



**ERASMUS MUNDUS MASTER COURSE IN EMERGENCY AND CRITICAL CARE
NURSING (EMMECC NURSING)**

**“THE QUALITY OF WORKING LIFE AND RESILIENCE AMONG NURSES IN
PEDIATRIC SETTING DURING COVID-19 PANDEMIC”**

PANYADA CHOLSKHON

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MASTER THESIS

AUTHOR

PANYADA CHOLSAKHON

TUTOR

FILOMENA MATOS

CO-TUTOR

FILIPE NAVE





ERASMUS MUNDUS JOINT MASTER DEGREE IN EMERGENCY AND CRITICAL CARE NURSING

FILOMENA ADELAIDE PEREIRA SABINO DE MATOS, Doctor in Psychology from the University of Algarve, School of Health, Nursing Department, University of Algarve, Professor Adjunto, as Professor of the Erasmus Mundus Joint Master Degree in Emergency and Critical Care Nursing.

FILIFE JORGE GAMBOA MARTINS NAVE, Doctor in Health Psychology from the University of Algarve, School of Health, Nursing Department, University of Algarve, Professor Adjunto, as Professor of the Erasmus Master Joint Master Degree in Emergency and Critical Care Nursing.

CERTIFIES:

That the Master's Thesis submitted by Miss PANYADA CHOLSAKHON, entitled "THE QUALITY OF WORKING LIFE AND RESILIENCE AMONG NURSES IN PEDIATRIC SETTING DURING COVID-19 PANDEMIC", carried out under the supervision of Mrs. FILOMENA ADELAIDE PEREIRA SABINO DE MATOS and Mr. FILIFE JORGE GAMBOA MARTINS NAVE, in the Erasmus Joint Master Degree in Emergency and Critical Care Nursing, meets the necessary requirements to be approved as a Master's Thesis

And for the record, and for the relevant purposes, the present certification is issued in University of Algarve, on February, 2022.

Vº Bº

Assinado por: **Filomena Adelaide Pereira Sabino de Matos**

Num. de Identificação: 09029074
Data: 2022.02.05 12:12:09+00'00'

Filomena Adelaide Pereira Sabino de Matos
Director/Tutor of the Project

Vº Bº

Assinado por: **FILIFE JORGE GAMBOA MARTINS NAVE**

Num. de Identificação: 06587373
Data: 2022.02.07 23:33:01+00'00'

Filife Jorge Gamboa Martins Nave
Co-Tutor of the Project



Dedication

“This thesis is dedicated to my wonderful and supportive family, my parents, Kiadtiphum and Phattharawalan, my sisters Papanee and Nutnicha for their spiritual support and encouragement throughout my education. I would also like to dedicate my work to my friends Sirintra and Suttiwan for sharing guidance and inspiration for me to achieve my master’s degree. To my colleagues at NICU Ramathibodi hospital, Jiranoot, Pitchayapha, and Roykrong, who shared their words of advice and encouragement to finish this study. And lastly, I would like to express my special gratitude to my teachers at the Faculty of Medicine Ramathibodi Hospital, Mahidol University, in particular, Suthida Masuthon, PhD., RN. who have always supported and believed in me and encouraged me to achieve my dream.”

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ABBREVIATIONS

QoWL: Quality of Working Life

WRQoL: Work Related Quality of Life

GWB: General Well Being

JCS: Job Career Satisfaction

SAW: Stress at Work

CAW: Control at Work

HWI: Home-Work Interface

WCS: Work Conditions

JDC: Job Demand-Control Model

ER: Emergency Department

GPD: General Pediatric Department

NICU: Neonatal Intensive Care Unit

OPD: Outpatient Clinic Department

COVID-19: Coronavirus disease 2019

PPE: Personal Protective Equipment.

ABSTRACT

Introduction: Nurses are the most significant part of the health care delivery system. During the COVID-19 pandemic, the healthcare system is one of the institutions that operate under the most challenging conditions during this outbreak. An increase in demands of caring COVID-19 patients resulted in understaffing problem and high workload in health organization. It is irrefutable that nurses all over the world are working under tremendous stress which could affect their quality of working life, its dimensions and resilience. Therefore, it is critical that each healthcare organization evaluate nurses' quality of working life and resilience, both from the individual and the healthcare systems levels, in order to design and initiate a supportive system to enhance their resilience and promote their QoWL in such a stressful pandemic situation. **Aim:** To measure the quality of working life and resilience among nurses in pediatric departments. **Methodology:** A quantitative cross-sectional study approach to assess the quality of working life (QoWL), its subscale, and resilience among nurses working in four pediatric departments in the Centro Hospitalar Universitario do Algarve (CHUA), Faro, using the Work-Related Quality of Life (WRQoL) Scale and Measuring State Resilience Scale (Chok C. Hiew). **Result:** Most of nurses experienced low QoWL, low level of QoWL in its six-subscals, and also had moderate resilience state. **Conclusion:** Nurses experienced low QoWL and moderate resilience state. Therefore, to reevaluate hospital's policy and initiate supportive program to improve nurses QoWL and resilience should be considered. Further study to investigate causes of low QoWL is needed.

CHAPTER ONE

1. INTRODUCTION / LITERATURE REVIEW

Nurses are the most significant part of the health care delivery system. Nurses and midwives account for approximately half of the healthcare workforce worldwide (WHO, 2019). In European countries, as the population ages, the demand for nursing care increases. Nonetheless, most European countries are experiencing or will experience a nurse shortage in the labor market. There are no adequate solutions available at the moment, and recruiting future nurses is difficult (Heinen et al., 2013). As a result, nurse shortages and workload remain critical. Nurses are professionals who often work in complex practice environments characterized by various difficulties and stress factors that can undermine nurses' total capacity to provide excellent care for patients. Since nurse staff are the largest group of health care providers, to be able to provide quality care to their patients, they must have a satisfactory quality of working life.

In a pediatric setting that requires special skills in order to provide dedicated nursing care to various ages, from infants until adolescence and their families, nurses face a complex challenge that includes not only to meet the needs of sick children but also to support the needs of children's families. As a result, the work characteristic of nurses in the pediatric setting induce nurses to experience job stress, have less job satisfaction, and also have symptoms of compassion fatigue when working with sick, vulnerable infants and children (Ernst et al., 2004) (Maytum et al., 2004). Job satisfaction and work-related quality of life are two important issues in any job that are related to overall well-being, employee

productivity, and retention. Work-related quality of life and job satisfaction has a significant and positive relationship. Furthermore, job satisfaction can be predicted by the work-related quality of life (Rostami et al., 2021).

The quality of working life (QoWL) is significant because it is linked to employee commitment, turnover intentions, organizational effectiveness, productivity, and overall well-being (Rai, 2013). As a result, there is currently a global interest in these problems, which appears to indicate a certain level of awareness and concern at the international level (Chitakornkijasil, 2010). Many researchers conducted studies about QoWL over the last 35 years in every occupational or professional group, including caring professionals as nurses. Nursing QoWL has been the subject of most investigations (Rai, 2013). Major predictors of the nursing QoWL were determined by (Vagharseyyedin et al., 2010) such as leadership and management, style/decision-making, shift working, salary and other benefits, relationship with colleagues, demographic characteristics, and workload/job strain. As nurses are the most numerous group of employees in health care organizations, improving their quality of working life challenged health care organizations since the 1970s (Moradi et al., 2014). Several studies, however, have found that the quality of nurses' work lives is low (Eslamian et al., 2015; Obeidollah et al., 2017). Some studies have shown that nurses have an average QoWL (Boonrod, 2009; Hashemi Dehaghi & Sheikhtaheri, 2014; Suaib et al., 2019). QoWL provides many benefits to nurses and directly impacts health services. It is critical that each organization require more attention on this issue because QoWL is perceived as capable of increasing employee participation. An increase in QoWL in the hospital can improve nurses' professionalism and have an impact on the effectiveness and productivity of the organization (Boonrod, 2009).

During the COVID-19 pandemic, the healthcare system is one of the institutions that operate under the most challenging conditions during outbreaks such as pandemics, which affect the entire world and result in deaths. In pandemics that have a socioeconomic and mental impact on society, the mental health of healthcare teams, which have a heavy social and workload, is impacted (Celmece & Menekay, 2020). The low quality of working life of healthcare professionals has been reported in many studies. The study of (Nikeghbal et al., 2021) stated that nurses who look after Covid-19 patients are in a more unfavorable situation. Due to the work period, these nurses have a high workload and a low quality of working life in order to compensate for the mental and physical deficiencies caused by a prolonged presence in the workplace. Similar to the other studies, showed the QoWL among healthcare staff during the COVID-19 pandemic was low (Bilal Maqsood et al., 2021). There was a global shortage of nurses prior to the pandemic. However, the increased demands of caring for COVID-19 patients, as well as the usual care of non-COVID patients, are likely to exacerbate this understaffing problem (Turale & Nantsupawat, 2021). The quality of working life among healthcare workers during this serious pandemic is necessary to be investigated. Because QoWL has a significant impact on attracting and retaining employees, it is critical to pay closer attention to nurses QoWL in order to develop strategies for improving nurses' working conditions and QoWL so that nurses can provide better care to their patients, especially given the limited workforce, high workload and emotional fatigue of healthcare worker during COVID-19 pandemic. Nowadays, especially in an outbreak situation, it is irrefutable that nurses all over the world are working under tremendous stress to provide care to sick and dying patients during the pandemic. Many are experiencing increased stress as well as other negative effects on their mental health. Apart from the QoWL investigation, it is interesting to study about resilience skills of healthcare workers. To assess resilience, individuals will

be evaluated on their ability to seek and use social support and supportive networks, as well as their ability to improve self-perception and to accept circumstances, and also their ability to grow following a stressful event (Leys et al., 2020). Therefore, it is critical that each healthcare organization evaluate nurses' quality of working life and resilience, both from the individual and the healthcare systems levels, in order to design and initiate a supportive system to enhance their resilience and promote their well-being in such a stressful pandemic situation.

1.1. Quality of working life

Although no formal definition of quality of working life (QoWL) exists, industrial psychologists and management scholars generally agree that QoWL is a construct that deals with employee well-being, which affects not only job satisfaction but also satisfaction in other life domains such as family life, leisure life, social life, financial life, and so on. As a result, the focus of QoWL extends beyond job satisfaction. It is concerned with the impact of the workplace on job satisfaction, satisfaction in non-work life domains, and overall life satisfaction, personal happiness, and subjective well-being. (Sirgy et al., 2001) defined the quality of Working Life as a part of the overall quality of life that is influenced by work. Many organizations gradually adopt the philosophy of making their employees happy, satisfied, and engaged at work by enhancing their motivations and drives. There has been an increase in interest in QoWL studies (Van Laar et al., 2007). To evaluate the quality of working life among employees, a reliable tool for assessing employees' quality of working life is required.

The Worked-Related Quality of Life (WRQoL) scale and its derivatives have been used to assess and improve working life quality in a variety of organizations. This WRQoL scale is available in over ten languages and has been used in over 50 countries across a variety of professions as well as health care worker which is provided as a sample in the published manual (Easton et al., 2012) and had been studied among healthcare worker and proved by (Van Laar et al., 2007) study that the WRQoL scale is appropriately be used in healthcare organizations to assess the quality of working life. The WRQoL scale has been demonstrated to be a psychometrically strong scale based on six subfactors, with good reliability and validity (Easton et al., 2012). The conceptual model of work-related quality of life, as measured by the WRQoL scale, has six-factor structures including general well-being (GWB), home-work interface (HWI), job and career satisfaction (JCS), control at work (CAW), working conditions (WCS) and stress at work (SAW).

1.1.1. Job and Career Satisfaction (JCS)

Job satisfaction is defined as people's attitudes and feelings toward their jobs. People's attitudes toward their jobs can be positive, indicating job satisfaction, or negative, indicating job dissatisfaction (Mount et al., 2006). Furthermore, better work-related quality of life has been linked to job motivation, job satisfaction, work involvement, life satisfaction, happiness, and lower self-rated anxiety (Zubair et al., 2017). Nurses working in hospitals, particularly in intensive care units, face a variety of challenges, including job characteristics, workload, and a high level of physical, mental, and emotional stress in the workplace that may impact their job satisfaction. They are generally dissatisfied with their jobs (Lu et al., 2012). Therefore, identifying factors that may influence the dissatisfaction of nurses working in these units is critical as there is a significant and positive relationship between work-

related quality of life and job satisfaction. Also, the work-related quality of life can predict job satisfaction (Rostami et al., 2021).

1.1.2. General well-being (GWB)

Well-being has been defined as the experience of positive emotions such as happiness and contentment, as well as the development of one's potential, having some control over one's life, having a sense of purpose, and having positive relationships (Huppert, 2009). Positive mental health is synonymous with subjective well-being. The World Health Organization (WHO) gives the definition of positive mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (World Health, 2001). In health organizations, work-related stress is pervasive and affects diverse healthcare professionals (HCPs) working in different clinical settings such as physicians, pharmacists, physician assistants, and nurses, whereas influenced factors that are impacting well-being are at various levels, i.e., system, institution, program, interpersonal, and individual (Penwell-Waines et al., 2018). Currently, in the situation of the pandemic, there were reported the psychological impacts of COVID-19 on global health care workers (Stelnicki et al., 2020). The first wave of the COVID-19 pandemic had a significant impact on the mental well-being of ICU nurses, such as symptoms of depression or PTSD, anxiety, work fatigue, and the study showed nurses experienced stress 2.5 times higher than before the pandemic and remained elevated after the surge (Heesakkers et al., 2021). Therefore, Nurses' mental health following the COVID-19 pandemic will undoubtedly be impacted because of work-related stress.

1.1.3. Stress at Work (SAW)

Stress at Work is determined by an individual's feelings towards excessive pressure and stress at work (Easton et al., 2012). Occupational stress is a well-known issue among healthcare workers (Burbeck et al., 2002). Nursing has been identified as a job with a high level of stress (Xianyu & Lambert, 2006). Work stress in nursing was first assessed by (Menzies, 1960), who identified four sources of anxiety among nurses: Patient care, decision making, taking responsibility, and change. The role of nurses has long been considered as stress-filled based on the physical labor, human suffering, work hours, staffing, and interpersonal relationships that are central to the work nurses do. As a result, stress decreases attention, concentration, and decision-making, and judgment skills. Occupational stress is also associated with lower quality of care due to a loss of compassion for patients and an increase in the occurrence of mistakes and practice errors. Hence, hospital administrators should implement strategies to reduce occupational stress among nurses to deal with the stress, enhancing their quality of working life (Sharma et al., 2014).

