clinics, most of comprehensive health centers in Amman, providing community health care services through: Motherhood and Childhood, General Medicine, Dentistry, Family Medicine, Ambulance and Emergency services for 24 hours. (Ministry of health Hashemite Kingdom of Jordan, 2017).

Amman is the capital and most populous city of Jordan, 42% of Jordan's population lives in it, divided on three areas that are western, eastern, and southern Amman (Department of Statistics, 2015). There are 23 comprehensive public health care centers (CHCCs) distributed in three areas in Amman. Eight centers located in eastern, eight in western and seven in south Amman. Eight centers out of 23 separated from each other about 15 kilos/meter. Just 18 centers are providing medical care services for 24/hr. and three centers not provide many of community services (Ministry of health Hashemite Kingdom of Jordan, 2017).

In Jordan, health workers are mainly doctors, pharmacists, dentists and nurses. Other providers of health care include laboratories, physio therapeutics, nutritionists, midwives and radiation technicians. Nurses represent the majority of health workers in Jordan (44%), followed by physicians (25%), pharmacists (16%), and dentists (15%). Women constitute about 44% of all workers in the health sector in Jordan (Hashemite Kingdom of Jordan, High Health Council, General Secretariat, 2016 Oct 25).

The total number of these nurses is approximately 4212 for the nursing staff at CHCCs. Approximately 900 health workers are employed as a registered nurse, 2462 are supporting staff and the rest 848 are midwife (Ministry of Health Hashemite kingdom of Jordan, 2017). Such figures have shown a deficit in the health care providers of the Jordanian population.

1.8 The study variables

1.8.1 Socio-demographic variables

The socio-demographic variables included in this study include the followings:

1. Gender
2. Age
3. Marital Status
4. Nursing Education Level
5. Years of Experience
6. Monthly Income

1.8.2 Outcome Variables (Dependent Variables)

The outcome variables for this study are occupational stress (OS) and coping strategies (CS) for nurses who are working in CHCCs.

1.8.2.1 Occupational Stress (OS)

Conceptual definition:

Occupational stress (OS) is characterized as a reaction to chronic work-related stress, with physical and emotional exhaustion (Bria et al., 2014; Önder & Basim, 2008).

Operational definition:

Scores on the Nursing Stress Scale (NSS) will measure the occupational stress(Gray-Toft & Anderson, 1981).

1.8.2.2 Coping Strategies (CS)

Conceptual definition:

Specific efforts, both behavioral and cognitive, that people use to control, tolerate, reduce or minimize stressful events (Folkman et al., 1986).

Operational definition:

Coping strategies will be measured by scores on the Brief Coping Orientations to Problems Experienced (COPE) (Carver, 1997).

1.8.3 Condition Variable (Independent Variable)

The condition variable for this study is Stress Management Interventional Program (SMIP) for nurses who are working in CHCC.

1.8.3.1 Stress Management Interventional Program (SMIP)

Conceptual definition:

Stress management program refers to the act of developing and implementing strategies or interventions for reducing or controlling occupational stress (Happell et al., 2013).

Operational definition:

The SMP is an experiential teaching program composed of six stress management strategy sessions for PHNs. The independent variable for this study was an assigned to experimental group 1 (participating in the stress management program). During the workshop there was no intervention for the control group but they were put on a waiting list to receive the intervention after the active treatment group is done. The workshop included the following topics: overview of stress, relaxation technique training (deep breathing exercise and progressive relaxation techniques), cognitive restructuring, which include positive self-talk and problem-solving techniques, humor therapy, time management and assertiveness training.

1.9 Summary

This chapter provides general overview about the study variables including OS, CSs, and SMIP. Also, this chapter discussed the research gaps in this area after a brief review in the problem statement and presented the significance of the study. The chapter also summarized the research objectives, questions and hypothesis that will be linked and discussed in the chapter of discussion

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Ja'far Mohammad Aqeel Alkhawaldeh, was born in Amman city in Jordan in 1988. He completed his primary school from Salhoop elementary school, and then completed his secondary school from Al-Baqa' school. He graduated with bachelor's degree in Nursing in Jun 2010 from Faculty of Nursing/University of Jordan, and graduated with a first class master's degree in clinical nursing from Faculty of Nursing /Applied Science University in 2015. He started his first job in September 2010 as a health educator in Rahaf foundation, and then he worked as an ICU staff nurse in Ibn-Alhaytham Hospital, and then he worked as a clinical instructor in the Faculty of Nursing/ University of Jordan 2015. In 2016, he started a new job as a lecturer in Al-isra University/ Faculty of Nursing until 2017 when he joined his PhD program in nursing at University Putra Malaysia (UPM).

LIST OF PUBLICATIONS

Alkhawaldeh, J., Soh, K. L., Mukhtar, F., Peng, O. C., & Anshasi, H. A. (2020). Stress management interventions for intensive and critical care nurses: A systematic review. *Nursing in critical care*, *25*(2), 84–92.https://doi.org/10.1111/nicc.12489. **(ISI/Q1).**

Alkhawaldeh J., Soh, K., Mukhtar, F., Ooi CP. (2020). Effectiveness of stress management interventional programme on occupational stress for nurses: A systematic review. *Journal of nursing management*, *28*(2), 209–220. https://doi.org/10.1111/jonm.12938. **(ISI/Q1).**

Alkhawaldeh J., Soh, K., Mukhtar, F., Ooi CP. (2020). Stress Management Training Program for Stress Reduction and Coping Improvement in Public Health Nurses: A Randomized Controlled Trial. *Journal of Advanced Nursing*. https://doi.org/10.1111/jan.14506 **(ISI/Q1).**

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