1.1.4. Control at Work (CAW)

The Control at work (CAW) is a factor that reflects the extent to which an employee believes they can exercise an appropriate level of control within their work environment. That sense of control may be related to various aspects of work, including the opportunity to participate in decision-making processes that affect them. According to leading researchers in the field, an individual's perception of personal control can significantly impact both their stress experience and their health (Easton et al., 2012). In 1979, Karasek developed the job demands-control model (JDC), which explains how job demands and control levels can affect strain, job satisfaction, and learning. In the job demands-control model, job demands

are quantifiable in terms of workload or role conflict (competing job-related role demands). On the other hand, job control is defined as the ability to make decisions about how to complete job tasks (also called job decision latitude). Strain is measured as physiological symptoms and cardiovascular disorder (Karasek, 1979). According to Karasek's Job Demand-Control (JDC) model suggests that jobs with high job demand and low job control are likely to have negative health outcomes as consequences. This model also indicates that individuals who experience negative health outcomes at work may receive inadequate job-related support. Thus, demands, control, and support are viewed as interrelated in determining employee well-being at work (Easton et al., 2012).

1.1.5. Home-Work Interface (HWI)

The connections between work and home (non-working) life are becoming increasingly recognized as necessary in a society in which dual-earner couples are common. In several countries, work-home interface stress is closely associated with emotional exhaustion among doctors and in other professional groups (Hertzberg et al., 2016). During the time of high job demand, such as the COVID-19 pandemic, the possibility of work-life interference with family life, or family life interference with work-life, or both, cannot be denied. Due to such conflict between work and personal life, nurses, as frontline workers, might have felt emotional exhaustion. Previous studies have found a positive and strong relationship between work-family conflict (WFC) and work demands such as working hours, workload, and irregular working hours. In particular, employees who work changing shifts cannot attend activities related to their families, and this situation prevents them from fulfilling their familial roles and responsibilities (Ekici et al., 2017; Yildirim & Aycan, 2008). The study

also found that work-family conflict influences job satisfaction among nurses and doctors (Anafarta, 2011).

1.1.6. Working Conditions (WCS)

Working Conditions (WCS) assesses an employee's satisfaction with the basic resources. Working conditions and security are required to do their job effectively. Employees' quality of working life might have a negative impact if they have dissatisfied with physical working conditions such as health and safety and workplace hygiene (Easton et al., 2012). Given the importance of human resources, it is believed that organizations should attract and retain high-performing employees by providing them with better working conditions (Ethel et al., 2017). Moreover, organizational variables of poor job content and high job demands have been shown higher rates of musculoskeletal disorders. In some cases, these factors covary with physical factors. For instance, high levels of time pressure can increase the speed of movement and, therefore, the dynamic forces acting on tissues. The effect of job control, also called decision latitude, on reports of musculoskeletal disorders has received moderate support from the literature as previously mentioned in control at work (National Research et al., 1999).

1.2. Resilience

Resilience is generally defined as an individual's or organization's ability to survive and adapt in the face of adversity (Luthar et al., 2000). It enables people to form supportive relationships with family and friends during stressful times (Friborg et al., 2003). Resilience becomes a motivational factor in achieving welfare, growth, and even self-actualization (Sturgeon & Zautra, 2010). Given the inherently stressful nature of the nursing environment,

resilience is arguably an essential factor as a nurse attribute (Cameron & Brownie, 2010). Therefore, it is meaningful to explore how is the resilience among nurses who are under work-related stress. The COVID-19 pandemic put extreme demands on healthcare workers' lives and put them under tremendous stress. In this stressful environment, resilience is a skill that can help nurses cope better during crises and function more effectively in the workplace. The study (Jo et al., 2021) conducted during the COVID-19 pandemic found that organizational and unit-level leadership is critical to nurse resilience, which is important for maintaining nurses' health and wellness as well as the quality of care they deliver. Thus, building nurse resilience through formal education, social support, and meaningful recognition is an important focus for nurse leaders to establish a healthy work environment and maintain a stable nurse workforce. Prioritizing the well-being of caregivers is necessary for patient safety, quality of care, and the patient experience (Kester & Wei, 2018).

1.3.Problem statement

Despite the largest group among healthcare providers, nurses' shortage is still problematic. As a result, a high workload remains among nursing professions. The demand for pediatric nurses has been predicted to be increased dramatically as the gap between the number of elderly people in need of care and those available to provide services shifts resources away from children (Shelton, 2003). High levels of workload have been reported as one of the primary factors contributing to nurses' job stress (Romano et al., 2015) which is the predictor of quality of working life (QoWL) (Vagharseyyedin et al., 2010). Since before the COVID-19 pandemic, QoWL was the worldwide interest for many researchers to conduct the study and investigate employees in each organization, including healthcare providers. Many studies showed a low level of QoWL among nurses in various areas, similar to the study of

(Said et al., 2015). The findings of his study revealed a low level of overall QoWL among pediatric nurses in Faro hospital in 2013 before this pandemic. From this result it is necessary to initiate the strategies to support their employees to improve their quality of working life and resilience, which will promote the caring quality and best outcome for patients.

The global nurse shortage is likely to worsen because of the increased demand for care during COVID-19. One major concern is that the pandemic's widespread and multifaceted effects on the nursing profession will exacerbate nursing attrition and poor mental health in the future (Turale & Nantsupawat, 2021). We could not deny that the COVID-19 pandemic now affects every area of health organizations, including the pediatric setting. Since pediatric nurses are a lesser-studied population, perhaps due to the relatively small number of pediatric nurses compared to general service nurses and the broader population of healthcare professionals, it is crucial to assess their QoWL and its subscales. Moreover, the skill of resilience will help them survive this stressful situation such as this pandemic. Thus, every health organization should focus on this issue because nurses' QoWL affects the quality of care, which is expected in every health system. During the COVID-19 pandemic, the situation dramatically changed, and all health care providers are in higher demand, especially nurses, which will affect the higher workload and higher job stress. As major frontline workers during this serious outbreak, nurses' quality of working life and their resilience needed to be explored to improve their working life and resilience and provide nurses with better durability to conduct high-quality care, especially during this challenging working condition.

CHAPTER TWO

2. METHODOLOGY

2.1. Main objective

The purpose of this study is to assess the quality of working life (QoWL) in its subscales and resilience among nurses in pediatric setting during the COVID-19 pandemic with a replica of the study conducted by Nizar B. Said in 2013 (Said et al., 2015) (8 years gap). [The study of Said was approved on 23/10/2013 by the CHUA's Ethical Commission. (**A qualidade de vida no trabalho e Resiliência entre os enfermeiros que trabalham nos serviços Pediátricos do CHUA**)]

2.2. Specific objective

- 2.2.1. To describe the demographic profile of nurses working in pediatric departments in the Centro Hospitalar Universitario do Algarve (CHUA), Faro, in 2021.
- 2.2.2. To assess the quality of working life (QoWL) and its subscales of nurses during COVID-19 pandemic in four pediatric departments in CHUA, Faro.
- 2.2.3. To assess the resilience of nurses during COVID-19 pandemic in four pediatric departments in CHUA, Faro.
- 2.2.4. To assess the difference in QoWL and its subscales and Resilience among nurses before and during the COVID-19 pandemic.

2.3. Research Question

- 2.3.1. How is the socio-demographic characteristic of nurses working in pediatric departments?

2.3.2. How is the quality of working life (QoWL) and its subscales among nurses during COVID-19 pandemic in pediatric departments?

2.3.3. How is the resilience of nurses during COVID-19 pandemic in pediatric departments?

2.3.4. What is the difference in QoWL and resilience among nurses before and during the COVID-19 pandemic?

2.4. Hypothesis

H1 - There is a relation between working department and quality of working life (QoWL).

H2 - There is a relation between working department and resilience.

H3 – There is a relation between age and quality of working life (QoWL).

H4 – There is a relation between age and resilience.

H5 - There is a relation between gender and quality of working life (QoWL).

H6 - There is a relation between gender and resilience.

H7 - There is a relation between years of working experience as a nurse and the quality of working life (QoWL) in its subscales and in total.

H8 – There is a relation between years of working experience as a nurse and resilience.

H9 - There is a relation between years of working experience as a nurse in the current working department and the quality of working life (QoWL) in its subscales and in total.

H10 – There is a relation between years of working experience as a nurse in the current working department and resilience.

H11- There is a relation between resilience and quality of working life (QoWL).

2.5. Expected results

Under the challenging situation as COVID-19 pandemic, the quality of working life and resilience of nurses might be at the low level due to many potential inducing factors such as high workload, job stress, work-home imbalanced, physical fatigue, and burnout.

2.6. Possible nursing practical implications

The quality of working life has a positive and significant impact on job satisfaction, job commitment, and job performance, which means that the higher the employees' quality of life, the more satisfied they are with their jobs. Also, the quality of their working life influences their job commitment, and its improvement leads to an increase in employee commitment to the organization. As a high demand and stressful job, nurses in each organization need to be assessed their quality of working life to initiate some strategies to deal with those factors interfering with their well-being, and also improve their retention by offering intrinsic resources that can be obtained from the social contexts of the individual through the human resource management system, e.g., career growth, a healthy and caring work-life quality. Such motivational resources can develop a sense of obligation toward their places of employment, which influences their quality of life and intention to stay or leave their career.

2.7. Study Design and setting

This study proposes to make a quantitative cross-sectional study approach to assess the quality of working life (QoWL) and its subscales and resilience of nurses working in pediatric departments, using the Work-Related Quality of Life (WRQoL) Scale (Easton,

2018) and Resilience scale (Chok C. Hiew, 1998) in its Portuguese version validated and translated by Martins (2005), and Matos (2012).

As a replica, the study was conducted in the same setting as the study of (Said et al., 2015), which was held in 2013 in the Centro Hospitalar Universitário do Algarve (CHUA), Faro, included four pediatric departments: Pediatric Outpatient Department (OPD), Pediatric Emergency Department (PED), General Pediatric Department (GPD), Neonatal Intensive Care Unit (NICU) and all procedures followed the same procedures described on Said's.

2.7.1. Population

CHUA, Faro, has four pediatric services in its department. There are Pediatric Emergency Department (ER), Pediatric Outpatient Department (OPD), General Pediatric Department (GPD), and Neonatal and Pediatric intensive care unit (NICU and PICU). The population was chosen according to the main goal of this study. This study involved all nurses who are working in four Paediatric departments of the CHUA, Faro. This is the inclusion criteria. The exclusion criteria are nurses working in other CHUA's departments than the Pediatric Departments. The included population was 102 nurses working in the Pediatric departments. Of them, 6 nurses were on sick leave. The questionnaires were sent to 96 potential participants. Of those 72 returned. In OPD, 8 nurses answered, PED 29 nurses, GPD 13 nurses, NICU and PICU 22 nurses. The response rate was 75%, with a loss of 25% of the respondents, only.

2.7.2. Instruments

Three questionnaires (same as Said's study) were provided for each participant in the form of hard copies questionnaires as follows:

1. **The demographic questionnaire** in Portuguese language required information of age, sex, marital status, academic background, and family background, and working experience background. (Appendix 3)

Terms and definitions:

- Bachelor's degree - 3-year higher education degree.
 - Licenciado degree - 4-year higher level academic degree (240 ECTS).
 - Specialist - nurse specialising in Paediatrics.
 - Work place with flexibility - work place where the nurse work allows some flexibility to deal with personal or family duties.
 - Child care - nurse with children under 12 years-old
 - Elderly parent care - nurse responsible for elderly relative.
2. **The work-related quality of life (WRQoL) scale** is a questionnaire designed to assess the quality of working life (QoWL), which includes 24 questions. Each question uses a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). Six subscales are included in 23 questions: general well-being (GWB: question 4, 9, 10, 15, 17, 21), home-work interface (HWI: question 5,6,14), job and career satisfaction (JCS: question 1, 3, 8, 11, 18, 21), control at work (CAW: question 2, 12, 23), working conditions (WCS: question 13, 16, 22) and stress at work (SAW: question 7, 19), last question (24) related to overall QoWL item, all questions are direct except question 7, 9, 19 are reverse negatively question.

So, a higher value for questions 7, 9, 19 means better QoWL. The WRQoL questionnaire for individuals is presented as a 24 items single-page scale. Although the scale has 23 items, a further general question is normally added to serve as an indicator of the validity and reliability of the scale and factors. This 24th item is:

"I am satisfied with the overall quality of my working life" (Easton, 2018). (Appendix 4). The reliability of this questionnaire has already been accessed by the 9 UK University data set, which contained a good general sample from a wide range of jobs and many respondents across age groups and gender and its overall Cronbach's alpha for all 23 items were found to be an excellent 0.94 (Easton, 2018).

- 3. Measuring State Resilience Scale.** From the Inventory Measuring State and Child Resilience written by Chok Hiew (1998). This inventory is composed by two scales (Measuring State Resilience and Measuring Child Resilience), based in two models: resilience development (Grotberg, 1995) and resilience factors development (Werner, 1989). We selected the Measuring State Resilience Scale, which assesses people's current resilience state. The questionnaire translated and validated in Portuguese language contains 14 questions, to assess resilience in people. Each question uses a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree) (Martins, 2005; Matos, 2012). The scale presents good psychometric results. Cronbach's alpha for Measuring State Resilience Scale validated to Portuguese population is 0.832 (Matos, 2012) (Appendix 5).

2.8. Reliability and Validity

2.8.1. Work-Related Quality of Life (WRQoL) Scale: A Measure of Quality of Working Life (Second edition) (Easton, 2018): The original data for the WRQoL Scale were collected through a survey of NHS employees working in local community services and a hospital trust in Southern England. (Van Laar et al., 2007). The instrument was generated by 61 questions. Participants answered the questions by responding to one of five statements (Strongly Agree to Strongly Disagree). Using the valid sample of 953, the average score was 3.474 (SD= 1.04, Median= 4). Overall scale reliability was shown with a Cronbach's alpha of 0.96, indicating that the items all measure similar middle-range theoretical concepts in a reliable manner. A preliminary Principal Components Analysis (PCA) with Oblim rotation was performed on a randomly selected half of the full WRQoL NHS UK data set, in order to have the final set of factor to be included. Using the EXPLORE data set, 12 components with eigenvalues above 1.0 were generated. One of the purposes of the exploratory analysis phase was to reduce the number of items within the questionnaire if appropriate. A low loading variable factor reduction process was used to reduce the number of variables. Items that did not load on any factor with a loading of at least 5 were removed from the item set. As a result, 34 items were removed, 27 items remained, which together represented seven factors. However, not only did the seventh factor have an unacceptable reliability alpha of .60, but the three items representing factor seven were also not theoretically meaningful. Inspection of the scree plot and eigenvalues also revealed a clear discontinuity between factors six and seven. Therefore, the three items loading on this seventh factor were removed, and a further PCA was undertaken. The removal of the three items from the seven-factor solution produced a six-factor structure with items loaded on the same 6 factors as previously.

The Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Normed Fit Index (NFI) and Root Mean Square Error of Approximation (RMSEA) were used to test model fit. Confirmatory factor analysis was conducted on the 24 items identified in the exploratory data set, and the result showed an acceptable but relatively poor fit. Item 24 was the lowest loading factor item within the data set during the exploratory factor analysis (.505) and should be removed. The factor structure model was tested again on the remaining 23 items. All fit indices sizes suggested a reasonable to good model fit. A Chi-square difference test indicated a significant improvement in fit for the 23 items model over the 24 items model, represented by the 23 items model's better chi-square value and goodness of fit statistics. Then additional test of the factor structure was provided, as the results for the COMBINED data should be very similar to that of the EXPLORE and CONFIRM sub-sets of data. The COMBINED data set had a sample size of 953, and the assumptions for the COMBINED Principle Components Analysis were confirmed. The resulting scale had good sub-scale reliabilities ranging from .75 to .88 for the six factors 23 item model, and 0.91 overall. As expected, high correlations were found between the six factors, especially between JCS and WCS (.64), JCS and CAW (.70), WCS and CAW (.63). The model was estimated again for the COMBINED data set, and produced a $\chi^2(216, N = 953) = 866.46, p < 0.01, CFI = .94, GFI = .93, NFI = .92$ and $RMSEA = .05$. All fit indices sizes suggest a good model fit (Easton, 2018). The further scale revalidation was conducted in 2010 (The 9 University data set). The overall Cronbach's alpha for 23 items was found to be an excellent .94, and sub-scale reliabilities ranging from .72 to .90. (Easton, 2018).

2.8.2. Resilience

In the current study, the Measuring State Resilience Scale written by Chok Hiew (1998) translated into Portuguese and validated for Portuguese population by Martins (2005) ,

revalidated by (Matos, 2012) was applied. The scale has in its original format, 15 items but during the validation and adaptation to Portuguese population, one of the items was suppressed. The Portuguese version of Measuring State Resilience presents 14 items and good internal consistency values (α -Cronbach=, 832) (Matos, 2012). Regarding the scale factorial analysis, good results were found: KMO=.905 (Matos, 2012). This factorial analysis reveals the existence of three factors. However, as the number of the scales' factors are different from the author, and from the first validation to Portuguese population, we will use the State Resilience Scale as a unidimensional scale, following the proposals and procedures of the author (Chock Hiew, 1998) and the procedures used by Martins (2005) and Matos (2012).

2.9. Data Collection Procedures

The purpose of this study is to utilize quantitative data. Primary data was collected using questionnaires in the form of hard copies. Three questionnaires were used in data collection, the first contained demographic characteristics. The second questionnaire is the work-related quality of life scale (WRQoL scale) to assess quality of working life (QOWL) of nurses. The third questionnaire is the Measuring State Resilience to assess the resilience of nurses. The validity and reliability of the instruments were evaluated as aforementioned. The questionnaires were distributed to the target population in four pediatric departments of CHUA, Faro after obtaining permission from CHUA's Ethical Commission (Appendix 1). The period of the data collection process was four weeks (December 2nd to December 28th, 2021).

2.10. Ethical Consideration

Before conducting the research, written consent to carry out the study was obtained from CHUA's Ethical Commission, consent nr 184/2021 date 18/11/2021. Consent was also obtained from the respondents after explaining to them the purpose of the study (Appendix 2). The researcher followed three principles, namely, confidentiality, autonomy, and use of data collected for academic purposes only. Autonomy is inability to link information to participants. All data was kept secure and will be destroyed after publication or three years after completion of the study. The data collection process was conducted under the permission of the Hospital Director. Moreover, the researcher will inform the Hospital about the main results.

2.11. Data Analysis and statistical program

Data were analyzed using the SPSS program for macOS (version 28). We made descriptive and inferential statistics. Analyzing methods for descriptive statistics including mean, mode, frequency, and standard deviation. To decide which tests for inferential statistics we will use, we study the population's normality through the Kolmogorov-Smirnov and Bonferroni tests. We confirm that our population is not normal but is very near to normality. If by a hand, according to the non-normality population, we should use non-parametric tests, by the other hand, in Said's study (2013), the population was normal, so he used parametric tests. Our decision take into account two premises: our population is very near to normality, and Said used parametric tests. Regarding the current study is a replication of the study by Nizar B. Said, the parametric test was chosen; Pearson correlation, T-test, and One-way ANOVA test.

Nurses' socio-demographic characteristics were expressed as numbers and percentages except for age, years of work experience as a nurse, years of work experience as a nurse in

the current workplace, working members in the family, dependent family members, and the sick days of last year was presented as mean, and SD. In order to assess the correlation between the QoWL (corresponds to the sum of 6 subscales) and Resilience, and also the correlation between Resilience, QoWL, and its subscales with independent variables, Pearson correlation was used. In the comparison of mean scores of the two groups: between WRQoL, its subscales, resilience, and social demographic variables, the T-test was used for independent samples to test the difference between two means. For the comparison of mean scores of more than two groups: between WRQoL, its subscales, Resilience, and social demographic variables, the One-way ANOVA test was used to compare the mean scores. When there was a difference between more than two groups, the One-way ANOVA Post-Hoc test was used to determine which group caused these differences. Statistically, significance was accepted as $p < 0.05$.

Regarding the scales, the WRQoL scale, 6 factors (subscales) developed in 23-item plus a 24th independent item were codified. According to the author's Scale, it is possible to use the subscales with summative scales or some form of transformed item scores. They also claim "... some researchers will wish to compare their data against the transformed data norms, others against the non-transformed data norms". (Easton and Van Laar, 2014: 35).

For this reason, it is possible to present and treat the scale with and without transformation. In our case, we decided to present the scale results both in transformed and non-transformed items. Untransformed tables to present our data and to compare with the percentile table suggested from the authors regarding a study with $N=3797$ (Easton and Van Laar, 2014). We were transformed data to compare with Said's results in his study in 2013 that we replicate.

CHAPTER THREE

3. RESULTS

The results included nurses' socio-demographic characteristics and the relations between these variables and QoWL, its subscales, and resilience.

3.1 Descriptive Statistics

Descriptive statistics for nurses' socio-demographic characteristics are presented in Table 1. The respondents included 9 male nurses (12.5%) and 63 female nurses (87.5%) which had a mean age of 40.04 years (SD = 10.54 years). Considering the marital status of the respondents, 18 nurses are single (25%), 45 nurses are married (62.5%), and 9 nurses are divorced (12.5%). Regarding to academic qualification, the results indicated that 5 nurses had completed bachelor's degrees (6.9%), 58 nurses had licenciado's degree (80.6%), and 9 nurses had master's degrees (12.5%). For the working department of respondents, there were 29 nurses (40.3%) working in ER, 13 nurses (18.1%) working in GPD, 22 nurses (30.6%) working in NICU, and 8 nurses (11.1%) working in OPD. For the area of specialty, 41 nurses (56.9%) have their specialties in the pediatric field, whereas 31 nurses (43.1%) don't have. Furthermore, 57 nurses (79.2%) have work flexibility, whereas 15 nurses (20.8%) don't have. 3 nurses (4.2%) have parent care, 69 nurses (95.8%) don't have, 39 nurses (54.2%) have child care, and 33 nurses (45.8%) don't have. Working experience as a nurse had a mean of 17.29 years (SD = 10.473 years). Working experience as a nurse in the current working department had mean of 10.40 years (SD = 8.05 years). Working members in the family had a mean of 2.03 persons (SD = 0.78 person). Dependent family members had a mean of 0.99 person (SD = 0.98 person). The sick days of last year had a mean of 7.79 days (SD = 36.33 days).

Table 1. Nurses' Socio-demographic Characteristic.

Socio-demographic Variables	N (72)	%	Mean	SD
Gender				
Male	9	12.5		
Female	63	87.5		
Age (years)			40.40	10.54
Marital Status				
Single	18	25		
Married	45	62.5		
Divorced	9	12.5		
Academic Qualification				
Bachelor	5	6.9		
License	58	80.6		
Master	9	12.5		
Working Department				
ER	29	40.3		
GPD	13	18.1		
NICU	22	30.6		
OPD	8	11.1		
Area Specialty				
Yes	41	56.9		
No	31	43.1		
Work Flexibility				
Yes	57	79.2		
No	15	20.8		
Parent care				
Yes	3	4.2		
No	69	96.8		
Child Care				
Yes	39	54.2		
No	33	45.8		
Working Experience as a nurse (years)			17.29	10.47
Working Experience in the current workplace (years)			10.40	8.05
Working member in Family (persons)			2.03	0.78
Dependent Family Member (persons)			0.99	0.98
The sick days of last year (days)			7.79	36.33

On Table 2, we present the Scales' (WRQoL and its sub-scales and Resilience Scale) descriptive statistics. Regarding WRQoL Scale, the subscale JCS present a mean of 3.10, mode = 3.17, and SD = 0.98. The subscale GWB present a mean of 3.22, mode = 3.67, and SD = 0.78. The subscale SAW present a mean of 2.68, mode = 2.00, and SD = 0.91. The subscale CAW present a mean of 2.97, mode = 3.00, and SD = 0.78. The subscale HWI present a mean of 2.82, mode = 3.00, and SD = 0.77. The sub-scale WCS present a mean of 2.72, mode = 3.33, and SD = 0.79. The subscale of overall QoWL (Item 24) presents a mean of 2.86, mode = 3.00, and SD = 0.98). The WQRoL, present a mean of 2.99, mode = 2.57, and SD = 0.55, and resilience scale present a mean of 59.33, mode = 60, and SD = 5.39.

Table 2 – Scale's Descriptive statistics

Scale	Mean	Mode	SD
JCS	3.10	3.17	0.98
GWB	3.22	3.67	0.78
SAW	2.68	2.00	0.91
CAW	2.97	3.00	0.78
HWI	2.82	3.33	0.77
WCS	2.72	3.33	0.79
OverallQoWL (Item24)	2.86	3.00	0.98
WRQoL	2.99	2.57	0.55
Resilience	59.33	60	5.39

The current study also found that most nurses have low QoWL (66.7%), whereas 19.4% of them have average and 13.9% have high QoWL, as shown in table 3.

Table 3: Nursing Grades for QoWL and its sub-scales

	JCS	GWB	SAW	CAW	HWI	WCS	QoWL
Low %	44.4	38.9	52.8	61.1	61.1	84.7	66.7
Average %	43.1	44.4	30.6	22.2	29.2	5.6	19.4
High %	12.5	16.7	16.7	16.7	5.6	9.7	13.9

3.2. Inferential Statistics.

The tests used in the statistical treatment are, as mentioned before: to verify relationships between variables under study to confirm or disprove hypotheses, and whenever variables are measured at the interval level, we used Pearson's correlation. To compare differences between dichotomous and non-quantitative variables, we used Student's t-test. To compare differences between the remaining variables, when non-quantitative and ordinal, we used the analysis of variance (One-Way - ANOVA).

3.2.1 Working Department with QoWL, its subscales, and Resilience.

- **Working Department and QoWL.**

H1 – There is a relation between working department and QoWL.

One-way ANOVA test of working department with WRQoL showed a statistically significant difference between groups. In other words, working departments had an effect on QoWL. OPD and GPD have more QoWL than NICU and ER, whereas ER had the lowest score of QoWL, as shown in table 4.

Table 4: One-way ANOVA post Hoc test of Working Department and WRQoL.

Working Department	Mean	SD	P-value	Mean Differences (I-J)	Post Hoc Sig.	
NICU	66.27	8.96	<0.001	NICU and ER	3.203	1.000
ER	63.06	12.62		NICU and GPD	-11.650	0.015
				NICU and OPD	-16.602	0.002
GPD	77.92	10.35		ER and GPD	-14.854	<0.001
			ER and OPD	-19.806	<0.001	
OPD	82.87	6.15	GPD and OPD	-4.951	1.000	

∴ From table 4: Hypothesis (H1) is accepted.

The following tables present the relations between working department and QoWL in six-subcales.

- **Working Department and JCS.**

One-way ANOVA test of working department with JCS showed that there was a statistically significant difference between groups or in the other words, working departments had an effect on JCS as shown in table 5. GPD and OPD nurses have more JCS than NICU and ER nurses.

Table 5: One-way ANOVA post Hoc test of Working Department with JCS.

Working Department	Mean	SD	P-value	Mean Differences (I-J)	Post Hoc Sig.	
NICU	17.40	3.23	<0.01	NICU and ER	-0.108	1.000
ER	17.51	3.71		NICU and GPD	-3.283	0.029
				NICU and OPD	-5.090	0.002
GPD	20.69	2.56		ER and GPD	-3.175	0.026
			ER and OPD	-4.982	0.001	
OPD	22.5	1.77	GPD and OPD	-1.807	1.000	

- **Working Department and GWB.**

One-way ANOVA test of working department with GWB showed that there was a statistically significant difference between group or in the other words working department had an effect on GWB as shown in table 6. OPD nurses have more GWB than ER nurses.

Table 6: One-way ANOVA post Hoc test of Working Department with GWB.

Working Department	Mean	SD	P-value	Mean Differences (I-J)	Post Hoc Sig.
NICU	19.72	4.04	<0.01	NICU and ER.	0.439
ER	17.44	5.30		NICU and GPD	1.000
				NICU and OPD	0.076
GPD	21.07	3.68		ER and GPD	1.000
			ER and OPD	0.028	
OPD	22.62	6.3	GPD and OPD	1.000	

- **Working Department and SAW.**

One-way ANOVA test of working department with SAW showed a statistically significant difference between groups. In other words, working department had an effect on SAW, as shown in table 7. OPD and GPD nurses have more SAW than NICU and ER nurses.

Table 7: One-way ANOVA post Hoc test of Working Department with SAW.

Working Department	Mean	SD	P-value	mean differences (I-J)	Post Hoc Sig.
NICU	5.31	1.58	<0.01	NICU and ER	0.118
ER	4.31	1.41		NICU and GPD	0.042
				NICU and OPD	0.048
GPD	6.76	1.53		ER and GPD	<0.001
			ER and OPD	<0.001	
OPD	7.00	1.41	GPD and OPD	1.000	

- **Working Department and CAW.**

One-way ANOVA test of CAW with working department, there was no statistically difference between group or in other words working department has no effect on CAW as shown in table 8.

Table 8: One-way ANOVA test of Working Department with CAW.

	mean	SD	P-value
Working Department			
NICU	8.50	2.10	0.277
ER	8.62	2.71	
GPD	9.76	1.92	
OPD	9.75	1.58	

- **Working Department and HWI.**

One-way ANOVA test of working department with HWI, there was a statistically significant difference between group or in the other words working department has an effect on HWI as shown in table 9. OPD and GPD nurses have more HWI than NICU and ER nurses.

Table 9: One-way ANOVA post Hoc test of Working Department with HWI.

Working Department	Mean	SD	P-value	Mean Differences (I-J)	Post Hoc Sig.	
NICU	7.45	1.84	<0.01	NICU and ER	-0.614	1.000
ER	8.06	2.46		NICU and GPD	-2.468	0.007
				NICU and OPD	-3.045	0.005
GPD	9.92	1.97		ER and GPD	-1.854	0.060
				ER and OPD	-2.431	0.030
OPD	10.50	1.19		GPD and OPD	-0.576	1.000

- **Working Department and WCS.**

One-way ANOVA test of working department with WCS, there was a statistically significant difference between group or in the other words working department had an effect on WCS as shown in table 10. OPD and GPD nurses have better WCS than NICU and ER nurses.

Table 10: One-way ANOVA post Hoc test of Working Department with WCS.

Working Department	Mean	SD	P-Value	Mean Differences (I-J)	Post Hoc Sig.
NICU	7.86	1.80	<0.01	NICU and ER	1.000
ER	7.10	2.51		NICU and GPD	0.008
				NICU and OPD	0.019
GPD	9.69	1.79		ER and GPD	0.002
			ER and OPD	<0.001	
OPD	10.50	1.30	GPD and OPD	1.000	

- **Working Department and Resilience**

H2 - There is a relation between working department and resilience.

One-way ANOVA test of working department with resilience showed that there was no statistically significant difference between groups. In other words, working department did not affect nurses' resilience, as shown in table 11.

Table 11: One-way ANOVA test of Working Department with Resilience

Working Department	Mean	SD	P-value
NICU	58.86	3.96	0.290
ER	59.51	6.25	
GPD	61.30	5.73	
OPD	56.75	4.36	

∴ From Table 11: Hypothesis (H2) is rejected

3.2.2 Age with QoWL, its subscales, and Resilience

H3 – There is a relation between age and QoWL.

H4 – There is a relation between age and resilience.

The data presented in table 12 shows no correlation between age and WRQoL, its subscales, and resilience. In other words, age of nurses had no effect on their QoWL and its subscales and resilience.

Table12: Pearson correlation matrix between age and WRQoL, its subscales, and Resilience.

		JCS	GWB	SAW	HWI	WCS	CAW	WRQOL	Resilience
Age	r	0.111	-0.012	0.110	0.146	0.059	0.151	0.095	-0.098
	p	0.351	0.919	0.928	0.221	0.621	0.206	0.428	0.413

∴ From Table 12: Hypothesis (H3) and Hypothesis (H4) are rejected.

3.2.3. Gender with QoWL, its subscales, and Resilience.

H5 - There is a relation between gender and QoWL.

H6 - There is a relation between gender and resilience.

The T-test of gender with WRQoL, its subscales, and resilience showed that there was no statistically significant difference. In other words, gender had no effect on QoWL, its subscales, and resilience among nurses, as shown in table 13.

Table 13: T-test of gender with WRQoL, its subscales, and Resilience.

Gender		JCS	GWB	SAW	CAW	HWI	WCS	WRQoL	Resilience
Male	Mean	17.44	18.00	5.33	7.55	7.77	6.88	63.00	57.88
	SD	3.77	5.31	2.34	3.08	1.64	2.57	12.34	8.00
Female	Mean	18.77	19.57	5.36	9.11	8.58	8.36	69.77	59.53
	SD	3.64	4.61	1.73	2.17	2.40	2.32	12.62	4.96
	P value	0.310	0.352	0.970	0.062	0.333	0.083	0.135	0.562

∴ From table 13: Hypothesis (H5) and Hypothesis (H6) are rejected.

3.2.4. Years of experience as a nurse with QoWL, its subscales, and Resilience

H7 – There is a relation between years of working experience as a nurse and QoWL.

H8 – There is a relation between years of working experience as a nurse and Resilience.

The data presented in table 14 shows no correlation between years of experience as a nurse and WRQoL, its subscales, and resilience. In other words, years of experience as a nurse had no effect on QoWL, its subscales, and resilience.

Table14: Pearson correlation matrix between years of experience as a nurse and WRQoL, its subscales, and Resilience.

		JCS	GWB	SAW	HWI	WCS	CAW	WRQOL	Resilience
Years of experience. as a nurse	r	0.088	-0.033	0.018	0.131	0.029	0.138	0.071	-0.130
	p	0.465	0.786	0.879	0.273	0.086	0.247	0.555	0.278

*The correlation is significant at 0.05 level.

**The correlation is significant at 0.01 level.

∴ From table 14: Hypothesis (H7) and Hypothesis (H8) are rejected.

3.2.5. Years of working experience as a nurse in current working department with QoWL, its subscales, and Resilience.

H9 - There is a relation between years of experience as a nurse in current working department and QoWL.

H 10- There is a relation between years of experience as a nurse in current working department and Resilience.

The data presented in table 15 shows no correlation between years of experience as a nurse and WRQoL and resilience. In other words, years of experience as a nurse in current working department had no effect on QoWL and resilience. However, a weak negative correlation statistically significant was found between years of experience as a nurse in current working department and WCS. In other words, nurses with less years of experience as nurses in current working department perceived better WCS. From the result, JCS, GWB, SAW, HWI, and CAW were not affected.

Table15: Pearson correlation matrix between years of experience as a nurse in current work and WRQoL, its subscales, and Resilience.

	JCS	GWB	SAW	HWI	WCS	CAW	WRQOL	Resilience
Years of experience. r	-0.148	-0.195	0.000	-0.038	-0.248*	-0.069	-0.181	0.037
as nurse in current. p	0.213	0.101	0.997	0.754	0.036	0.564	0.128	0.755
work.								

*The correlation is significant at 0.05 level.

∴ From table 15: Hypothesis (H9) and Hypothesis (H10) are rejected.

3.2.6. The correlation between Resilience, QoWL subscales, and QoWL.

H11- There is a relation between resilience and QoWL.

The data presented in table 16 shows no correlation between resilience and WRQoL. However, a weak positive correlation statistically significant was found between resilience and some of WRQoL subscales: JCS and GWB. In other words, nurses with more resilience

have more JCS and GWB. Moreover, the result also showed that there was no correlation between resilience and SAW, HWI, WCS, and CAW. In other words, resilience did not influence nurses' SAW, HWI, WCS, and CAW. However, a hypothesis verified in part cannot be accepted. Thus, we rejected Hypothesis H11, despite having found a positive correlation with $P < 0.05$ in both correlations: resilience and JCS and GWB.

Table16: Pearson correlation matrix between Resilience and WRQoL, and its subscales.

		JCS	GWB	SAW	HWI	WCS	CAW	WRQOL
Resilience.	R	0.256*	0.261*	0.141	0.037	0.134	0.003	0..209
	P	0.030	0.027	0.237	0.760	0.261	0.978	0.077

*The correlation is significant at 0.05 level.

∴ From table 16: Hypothesis (H11) is rejected.

In addition to the variables tested in the hypotheses we formulated, we also took the remaining socio-demographic variables and the variables under study to statistical proof, which are presented here.

3.2.7. Academic qualification with QoWL, its subscales, and Resilience

The One-way ANOVA test of academic qualification with WRQoL, its subscales, and resilience showed that there was no statistically significant difference between academic qualification and WRQoL, its subscales, and resilience, as shown in table 17. In other words, academic qualification had no effect on QoWL, its subscale, and Resilience.

Table 17: One-way ANOVA test of Academic qualification with WRQoL, its subscales, and Resilience.

Academic qualification		JCS	GWB	SAW	CAW	HWI	WCS	WRQoL	Resilience
Bachelor	Mean	20.80	18.40	5.20	9.00	9.80	8.60	71.80	58.05
	SD	2.28	4.50	1.92	1.58	1.78	2.40	9.88	7.36
Licenciado	Mean	18.22	19.01	5.26	8.91	8.37	8.13	60.03	59.32
	SD	3.56	4.61	1.70	2.50	2.36	2.43	12.86	5.29
Master	Mean	18.88	22.22	5.44	8.88	8.44	8.22	73.11	60.22
	SD	4.42	4.81	2.50	1.69	2.35	2.33	13.20	5.35
P-value		0.172	0.146	0.972	0.996	0.431	0.918	0.474	0.728

3.2.8. Marital status with QoWL, its subscales, and Resilience

The One-way ANOVA test of marital status with WRQoL, its subscales, and resilience showed that there was no statistically significant difference between marital status and WRQoL, its subscales, and resilience, as shown in table 18. In other words, marital status has no effect on QoWL, its subscale, and resilience.

Table 18: One-way ANOVA test of marital status with WRQoL, its subscales, and Resilience.

Marital status		JCS	GWB	SAW	CAW	HWI	WCS	WRQoL	Resilience
Single	Mean	18.83	20.50	5.38	9.27	8.77	8.66	71.44	58.05
	SD	4.14	5.15	2.09	2.27	2.15	2.32	14.23	4.97
Married	Mean	18.33	19.83	5.15	8.77	8.245	7.97	67.42	59.91
	SD	3.71	4.77	1.71	2.44	2.38	2.49	12.62	5.76
Divorced	Mean	19.05	19.33	6.33	8.88	9.11	8.22	71.44	59.00
	SD	2.18	3.16	1.41	2.08	2.47	2.04	9.52	4.09
p-value		0.636	0.495	0.203	0.751	0.500	0.591	0.435	0.464

3.2.9. Area Specialty with QoWL, its subscales, and Resilience

Table 19 presented the T-test of area specialty with WRQoL, its subscales, and resilience.

The result showed that there was no statistically significant difference. In other words, area specialty had no effect on QoWL, its subscale, and Resilience.

Table 19: T-test of Area specialty with WRQoL, its subscales, and Resilience.

Area Specialty		JCS	GWB	SAW	CAW	HWI	WCS	WRQoL	Resilience
Yes	Mean	18.36	19.48	5.34	9.36	8.63	8.02	69.21	59.95
	SD	3.80	4.34	1.90	2.34	2.35	2.35	12.33	5.54
No	Mean	18.93	19.22	5.38	8.32	8.29	8.38	68.54	58.51
	SD	3.49	5.19	1.68	2.24	2.28	2.45	13.37	5.15
P-value		0.517	0.817	0.916	0.061	0.539	0.521	0.826	0.266

3.2.10. Work flexibility with QoWL, its subscales, and Resilience

Table 20 presented the T-test of work flexibility with WRQoL, its subscales, and resilience.

The result showed statistically significant differences between work flexibility and GWB, CAW, HWI, and WRQoL. In other words, work flexibility had an effect on QoWL, its subscale: GWB, CAW, and HWI. However, table 20 also presents no statistically significant difference between work flexibility and JCS, SAW, WCS, and resilience. In other words, work flexibility had no effect on JCS, SAW, WCS, and resilience.

Table 20: T-test of Work Flexibility with WRQoL subscales, WRQoL, and Resilience.

Work Flexibility		JCS	GWB	SAW	CAW	HWI	WCS	WRQoL	Resilience
Yes	Mean	19.00	19.98	5.49	9.33	9.05	8.42	71.28	59.32
	SD	3.71	4.46	1.79	2.14	2.11	2.41	12.23	5.44
No	Mean	17.13	17.01	4.86	7.33	6.33	7.26	60.00	59.26
	SD	3.11	4.99	1.80	2.42	1.83	2.08	10.58	5.35
P value		0.079	0.031	0.233	0.003	<0.001	0.096	<0.001	0.958

3.2.11. Parent care with QoWL, its subscales, and Resilience

Table 21 presented the T-test of parent care with WRQoL, its subscales, and resilience. The results showed no statistically significant difference. In other words, parent care had no effect on QoWL, its subscale, and Resilience.

Table 21: T-test of Parent care with WRQoL, its subscales, and Resilience.

Parent care		JCS	GWB	SAW	CAW	HWI	WCS	WRQoL	Resilience
Yes	Mean	18.00	19.33	5.66	8.00	8.00	9.00	68.00	54.66
	SD	3.60	4.61	1.15	1.73	1.00	3.60	12.12	4.61
No	Mean	18.63	19.37	5.34	8.95	8.50	8.17	68.97	59.53
	SD	3.68	4.73	1.82	2.36	2.47	2.35	12.81	5.35
P-value		0.770	0.988	0.767	0.493	0.715	0.547	0.898	0.127

3.2.12. Child care with QoWL, its subscales, and Resilience

Table 22 presented the T-test of Child care with WRQoL, its subscales, and resilience. The result showed that there were statistically significant differences between: child care and GWB, WCS, and WRQoL. In other words, child care had an effect on QoWL, GWB, and WCS. The results also showed there was no statistically significant difference between child care and JCS, SAW, CAW, HWI, and resilience. In other words, child care had no effect on JCS, SAW, CAW, HWI, and resilience.

Table 22: T-test of Child care with WRQoL, its subscales, and Resilience.

Child care		JCS	GWB	SAW	CAW	HWI	WCS	WRQoL	Resilience
Yes	Mean	17.87	18.17	5.15	8.74	8.10	7.51	65.56	60.35
	SD	3.71	4.40	1.91	2.59	2.52	2.44	12.85	5.59
No	Mean	19.48	20.78	5.60	9.12	8.93	8.96	72.90	58.12
	SD	3.11	4.70	1.65	2.02	2.03	2.08	11.48	4.94
P-value		0.062	0.018	0.293	0.499	0.136	0.009	0.01	0.079

3.2.13. Number of working members in the family with QoWL, its subscales, and Resilience

The data presented in table 23 shows no correlation between number of working members in the family and WRQoL, its subscales, and resilience. In other words, the number of working members in the family had no effect on QoWL, its subscale, and Resilience

Table23: Pearson correlation matrix between Number of working members in the family and WRQoL, its subscales, and Resilience.

	JCS	GWB	SAW	HWI	WCS	CAW	WRQOL	Resilience
Number of working Members in the family	-0.065	-0.094	-0.116	0.069	0.012	-0.090	0.072	-0.082
r p	0.589	0.431	0.330	0.563	0.918	0.450	0.550	0.494

*The correlation is significant at 0.05 level.

**The correlation is significant at 0.01 level

3.2.14. Number of dependent family members with QoWL, its subscales, and Resilience

The data presented in table 24 shows weak negative correlations between number of dependent family members and JCS, GWB, HWI, WCS, and WRQoL. In other words, nurses with less number of dependent family members had better QoWL, JCS, GWB, HWI, and WCS. However, the results also present no correlation between the number of dependent family members and SAW, CAW, and resilience. In other words, number of dependent family members had no effect on SAW, CAW, and resilience.

Table24: Pearson correlation matrix between Number of dependent family members and WRQoL, its subscales, and Resilience.

	JCS	GWB	SAW	HWI	WCS	CAW	WRQOL	Resilience
Number of dependent Member in the family	-0.341**	-0.409**	-0.227	-0.322**	-0.400**	-0.086	-0.432**	0.099
r p	0.003	<0.001	0.055	0.006	<0.001	0.473	<0.001	0.408

*The correlation is significant at 0.05 level.

**The correlation is significant at 0.01 level.

3.2.15. Sick days last year with QoWL, its subscales, and Resilience

The data presented in table 25 shows no correlation between sick days last year and WRQoL, its subscales, and resilience. In other word, sick days last year had no effect on QoWL, its subscale, and Resilience.

Table25: Pearson correlation matrix between Sick days last year and WRQoL, its subscales, and Resilience.

		JCS	GWB	SAW	HWI	WCS	CAW	WRQOL	Resilience
Sick days last year	r	0.024	0.087	0.076	0.188	0.079	0.014	0.033	0.117
	p	0.839	0.468	0.523	0.113	0.511	0.909	0.785	0.328

*The correlation is significant at 0.05 level.

Finally and according to a replica of the study by (Said et al., 2015), the following comparative tables will present the results of both studies.

3.3. Comparative tables of the results from the study conducted before the COVID-19 pandemic (Said et al., 2015) and during the COVID-19 pandemic (current study).

Regarding the mean score of WRQoL and its subscales compared with the original study and study of (Said et al., 2015). The current study established the lowest average scores of WRQoL and all its sub-scales compared to the study of (Said et al., 2015) and the original study conducted before the COVID-19 pandemic, as shown in table 26.

Table 26: Mean of WRQoL and its subscales compared with the original study. (Easton, 2018) and study by (Said et al., 2015)

	JCS	GWB	SAW	CAW	HWI	WCS	WRQoL
Mean n = 3797	3.427	3.437	2.758	3.411	3.528	3.612	3.407
Original Study							
SD	0.818	0.851	1.032	0.856	0.863	0.815	0.688
Mean n = 66	3.252	3.548	3.181	3.181	3.197	3.288	3.275
Said's Study							
SD	0.535	0.680	0.848	0.848	0.806	0.696	0.530
Mean n = 72	3.101	3.229	2.680	2.972	2.828	2.726	2.99
Current Study							
SD	0.610	0.782	0.901	0.780	0.777	0.795	0.55

The current study also found that most nurses have low QoWL (66.7%), whereas 19.4% of them have average and 13.9% have high QoWL, respectively. Similarly, the study by (Said et al., 2015) demonstrated the low overall QoWL among nurses, as shown in table 27. For QoWL's subscale, the current study showed low level in all subscales. However, Said found high QWB and SAW, whereas other subscales were in low level.

Table 27: Nursing Grades for QoWL and its subscales of the current study compare with the study of (Said et al., 2015).

	JCS	GWB	SAW	CAW	HWI	WCS	QoWL
Said's Study							
Low %	40.9	36.4	15.2	47.0	42.4	62.1	43.6
Average %	39.4	12.1	6.1	42.4	34.8	15.2	24.6
High %	19.7	51.5	78.8	10.6	22.7	22.7	30.8
Current study							
Low %	44.4	38.9	52.8	61.1	61.1	84.7	66.7
Average %	43.1	44.4	30.6	22.2	29.2	5.6	19.4
High %	12.5	16.7	16.7	16.7	5.6	9.7	13.9

Table 28 presented that there were weak positive correlations between resilience and JCS and GWB in the current study. However, Said found a positive correlation between resilience and GWB only.

Table 28: Pearson correlation matrix between Resilience and WRQoL, and its subscales, current study compared with (Said et al., 2015).

Before COVID-19 (Said et al., 2015)		JCS	GWB	SAW	HWI	WCS	CAW	WRQOL
Resilience.	r	0.174	0.312*	0.015	-0.051	0.158	0.015	0.314
	p	0.161	0.011	0.904	0.687	0.207	0.904	0.126
During COVID-19 Current study								
Resilience.	r	0.256*	0.261*	0.141	0.037	0.134	0.003	0.209
	p	0.030	0.027	0.237	0.760	0.261	0.978	0.077

*The correlation is significant at 0.05 level.

The following tables present the results of relation between demographic variables and WRQoL, its subscales, and resilience .(Compare between the study of (Said et al., 2015) and the current study).

Table 29 shows a statistically significant difference between working department and WRQoL in the current study, in contrary with the previous study did not show the difference.

Table 29: One-way ANOVA test of Working Department, Academic Qualification Marital Status with WRQoL, the current study compared with (Said et al., 2015).

WRQoL	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	1.055	0.375	11.064	<0.001
ER	M = 3.31, SD = 0.53		M = 2.74, SD = 0.54	
GPD	M = 3.52, SD = 0.55		M = 3.38, SD = 0.45	
NICU	M = 3.19, SD = 0.53		M = 2.88, SD = 0.38	
OPD	M = 3.26, SD = 0.47		M = 3.60, SD = 0.26	
Academic Qualification	1.055	0.375	0.754	0.474
Bachelor	M = 3.28, SD = 0.42		M = 3.12, SD = 0.42	
License	M = 3.28, SD = 0.55		M = 2.95, SD = 1.55	
Master	M = 3.40, SD = 0.15		M = 3.17, SD = 0.57	
Marital Status	0.933	0.399	0.842	0.435
Single	M = 3.42, SD = 0.66		M = 3.10, SD = 0.61	
Married	M = 3.22, SD = 0.44		M = 2.93, SD = 0.54	
Divorced or Separated	M = 3.22, SD = 3.65		M = 3.10, SD = 0.55	

Table 30 presents a statistically significant difference between child care and WRQoL in the current study. However, the previous study did not show any difference.

Table 30: T-test of gender, area specialty, working flexibility, parent and child care with Gender, the current study compared with (Said et al., 2015).

WRQoL	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	1.632	0.108	0.003	0.135
Male	M = 3.04, SD = 0.71		M = 2.73, SD = 0.53	
Female	M = 3.32, SD = 0.48		M = 3.03, SD = 0.54	
Area Specialty	-1.038	0.303	1.088	0.826
Yes	M = 3.20, SD = 0.59		M = 3.00, SD = 0.53	
No	M = 3.34, SD = 0.47		M = 2.98, SD = 0.58	
Working Flexibility	-1.038	0.303	1.672	<0.001
Yes	M = 3.31, SD = 0.52		M = 3.09, SD = 0.53	
No	M = 2.86, SD = 0.45		M = 2.60, SD = 0.46	
Parent Care	-2.224	0.823	0.117	0.898
Yes	M = 3.32, SD = 0.63		M = 2.95, SD = 0.52	
No	M = 3.27, SD = 0.53		M = 2.99, SD = 0.55	
Child Care	-0.808	0.416	0.018	0.013
Yes	M = 3.22, SD = 0.48		M = 2.85, SD = 0.55	
No	M = 3.33, SD = 0.58		M = 3.17, SD = 0.49	

Table 31 shows a statistically significant difference between working department and JCS in current study, whereas the previous study did not show the difference.

Table 31: One-way ANOVA test of Working Department, Academic Qualification and Marital Status with JCS, the current study compared with (Said et al., 2015).

JCS	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	3.562	0.019	7.812	<0.01
ER	M = 3.41, SD = 0.53		M = 2.91, SD = 0.61	
GPD	M = 3.60, SD = 0.55		M = 3.44, SD = 0.42	
NICU	M = 3.07, SD = 0.48		M = 2.90, SD = 0.53	
OPD	M = 3.28, SD = 0.48		M = 3.75, SD = 2.95	
Academic Qualification	0.381	0.685	1.807	0.172
Bachelor	M = 3.44, SD = 0.46		M = 3.46, SD = 0.38	
License	M = 3.23, SD = 0.55		M = 3.03, SD = 0.59	
Master	M = 3.33, SD = 0.31		M = 3.31, SD = 0.73	
Marital Status	0.933	0.399	0.455	0.636
Single	M = 3.30, SD = 0.72		M = 3.13, SD = 1.69	
Married	M = 3.24, SD = 0.47		M = 3.05, SD = 0.61	
Divorced or separated	M = 3.20, SD = 0.40		M = 3.25, SD = 0.36	

Table 32 presents that there is no statistically significant difference between gender, area specialty, work flexibility, parent care, child care and JCS in both studies.

Table 32: T-test of gender, area specialty, working flexibility, parent and child care with JCS, the current study compared with (Said et al., 2015).

JCS	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	2.830	0.097	0.000	0.310
Male	M = 2.96, SD = 0.59		M = 2.90, SD = 0.62	
Female	M = 3.31, SD = 0.51		M = 3.12, SD = 0.60	
Area Specialty	-0.943	0.349	0.061	0.517
Yes	M = 3.19, SD = 0.53		M = 3.06, SD = 0.63	
No	M = 3.31, SD = 0.54		M = 3.15, SD = 0.59	
Working Flexibility	-0.943	0.349	2.141	0.079
Yes	M = 3.29, SD = 0.52		M = 3.16, SD = 0.61	
No	M = 2.76, SD = 0.50		M = 2.85, SD = 0.51	
Parent Care	-0.087	0.931	0.024	0.770
Yes	M = 3.23, SD = 0.81		M = 3.00, SD = 0.60	
No	M = 3.25, SD = 0.51		M = 3.10, SD = 0.61	
Child Care	0.365	0.716	0.102	0.062
Yes	M = 3.27, SD = 0.46		M = 2.97, SD = 0.61	
No	M = 3.23, SD = 0.62		M = 3.24, SD = 0.57	

Table 33 shows a statistically significant difference between working department and GWB in the current study. However, the previous study did not show the difference.

Table 33: One-way ANOVA test of Working Department, Academic Qualification and Marital Status with GWB, the current study compared with (Said et al., 2015).

GWB	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	3.562	0.314	3.950	0.012
ER	M = 3.51, SD = 0.67		M = 2.90, SD = 0.88	
GPD	M = 3.53, SD = 0.68		M = 3.51, SD = 0.61	
NICU	M = 3.64, SD = 0.67		M = 3.28, SD = 0.67	
OPD	M = 3.03, SD = 0.77		M = 3.77, SD = 0.38	
Academic Qualification	2.492	0.091	1.982	0.146
Bachelor	M = 3.20, SD = 0.36		M = 3.06, SD = 0.75	
License	M = 3.54, SD = 0.69		M = 3.16, SD = 0.76	
Master	M = 4.78, SD = 0.48		M = 3.70, SD = 0.80	
Marital Status	0.180	0.836	0.710	0.495
Single	M = 3.61, SD = 0.74		M = 3.41, SD = 0.85	
Married	M = 3.54, SD = 0.69		M = 3.15, SD = 0.79	
Divorced or separated	M = 3.44, SD = 0.56		M = 3.22, SD = 0.52	

Table 34 shows a statistically significant difference between working flexibility, childcare, and JCS in current study, whereas previous study did not show the difference.

Table 34: T-test of gender, area specialty, working flexibility, parent and child care with GWB, the current study compared with (Said et al., 2015).

GWB	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	1.149	0.255	0.002	0.352
Male	M = 3.33, SD = 0.84		M = 3.00, SD = 0.88	
Female	M = 3.59, SD = 0.64		M = 3.26, SD = 0.76	
Area Specialty	-0.943	0.349	2.275	0.817
Yes	M = 3.48, SD = 0.71		M = 3.24, SD = 0.72	
No	M = 3.61, SD = 0.65		M = 3.20, SD = 0.86	
Working Flexibility	-0.075	0.430	0.267	0.031
Yes	M = 3.61, SD = 0.66		M = 3.33, SD = 0.74	
No	M = 2.80, SD = 0.57		M = 2.84, SD = 0.83	
Parent Care	-0.284	0.777	0.149	0.988
Yes	M = 3.47, SD = 0.97		M = 3.22, SD = 0.76	
No	M = 3.56, SD = 0.66		M = 3.22, SD = 0.78	
Child Care	-0.124	0.901	0.061	0.018
Yes	M = 3.54, SD = 0.68		M = 3.02, SD = 0.73	
No	M = 3.56, SD = 0.69		M = 3.46, SD = 0.78	

Table 35 shows a statistically significant difference between working department and GWB in current study, whereas previous study did not show the difference.

Table 35: One-way ANOVA test of Working Department, Academic Qualification and Marital Status with SAW, the current study compared with (Said et al., 2015).

SAW	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	1.084	0.363	11.885	<0.001
ER	M = 3.00, SD = 0.81		M = 2.15, SD = 0.70	
GPD	M = 3.60, SD = 0.70		M = 3.38, SD = 0.76	
NICU	M = 3.16, SD = 0.85		M = 2.65, SD = 0.79	
OPD	M = 3.01, SD = 2.29		M = 3.50, SD = 0.70	
Academic Qualification	2.180	0.121	0.029	0.972
Bachelor	M = 2.50, SD = 0.87		M = 2.60, SD = 0.96	
License	M = 3.26, SD = 0.83		M = 2.68, SD = 0.85	
Master	M = 2.83, SD = 0.76		M = 2.72, SD = 1.25	
Marital Status	0.378	0.687	1.633	0.203
Single	M = 3.30, SD = 0.82		M = 2.69, SD = 1.04	
Married	M = 3.16, SD = 0.75		M = 2.57, SD = 0.85	
Divorced or separated	M = 3.00, SD = 1.36		M = 3.16, SD = 0.70	

Table 36 presents that there is no statistically difference between gender, area specialty, work flexibility, parent care, childcare and SAW in both studies.

Table 36: T-test of gender, area specialty, working flexibility, parent and child care with SAW, the current study compared with (Said et al., 2015).

SAW	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	1.171	0.246	4.719	0.970
Male	M = 2.91, SD = 1.11		M = 2.66, SD = 0.86	
Female	M = 3.24, SD = 0.79		M = 2.68, SD = 1.02	
Area Specialty	0.052	0.958	1.402	0.916
Yes	M = 3.19, SD = 0.98		M = 2.67, SD = 0.95	
No	M = 3.28, SD = 0.72		M = 2.69, SD = 0.84	
Working Flexibility	-0.052	0.958	0.023	0.235
Yes	M = 3.17, SD = 0.87		M = 2.74, SD = 0.89	
No	M = 3.30, SD = 0.45		M = 2.43, SD = 0.90	
Parent Care	-0.708	0.481	1.427	0.767
Yes	M = 3.42, SD = 0.38		M = 2.83, SD = 0.57	
No	M = 3.16, SD = 0.88		M = 2.67, SD = 0.91	
Child Care	-1.125	0.265	1.148	0.263
Yes	M = 3.07, SD = 0.88		M = 2.57, SD = 0.95	
No	M = 3.31, SD = 0.81		M = 2.80, SD = 0.82	

Table 37 presents that there is no statistically significant difference between working department and CAW in both studies.

Table 37: One-way ANOVA test of Working Department, Academic Qualification and Marital Status with CAW, the current study compared with (Said et al., 2015).

CAW	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	1.084	0.363	1.135	0.277
ER	M = 3.00, SD = 0.82		M = 2.87, SD = 0.90	
GPD	M = 3.60, SD = 0.70		M = 3.25, SD = 0.17	
NICU	M = 3.16, SD = 0.85		M = 2.83, SD = 0.72	
OPD	M = 3.10, SD = 1.19		M = 3.25, SD = 0.52	
Academic Qualification	2.180	0.121	0.004	0.996
Bachelor	M = 2.50, SD = 0.87		M = 3.00, SD = 0.52	
License	M = 3.26, SD = 0.83		M = 2.97, SD = 0.83	
Master	M = 2.83, SD = 0.76		M = 3.96, SD = 0.56	
Marital Status	0.378	0.868	0.288	0.751
Single	M = 3.31, SD = 0.82		M = 3.09, SD = 0.75	
Married	M = 3.16, SD = 0.75		M = 2.92, SD = 0.81	
Divorced or separated	M = 3.00, SD = 1.36		M = 2.96, SD = 0.69	

Table 38 shows a statistically significant difference between working flexibility and CAW in current study, whereas previous study did not show the difference.

Table 38: T-test of gender, area specialty, working flexibility, parent and child care with CAW, the current study compared with (Said et al., 2015).

CAW	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	1.171	0.246	2.726	0.062
Male	M = 2.91, SD = 1.11		M = 2.51, SD = 1.02	
Female	M = 3.24, SD = 0.78		M = 3.03, SD = 0.72	
Area Specialty	0.052	0.958	0.037	0.061
Yes	M = 3.19, SD = 0.98		M = 3.12, SD = 0.78	
No	M = 3.18, SD = 0.72		M = 2.77, SD = 0.74	
Working Flexibility	0.052	0.958	0.567	0.003
Yes	M = 3.17, SD = 0.87		M = 3.11, SD = 0.71	
No	M = 3.30, SD = 0.45		M = 2.44, SD = 0.81	
Parent Care	-0.708	0.481	0.316	0.493
Yes	M = 3.42, SD = 0.38		M = 2.66, SD = 0.57	
No	M = 3.16, SD = 0.88		M = 2.98, SD = 0.79	
Child Care	-1.125	0.265	3.267	0.499
Yes	M = 3.07, SD = 0.88		M = 2.91, SD = 0.86	
No	M = 3.31, SD = 0.81		M = 3.04, SD = 0.67	

Table 39 shows a statistically significant difference between working department and HWI in both studies.

Table 39: One-way ANOVA test of Working Department, Academic Qualification and Marital Status with HWI, the current study compared with (Said et al., 2015).

HWI	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	5.525	0.002	6.669	<0.001
ER	M = 3.52, SD = 0.62		M = 2.68, SD = 0.82	
GPD	M = 3.57, SD = 1.00		M = 3.30, SD = 0.65	
NICU	M = 2.86, SD = 0.73		M = 2.48, SD = 0.61	
OPD	M = 3.80, SD = 0.18		M = 3.50, SD = 0.39	
Academic Qualification	1.596	0.211	0.853	0.431
Bachelor	M = 3.80, SD = 0.18		M = 3.26, SD = 0.59	
License	M = 3.15, SD = 0.84		M = 2.79, SD = 0.78	
Master	M = 3.00, SD = 0.33		M = 2.81, SD = 0.78	
Marital Status	1.945	0.152	0.700	0.500
Single	M = 3.43, SD = 0.92		M = 2.92, SD = 0.71	
Married	M = 3.04, SD = 0.77		M = 2.74, SD = 0.79	
Divorced or separated	M = 3.46, SD = 0.56		M = 3.03, SD = 0.82	

Table 40 shows a statistically significant difference between working flexibility and HWI in current study, whereas previous study did not show the difference.

Table 40: T-test of gender, area specialty, working flexibility, parent and child care with HWI, the current study compared with (Said et al., 2015).

HWI	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	1.446	0.153	2.674	0.333
Male	M = 2.88, SD = 0.98		M = 2.59, SD = 0.54	
Female	M = 3.26, SD = 0.76		M = 2.86, SD = 0.80	
Area Specialty	-1.535	0.130	0.304	0.539
Yes	M = 3.04, SD = 0.85		M = 2.87, SD = 0.79	
No	M = 3.34, SD = 0.74		M = 2.76, SD = 0.76	
Working Flexibility	1.535	0.130	1.120	<0.001
Yes	M = 3.26, SD = 0.78		M = 3.01, SD = 0.70	
No	M = 2.47, SD = 0.84		M = 2.11, SD = 0.61	
Parent Care	0.080	0.937	3.662	0.715
Yes	M = 3.22, SD = 1.20		M = 2.66, SD = 0.33	
No	M = 3.19, SD = 0.77		M = 2.83, SD = 0.79	
Child Care	-0.577	0.566	2.674	0.130
Yes	M = 3.14, SD = 0.77		M = 2.70, SD = 0.84	
No	M = 3.26, SD = 0.86		M = 2.97, SD = 0.67	

Table 41 shows a statistically significant difference between working department and WCS in current study, whereas previous study did not show the difference. Moreover, the statistically significant difference between academic qualification and WCS was found in the previous study (Said et al., 2015), however, this difference did not show in the current study.

Table 41: One-way ANOVA test of Working Department, Academic Qualification and Marital Status with WCS, the current study compared with (Said et al., 2015).

WCS	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	0.235	0.872	8.315	<0.001
ER	M = 3.41, SD = 0.69		M = 2.36, SD = 0.83	
GPD	M = 3.23, SD = 0.89		M = 3.23, SD = 0.59	
NICU	M = 3.25, SD = 0.67		M = 2.62, SD = 0.60	
OPD	M = 3.27, SD = 0.60		M = 3.50, SD = 0.43	
Academic Qualification	3.409	0.039	0.086	0.918
Bachelor	M = 3.67, SD = 0.62		M = 2.86, SD = 0.80	
License	M = 3.21, SD = 0.68		M = 2.71, SD = 0.81	
Master	M = 4.11, SD = 0.51		M = 2.74, SD = 0.77	
Marital Status	2.217	0.117	0.530	0.591
Single	M = 3.57, SD = 0.88		M = 2.88, SD = 0.77	
Married	M = 3.17, SD = 0.59		M = 2.65, SD = 0.83	
Divorced or separated	M = 3.25, SD = 0.64		M = 2.74, SD = 0.68	

Table 42 presents a statistically significant difference between childcare and WCS in current study, in contrary with previous study did not show the difference.

Table 42: T-test of gender, area specialty, working flexibility, parent and child care with WCS, the current study compared with (Said et al., 2015).

WCS	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	0.235	0.815	0.160	0.083
Male	M = 3.24, SD = 1.06		M = 2.29, SD = 0.85	
Female	M = 3.30, SD = 0.61		M = 2.78, SD = 0.77	
Area Specialty	-1.628	0.109	0.238	0.527
Yes	M = 3.15, SD = 0.77		M = 2.67, SD = 0.78	
No	M = 3.42, SD = 0.60		M = 2.79, SD = 0.81	
Working Flexibility	1.628	0.109	1.259	0.096
Yes	M = 3.35, SD = 0.67		M = 2.80, SD = 0.80	
No	M = 2.53, SD = 0.69		M = 2.42, SD = 0.69	
Parent Care	-0.444	0.658	0.871	0.547
Yes	M = 3.17, SD = 1.09		M = 3.00, SD = 1.20	
No	M = 3.30, SD = 0.66		M = 2.71, SD = 0.78	
Child Care	-0.496	0.622	1.498	0.009
Yes	M = 3.25, SD = 0.58		M = 2.50, SD = 0.81	
No	M = 3.33, SD = 0.82		M = 2.98, SD = 0.69	

Table 43 shows a statistically significant difference between working department and resilience in previous study (Said et al., 2015), whereas the current study did not show the difference.

Table 43: One-way ANOVA test of Working Department, Academic Qualification and Marital Status with resilience, the current study compared with (Said et al., 2015).

Resilience	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Working Department	3.715	0.016	1.275	0.290
ER	M = 61.06, SD = 5.46		M = 59.51, SD = 6.25	
GPD	M = 61.70, SD = 5.89		M = 61.30, SD = 5.73	
NICU	M = 60.40, SD = 3.79		M = 58.86, SD = 3.96	
OPD	M = 53.20, SD = 8.87		M = 56.75, SD = 4.36	
Academic Qualification	0.977	0.382	0.318	0.728
Bachelor	M = 59.40, SD = 5.94		M = 57.80, SD = 7.36	
License	M = 60.07, SD = 5.33		M = 59.32, SD = 5.29	
Master	M = 64.33, SD = 3.51		M = 60.22, SD = 5.35	
Marital Status	0.263	0.770	0.776	0.464
Single	M = 89.83, SD = 6.44		M = 58.05, SD = 4.97	
Married	M = 60.57, SD = 5.19		M = 59.91, SD = 5.76	
Divorced or separated	M = 59.25, SD = 3.24		M = 59.00, SD = 4.09	

Table 44 presents that there is no statistically significant difference between resilience and gender, area specialty, working flexibility, parent, and child care.

Table 44: T-test of gender, area specialty, working flexibility, parent and child care with Resilience, the current study compared with (Said et al., 2015).

Resilience	Before COVID-19 N = 66, (B.Said, 2015)		During COVID-19 N = 72, Current Study	
	Value (F)	P	Value (F)	P
Gender	0.846	0.401	8.576	0.562
Male	M = 61.45, SD = 3.42		M = 57.88, SD = 8.00	
Female	M = 59.96, SD = 5.62		M = 59.53, SD = 4.96	
Area Specialty	2.000	0.051	0.132	0.266
Yes	M = 61.53, SD = 5.08		M = 59.95, SD = 5.54	
No	M = 58.97, SD = 5.32		M = 58.51, SD = 5.15	
Working Flexibility	0.701	0.486	0.004	0.958
Yes	M = 60.34, SD = 5.43		M = 59.35, SD = 5.44	
No	M = 58.60, SD = 3.78		M = 59.26, SD = 5.35	
Parent Care	1.024	0.310	0.217	0.127
Yes	M = 62.33, SD = 3.20		M = 54.66, SD = 4.61	
No	M = 60.00, SD = 5.46		M = 59.53, SD = 5.35	
Child Care	0.072	0.942	0.249	0.079
Yes	M = 60.26, SD = 5.47		M = 60.35, SD = 5.59	
No	M = 60.16, SD = 5.24		M = 58.12, SD = 4.94	

Table 45 presents the correlation of WRQoL, its sub-scales, and resilience with independent variables before the COVID-19 pandemic conducted by (Said et al., 2015) compared with during pandemic (current study). The difference between the correlation of resilience, WRQoL, and its sub-scales with independent variables was identified. Before the pandemic, 8 years ago, the correlation of age of nurses and their years of experience as a nurse showed a weak negative correlation on their resilience. More specifically, younger nurses and nurses with less experience had more resilience than older nurses and nurses with more experience. This correlation was not found in the current study which was conducted 8 years later and during the COVID-19 pandemic. However, the present study shows weak negative correlations between years of experience in current work and WCS and a very significant relation between the number of dependent family members and QoWL and most of its subscales previously described in table 24. However, the study of (Said et al., 2015) did not show these correlations.

Table 45: Pearson correlation matrix of Resilience, WRQoL and its subscales with independent variables of current study compared with the study of (Said et al., 2015).

Before COVID-19 (Said et al., 2015)		JCS	GWB	SAW	HWI	WCS	CAW	WRQoL	Resilience
Age	r	-0.006	-0.194	-0.187	0.045	-0.002	-0.187	-0.131	-0.337**
	p	0.959	0.119	0.132	0.721	0.988	0.132	0.293	0.006
Year of experience as nurse	r	-0.035	-0.200	-0.169	0.017	-0.026	0.169	-0.140	-0.341**
	p	0.778	0.107	0.176	0.895	0.834	0.176	0.261	0.005
Year of experience in current work	r	-0.027	-0.167	-0.107	-0.038	-0.071	-0.107	-0.122	-0.115
	p	0.830	0.181	0.393	0.760	0.570	0.570	0.327	0.360
Sick days last year	r	0.190	0.143	-0.023	0.128	0.194	0.023	0.125	0.144
	p	0.127	0.252	0.854	0.306	0.118	0.854	0.317	0.248
Number of working member in the family	r	-0.006	-0.048	0.067	-0.090	-0.226	0.067	-0.048	0.126
	p	0.960	0.705	0.591	0.473	0.068	0.591	0.704	0.313
Number of dependent family member	r	0.046	0.026	-0.068	-0.002	-0.010	-0.068	-0.026	-0.015
	p	0.714	0.834	0.586	0.987	0.939	0.586	0.838	0.904
During COVID-19 Current Study		JCS	GWB	SAW	HWI	WCS	CAW	WRQoL	Resilience
Age	r	0.111	-0.012	0.110	0.146	0.059	0.151	0.095	-0.098
	p	0.351	0.919	0.928	0.221	0.621	0.206	0.428	0.413
Year of experience as nurse	r	0.088	-0.033	0.018	0.131	0.029	0.138	0.071	-0.130
	p	0.465	0.786	0.879	0.273	0.086	0.247	0.555	0.278
Year of experience in current work	r	-0.148	-0.195	0.000	-0.038	-0.248*	-0.069	-0.181	0.037
	p	0.213	0.101	0.997	0.754	0.036	0.564	0.128	0.755
Sick days last year	r	0.024	0.087	0.076	0.188	0.079	0.014	0.033	0.117
	p	0.839	0.468	0.523	0.113	0.511	0.909	0.785	0.328
Number of working member in the family	r	-0.065	-0.094	-0.116	0.069	0.012	-0.090	0.072	-0.082
	p	0.589	0.431	0.330	0.563	0.918	0.450	0.550	0.494
Number of dependent family member	r	-0.341**	-0.409**	-0.227	-0.322**	-0.400**	-0.086	-0.432**	0.099
	p	0.003	<0.001	0.055	0.006	<0.001	0.473	<0.001	0.408

*The correlation is significant at 0.05 level.

**The correlation is significant at 0.01 level

CHAPTER 4

4. DISCUSSION

The purpose of this study is to evaluate the quality of working life and resilience among nurses in pediatric settings in the Centro Hospitalar Universitario do Algarve (CHUA), Faro. Data collection was conducted from December 2nd, 2021 through December 28th, 2021. Of the 96 potential participants, 72 questionnaires were returned. The response rate was 75%.

Based upon findings, most of the respondents are female nurses (87.5%), the mean age of all respondents was 40 years. Most of them are married (62.5%) and have Licenciado degree (80.6%). The majority are working in ER (40.3%). Furthermore, most of them (56.9 %) have a pediatric specialty and work flexibility (79.2%) which indicated their autonomy. Most of them (96%) don't have parent care. However, the majority of them have childcare (54.2%). The average working experience as a nurse and working experience in their current workplace for the 72 respondents is 17 and 10 years, respectively. They have an average of two working members in the family and one dependent family member. Finally, the average number of sick days they had last year was seven.

The result of the present study revealed that there is no correlation between the quality of working life and resilience. Therefore, the hypothesis is not supported by the statistic. However, there is a positive relationship between Resilience and QoWL subscales: JCS and GWB. More specifically, the result indicates that when nurses have more resilience, they perceive better job and career satisfaction and general well-being. This positive relationship between resilience and GWB in the current study is corroborated with previous studies by (Said et al., 2015) and also (Tomas et al., 2012) found resilience and coping are predictors of general well-being. This

relationship is similar to the study conducted in Hongkong by (Chow et al., 2018). Chow found that nursing students with a higher level of resilience perceived better well-being. Although JCS had no relationship with resilience in the previous study, some studies established the relationship between them, similar to the current study. The study by (Srivastava & Madan, 2020) conducted in India stated that resilience had a positive association with career satisfaction. Moreover, (Hudgins, 2016) studied the relationship between resilience, job satisfaction, and turnover among nurse leaders in southwestern Virginia. Hudgins found that the more resilient the leader was, the more satisfied they were with their leadership position, and reliance decreased anticipated turnover among them.

Furthermore, the results also demonstrate that the nursing grades of all QoWL subscales were low in the current study; however, (Said et al., 2015) presented high QoWL in some subscales, including GWB and SAW. Based on the present study's results, the decrease in nurses' QoWL during the COVID-19 pandemic might be attributed to the impact of this unfavorable situation caused by high workload and prolonged presence in the workplace due to the hospital policy during the pandemic and understaffing. Additionally, during the pandemic, nurses are confronted with critically ill and dying patients, which can have a negative impact on their mental health. The results also corroborate with studies by (Dehkordi et al., 2020), (Bilal Maqsood et al., 2021) , and (Nikeghbal et al., 2021), researchers also revealed the low QoWL of nurses during the COVID-19 pandemic. Frontline nurses who provided care for COVID-19 patients were more likely to suffer psychological harm, such as depression, reducing QoWL, and increasing fatigue (Lai et al., 2020). Although nurses in pediatric departments are less likely to expose to COVID-19 patients than in adult units, pediatric nurses sometimes experience caring for adult COVID patients due to staff shortage (Lulgjuraj et al., 2021). Moreover, pediatric settings also

confronted changes in many policies to combat this crisis. Also, staff was fear of becoming infected with COVID-19, negative impact on pediatric staff's mental health was identified (Penwill et al., 2021).

The current study's findings suggested that the working department affected the overall QoWL and the majority of its subscales except CAW. During the COVID-19 pandemic, ER showed the lowest QoWL and had the lowest score in most of its subscales except HWI, the lowest was NICU. There are many potential causes of low QoWL among ER staff, such as work dynamic, work conditions, safety, and security. The study of (Saif, 2016) suggested that high workload and inadequate salary influenced QoWL in ER nurses and physicians. During the COVID-19 pandemic, what is known about emergency department staff is a front line of the health response to this situation. Even though COVID-19 is not as common in pediatrics ER as in adults, the frequently changing and complicated policy as well as a shortage of staff due to some pediatric nurses being asked for help to care for adult COVID-19 patients, which was outside of their usual practice, may exacerbate pediatric emergency nurses' low QoWL. The study of (Lulgjuraj et al., 2021) established that pediatric nurses' experiences caring for adult patients in the COVID-19 pandemic were adjusting to unfamiliar and unpreparedness, as a result of taking on a role they were not used to, nurses were emotionally impacted. Many of the nurses in the study had stressful, traumatic, and unforgettable experiences. To compare with the previous research, (Said et al., 2015) found that the working department influenced only JCS and HWI, the department with the lowest score in both domains was NICU. As the same result we had, NICU was the department with the lowest score in HWI in both studies.

Regarding to NICU nurses whose perceived the lowest average HWI score compared to other departments in both studies. (Easton, 2018) stated that the term HWI also describes work-life balance and the extent to which an employer is perceived to support a worker's personal life. Therefore, the individual and the employer must monitor their work-life balance on a regular basis and make adjustments to match their need. Further specific investigation about flexibility or the policy supporting nursing staff in the HWI factor is needed. There is a limited study about NICU nurses' work-life balance. However, as nurses are shift workers, their sleep patterns can be disrupted by shift work, particularly rotating shifts, resulting in sleep disturbances, accidents, and illnesses. Shift workers may also experience psychological problems due to being separated from family and friends who work on different schedules (Schluter, 2011). Like other healthcare workers, nurses have been working long hours and/or with varying patterns of shift during the COVID-19 pandemic. As a result, nurses have longer time separated from their family and friends, which effected their home-work balance. Moreover (Bruck et al., 2002) found that job satisfaction was lower when there was a conflict between home and work, which correlated to both findings in this study and the study of (Said et al., 2015) that we replicated.

According to the finding in the present study, academic qualification did not affect WRQoL, QoWL sub-scales, or resilience. In contrast with Said's study (Said et al., 2015), which established academic qualification influenced the difference of nurses' WCS between group. The WCS factor reflects a person's perception of how well their workplace meets their basic needs and their dissatisfaction with the physical work environment, such as health, safety, and workplace hygiene, which can significantly negatively impact employee QoWL (Easton, 2018). Some studies indicated the relationship between QoWL and academic qualification

among nurses but not specified to its subscale, such as WCS. As the study of (Moradi et al., 2014) showed a significant relationship between nurses' QoWL and their education level. The researcher discovered that the QWL of nurses with lower education levels was higher than that of nurses with higher education levels. Higher educated nurses appear to have higher expectations of their working lives and, as a result, experience more emotional exhaustion when their work environment fails to meet those expectations. Similar to the result of (Almalki et al., 2012) that nurses with a Bachelor's Degree or postgraduate qualification had higher QWL scores. In contrast, (Sadat et al., 2016) found that nurses with a bachelor's degree had lower QWL. However, (Dargahi et al., 2012) and (Sharhraky Vahed et al., 2011) didn't find a relationship between nurses' QoWL and educational level.

Furthermore, the current study discovered that work flexibility had an effect on QoWL and some of the QoWL sub-scales, including GWB, CAW, and HWI. (Hill et al., 2010) defined work flexibility as "employer-provided benefits that give employees some control over when and where they work outside of the standard workday." Also (Alis et al., 2006) referred to flexible work as a variety of working patterns, including reduced hours, nonstandard hours, remote work, and compressed hours. In this study, 79.2% of respondents have their work flexibility which significantly affected their QoWL, GWB, CAW, and HWI. More specifically, nurses with flexible work have substantially higher level of QoWL and greater mean score of GWB, CAW, and HWI than those who do not have. The possible explanation is that when it comes to mid-life, family-friendly work is necessary to promote the workers' work-life balanced. According to the findings of this study, the average age of respondents is 40 years, the majority (62.5 percent) is married, and 54.2 percent has childcare; these factors may influence the work flexibility to meet their needs. To assess the GWB factor by

(Easton, 2018) is to evaluate respondents' overall happiness and life satisfaction. A person's sense of GWB is thought to be influenced by both home and work. Additionally, his manual of WRQoL scaled referred the HWI as issues relating to work-life balance and an employee's perception of how much support they receive from their employer. Moreover, work-life balance measures how much control employees feel they have over when, where, and how they work. As a result, according to the current study, this relationship can also explain why people with more work flexibility have higher GWB and HWI. The result of this study is also incongruence with the study of (Leineweber et al., 2016) which presented that work environments that allow for scheduling flexibility, such as a system that take into account individual needs, can be considered valuable resources for promoting a nurse's work-life balance and sustaining their emotional well-being. The Previous study of (Kozka et al., 2016) found that nursing managers' efforts to improve work-time flexibility positively impact patient safety. Furthermore, shift inflexibility, and other rigid work arrangements have been linked to a higher risk of leaving the profession (Leineweber et al., 2016).

CAW on the WRQoL scale represents the degree to which an employee believes they can exercise an appropriate level of control in their work environment. Such as the opportunity to participate in the decision-making process that affects them (Easton, 2018).

In this study's result, CAW was also found affected by work flexibility. Based on the mean score of CAW, nurses who agreed with work flexibility performed better than those who did not. This could be because nurses who were allowed to request working hours that suited their needs, or a system that takes individual needs into account, are more likely to increase their chances of participating in organizational decision-making. As a result, nurses believe they have a better perception of CAW. Compared to the previous study by (Said et al., 2015),

represented work flexibility had no effect on QoWL and its sub-scale. However, when the mean scores of nurses with flexible work on the GWB, HWI, and WCS of two different periods of study, 2013 and 2021, were compared, there was no difference. The possible explanation for the difference between nurses with and without work flexibility in the current study on GWB, HWI, and CAW could be because the hospital policy that supports individual needs was improved. Meanwhile, during the Covid-19 pandemic, health care workers may perceive more flexible hours in order to accommodate to the situation.

Regarding child care on QoWL and its subscales, the present study found a statistically significant difference between nurses with and without childcare on WRQoL, GWB, and WCS. Nurses without childcare had a better mean score of WRQoL, GWB, and WCS. In this study, among respondents, only a few of them have parent care which did not affect their QoWL. However, more than half of all respondents have child care. As nurses are shift workers, home-work balance is necessary, especially for those who respond to their children. The possible reason nurses without child care have better WRQoL and GWB, and WCS is that their everyday life can be more flexible and independent. Contrary to the findings of (Almalki et al., 2012) which stated that respondents with children were more satisfied with their QWL than those without children. The presence of children in the lives of nurses may increase their responsibilities, which in return may promote their job satisfaction and stability. However, when considering to COVID-pandemic situation. Nurses may have more working hours and be separated from their children for longer than before. Some of them might needed to be in quarantined because of exposure to COVID-19 patients, the interruption in relationship even it was a short period can also cause a negative effect between them and their children. (Coşkun Şimşek & Günay, 2021). Being separated from

their children might be one of the reasons why nurses with childcare had less WRQoL than nurses without childcare during the COVID-19 pandemic. For the study of (Said et al., 2015), before the COVID-19 pandemic, childcare did not affect nurses' QoWL and its subscales.

The current study also discovered that nurses' years of experience as a nurse in current working department had a negative correlation with WCS. More specifically, nurses with less experience in their current working department were more satisfied with their working conditions than those with more experience. This finding is opposite with (Er & Sokmen, 2018), whose result showed that nurses with more experience in their profession are more likely to satisfy with work conditions than those with less experience. The researcher hypothesized that the difference could be due to improved adaptation to the work environment, colleagues, teamwork, and working conditions as professional experience grows. One possible explanation for the negative relationship in this study is that, during a pandemic, nurses' work conditions change, such as having to wear masks all the time, protective PPE that can make them feel uncomfortable, social distancing, and many rules and guidelines that change the physical environment. Nurses with more experience in their current job or profession may feel overwhelmed and easy to feel dissatisfied with the work conditions that affect their well-being. The longer stays in a friendly environment, the more difficult it is to adapt when there is a significant change. However, (Said et al., 2015) didn't find a correlation between years of experience in current work and WCS.

This study's findings also identified the negative relationship between the number of dependent family members on QoWL, JCS, GWB, HWI, and WCS. In the same meaning,

nurses who have less dependent family members have better QoWL. Because nurses are primarily female, in addition to nursing, they also play the roles of mother (child care), daughter (elderly care), and spouse (family needs), so work-family balance is essential. Incompatibility between work and family leads to work-family conflict (Kahn, 1964). The study of (Wepfer et al., 2015) found that work-life balance is better when children grow up and left home. The possible explanation for this occurrence in the present study is that families who have dependent children or dependent adults will have an impact on their home-work balance. Consequently, they may perceive less satisfaction with their QoWL. However, the study conducted with nurses in Jordan by (Suleiman et al., 2019) revealed inconsistent results with the current study. The researcher found no significant relationship between having dependent children and dependent adults in their family on their QoWL. Moreover, the findings of (Almalki et al., 2012), researcher found that nurses with dependent adults were less satisfied with their QoWL than those without dependent adults. The explanation for this occurrence may be about the more financial support they needed. This is consistent with the study conducted in Thailand, (Komjakraphan, 2017) demonstrated that respondents who had dependent family members were more likely to have financial constraints, which leads to life dissatisfaction. Furthermore, (Alshmemri, 2016) conducted a study in Saudi nurses, indicating that the number of dependent adults in their families influenced nurses' job satisfaction. The researcher found that nurses who had no dependent adults at home had more satisfaction with motivation factors than those who had dependent adults, which linked to the results of this study. This study is uncorrelated with the previous study of (Said et al., 2015), his results did not show a significant relationship between the number of dependent family members and QoWL, as well as its subscales.

According to the level of resilience in this study, the mean score was 59.33, which was interpreted as a moderate level. Therefore, respondents in the present study had moderated resilience which corresponded to the result of (Said et al., 2015) conducted eight years ago before the COVID-19 pandemic. Inconsistently, in the current study, resilience among nurses was not affected by demographic variables. This is similar to the study of (Jo et al., 2021) which was conducted during the pandemic. Jo's findings represented that demographic did not show a significant relationship with nurses' resilience. However, Said found that nurses' resilience was affected by age and year of experience as a nurse. Age and year as nurse showed negative relation with resilience. Moreover, from his study, the working department also affects nurses' resilience. According to the integrative review of (Baskin & Bartlett, 2021), the researcher discovered that nurses worldwide reported a moderate resilience score, similar to the current study's result. The study of (Alameddine et al., 2021) established that nurses' resilience positively correlated with their job satisfaction and had a negative correlation with intention-to-quit.

Regarding the results of this study, age, gender, marital status, academic qualification, area specialty, parent care, years of experience as a nurse, working member in the family, and the sick days of last year had no effect on QoWL and its subscales. Additionally, none of the demographic variables in this study influenced nurses' resilience. However, the variables that affected QoWL and its subscales in this study were working department, work flexibility, child care, year of experience in current work, and dependent family member. On the other hand, the study (Said et al., 2015) showed that working department and academic qualification influenced JCS and WCS, respectively. Moreover, age and year of experience as a nurse negatively affected respondents' resilience. The only similarity between the two

studies' results was the significant impact between working department on JCS and HWI. Moreover, both studies found a positive relationship between resilience and GWB.

4.1. Limitations

Some limitations were discovered in this study. First, the study design was a cross-sectional study. As a result, the interpretation of the causal relationship among studied variables was limited. Second, the population chosen was small. We would have more accuable results if there were more respondents. A final limitation concerns the generalization of findings, as we conducted the study in one hospital and pediatric nurses are a small group. Therefore, conducting the study in a multicenter would generalize the findings.

CHAPTER FIVE

5. CONCLUSION

The present study helped to assess the quality of working life and resilience of nurses in pediatric departments in CHUA, Faro during COVID-19 pandemic. The findings achieved the main objective by indicated that pediatric nurses had low QoWL and moderate resilience. Based on the specific objectives, this study also revealed the socio-demographic characteristic of nurses working in four pediatric departments of CHUA, Faro. Furthermore, the factors that influences nurses' quality of working life, its dimensions and resilience was discovered in the study. As a replication of the study conducted prior to the COVID-19 pandemic (Said et al., 2015), the differences in nurses' QoWL, its subscale, and resilience, as well as the demographic factors that influenced nurses' QoWL and resilience, were presented. The findings of this study can be used as a baseline for the hospital and health authority to implement policies to strengthen nurses' QoWL, such as a policy that promotes nurses' autonomy, provides nurses with adequate working hours, increases their work-life balance, and improves nursing staffing and working conditions. Because resilience is a key skill that influences job satisfaction and well-being, launching a program to improve nurses' ability to recover from stressful situations is essential. Nurses will be able to provide excellent and effective care to their patients if they have a higher quality of life at work and are more resilient. There have been few studies on nurses' QoWL and resilience in the pediatric field; further study is needed.

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(Appendix 1)



Informação

Número 199/2021

Data 18/11/2021

Serviço Remetente

Despacho superior:

Núcleo de Formação Investigação em Enfermagem – Centro
Formação, Investigação e Conhecimento - Faro

Destinatário

Exmo. Dr. Francisco Serra, Diretor do DEII do CHUA

Assunto: Pedido de autorização para realização do Estudo *Impacte da pandemia COVID-19 na perceção da qualidade de vida no trabalho e resiliência dos enfermeiros nos serviços de pediatria do CHUA – um estudo comparativo*

Trata-se de um Trabalho académico conferente do grau de Mestre. Curso de Mestrado *Erasmus Mundus* em Enfermagem de Emergência e Cuidados Críticos-ESSUALG).

Estudante: Panyada Cholsakhon, Enfermeira da Tailândia.

Orientadores da Instituição de Ensino: Professora Filomena Matos (Prof.^a Doutora-ESSUALG) e Professor Filipe Nave (Prof. Doutor-ESSUALG);

Orientadora no CHUA: Enf.^a Especialista Elsa Silva (Serviço de Medicina Intensiva Pediátrica e Neonatal (SMIPN)).

Tipo de Estudo: Observacional, Comparativo.

Recolha de Dados: 1. A população-alvo são os Enfermeiros dos serviços pediátricos da Unidade hospitalar de Faro; 2. A recolha de dados será através de 3 questionários de auto-preenchimento: instrumento de dados sociodemográficos; escala de qualidade de vida no trabalho e Escala de Avaliação da resiliência atual.

Locais: Serviços do Departamento da Criança, Adolescente e Família: SMIPN; Pediatria; Urgência/Hospital de Dia de Pediatria e Consulta Externa de Pediatria da UH de Faro do CHUA.

Calendário: após autorização, em novembro e Dezembro de 2021.

Objetivos do Estudo:

- Avaliar o impacte da pandemia COVID-19 na perceção da qualidade de vida no trabalho e resiliência dos enfermeiros nos serviços pediátricos do CHUA;
- Avaliar a perceção da qualidade de vida no trabalho dos enfermeiros nos serviços pediátricos do CHUA;
- Avaliar a resiliência dos enfermeiros nos serviços pediátricos do CHUA;
- Comparar a perceção da qualidade de vida no trabalho e resiliência dos enfermeiros nos serviços pediátricos do CHUA com o estudo realizado em 2014.

Mais se informa que o projeto tem o parecer favorável da Comissão de Ética para a Saúde do CHUA e as autorizações locais da Enf.^a Gestora em funções de direção Josefina Torrão e das Enfermeiras Gestoras: Maria José Rodrigues (SMIPN); Isaurinda Pescada (Pediatria), Maria de Fátima Maia (Urgência/HD de Pediatria) e Glicínia Guerreiro (Cons. Externa de Pediatria).

O processo encontra-se instruído com os seguintes documentos:

- 1) Parecer da Comissão de Ética para a Saúde;
- 2) Pedidos de autorização institucional;
- 3) Termos de autorização local (Enfermeiras Gestoras);
- 4) Termos de responsabilidade (Investigadora/Orientadores);
- 5) Curriculum Vitae da Investigadora Principal;
- 6) Certidão de matrícula, Seguro Escolar;
- 7) Folha de rosto do estudo de investigação;
- 8) Proposta do estudo/Projecto;
- 9) Consentimento informado; Instrumentos de recolha de dados;
- 10) Mensagens com as investigadoras.

Pede deferimento

~~EMANUEL~~
EMANUEL MOURÃO (74038).

Emanuel Mourão

Enfermeiro Especialista em ESIP., MSc.
(CFIC-NFIE)

Ao Exmo. Diretor do DEII,
Doutor Francisco Jerra,
para avaliação -
Paula Vata
24.11.2021

Ao Exmo. Conselho de Administração
Concorda-se com o proposto e segue-se
a autorização para a realização do
Trabalho Académico de Investigação,
tendo por base a observação dos
procedimentos e autorizações/ pareceres
dos responsáveis intermédios, para além
da documentação de suporte, anexa.

Diretor do Departamento de Ensino,
Inovação e Investigação,
Doutor Francisco Jerra

Francisco Jerra
(74222)

4 ver haver cetera
para o CTUA e
Autorizada
Mariana
25/11/21

Mariana Santos
Enfermeira Diretora do Centro
Hospitalar Universitário do Algarve, EPE

Comissão de Ética para a Saúde
tel. 41110 / 8596
E-mail comissao.etica@ch.algarve.min-saude.pt

Exm.(a) Sr.(a)
Conselho de Administração
Centro Hospitalar Universitário do Algarve

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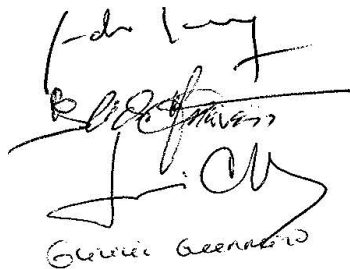
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n. ref./data 199/2021, 10.11.2021

Assunto: Estudo: "Impacto da pandemia Covid-19 na perceção da qualidade de vida no trabalho e resiliência dos Enfermeiros nos serviços de Pediatria do CHUA – um estudo comparativo "

O projecto acima referido assenta na resposta a inquérito submetido aos enfermeiros dos Serviços de Pediatria do CHUA. Existe concordância por parte dos responsáveis pelas diferentes unidades pediátricas. O anonimato é garantido e a participação voluntária. Não existem quaisquer questões éticas relevantes, pelo que o projecto poderá ser autorizado.

A Comissão de Ética para a Saúde,


Gerardo Gerardo

Recebido no UAF
a 18/11/2021

(Appendix 2)

Termo de consentimento informado

Cara(os) Srs enfermeira(os)

O meu nome é Panyada Cholsakhon e sou estudante do Mestrado Erasmus Mundus em Enfermagem de Emergência e Cuidados Críticos na Especialidade de Pediatria. Pretendo realizar um estudo (cumprindo uma exigência parcial do Mestrado). Serei orientada pelos Professores Doutores Filomena Matos e Filipe Nave, da Escola Superior de Saúde da Universidade do Algarve e pela Sra Enfermeira Elsa Silva, da Unidade de Medicina Intensiva Neonatal e Pediátrica.

Atendendo ao contexto da pandemia Covid-19, pretendo replicar o estudo que Nizar Said desenvolveu em 2014 " A Qualidade de Vida no Trabalho e Resiliência entre os enfermeiros que trabalham nos diferentes serviços pediátricos".

O objetivo deste trabalho é promover a qualidade de vida no trabalho.

A sua participação nesta pesquisa é importante.

Necessito da sua colaboração para preencher este questionário.

Está garantida a confidencialidade e o anonimato.

Obrigada, mais uma vez, pela sua colaboração.

Panyada Cholsakhon. Estudante do Mestrado EMJMD

Consentimento informado

A minha participação neste estudo, levará cerca de 15 minutos . Posso, a qualquer momento decidir não continuar a minha colaboração neste estudo. A minha participação no estudo é confidencial, pelo que o meu nome não está incluído no questionário.

Eu entendo e autorizo que todos os dados sejam guardados por um período mínimo de cinco anos, e que possam ser utilizados como parte do projeto de investigação, mantendo o anonimato.

data:

assinatura:

Consentimento informado para o participante

A minha participação neste estudo, levará cerca de 15 minutos . Posso, a qualquer momento decidir não continuar a minha colaboração neste estudo. A minha participação no estudo é confidencial, pelo que o meu nome não está incluído no questionário.

Eu entendo e autorizo que todos os dados sejam guardados por um período mínimo de cinco anos, e que possam ser utilizados como parte do projeto de investigação, mantendo o anonimato.

data:

assinatura:

(Appendix 4)

Escala da Qualidade de Vida Relacionada com o Trabalho

Estritamente Confidencial

A sua resposta é muito importante para nós. Tenha em conta que ninguém da sua instituição irá ler o seu questionário. Poderá ser entregue um resumo à sua entidade patronal mas não será disponibilizada nenhuma informação que possa identificar os participantes. Não demore muito tempo a responder a cada pergunta; queremos a sua primeira reacção e não uma reflexão demorada. Por favor responda a todas as perguntas. Este questionário não é um teste; é simplesmente uma avaliação das suas atitudes em relação aos factores que influenciam a sua experiência no local de trabalho.

Assinale as suas respostas preenchendo o círculo correspondente ●

ou, se eventualmente se enganar, riscá-lo com uma cruz. ✕

Em que medida concorda com as seguintes afirmações?		Discordo totalmente	Discordo	Nem concordo nem discordo	Concordo	Concordo totalmente
<i>Por favor preencha o círculo correspondente à resposta que pretende.</i>						
1.	Tenho um conjunto claro de objectivos e metas que me permitem realizar o meu trabalho.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	Sinto-me capaz de expressar opiniões e influenciar alterações na minha área de actividade.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	Tenho oportunidade de usar as minhas competências no meu local de trabalho.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	Sinto-me bem neste momento.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	A entidade patronal oferece instalações adequadas e flexibilidade para conjugar o trabalho com a vida familiar.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	O meu horário/padrões de trabalho actuais adequam-se às minhas circunstâncias pessoais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	Sinto-me frequentemente sob pressão no local de trabalho.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	Quando faço um bom trabalho, o meu superior hierárquico, reconhece-o.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	Ultimamente tenho-me sentido infeliz e deprimido.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	Estou satisfeito com a minha vida.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	Sinto-me motivado para desenvolver novas competências.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	Estou envolvido em decisões que me afectam na minha própria área de trabalho.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	A minha entidade patronal disponibiliza-me tudo o que preciso para realizar o meu trabalho eficazmente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	O meu superior técnico promove de forma activa horários/padrões de trabalho flexíveis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	Em muitos aspectos, a minha vida está próxima do ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16.	Trabalho num ambiente seguro.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17.	De forma geral, as coisas têm-me corrido bem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18.	Estou satisfeito com as minhas oportunidades de carreira disponíveis na minha organização.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19.	Sinto frequentemente níveis excessivos de stress no local de trabalho.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20.	Estou satisfeito com a formação que recebo para realizar o meu trabalho actual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21.	De forma geral, tenho-me sentido bastante feliz ultimamente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22.	As condições de trabalho são satisfatórias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23.	Estou envolvido em decisões que afectam membros do público na minha própria área de trabalho.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24.	De forma geral, estou satisfeito com a qualidade da minha vida profissional.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Tradução e validação para Português por Gomes, José, Silva, Carlos e Cruz, Arménio; Coimbra, 2011 ©



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(Appendix 5)

MEASURING STATE RESILIENCE Chock C. Hiew, Ph D.

(versão adaptada à população portuguesa, por Martins, 2000, revalidada por Matos, 2012)

Instruções: Segue-se um conjunto de afirmações usadas pelas pessoas para se descreverem a si próprias. Leia cuidadosamente cada afirmação e escolha o número que melhor indica o seu grau de concordância ou discordância face ao que é afirmado. (Todas as afirmações devem ser antecedidas pela expressão “*no momento actual*”). Este questionário é anónimo e confidencial. Muito obrigada pela sua colaboração.

Para cada afirmação escolha uma alternativa:

Discordo totalmente	Discordo	Neutro	Concordo	Concordo totalmente
1	2	3	4	5

No momento actual:

1	2	3	4	5	1. Tenho alguém que gosta de mim.
1	2	3	4	5	2. Tenho alguém fora de casa a quem posso falar sobre os meus problemas ou sentimentos.
1	2	3	4	5	3. Fico satisfeito(a) quando faço as coisas sem ajuda.
1	2	3	4	5	4. Sei que posso contar com a minha família quando preciso.
1	2	3	4	5	5. Eu acredito que tudo me irá correr bem.
1	2	3	4	5	6. Faço as coisas de forma simpática, o que faz as pessoas gostarem de mim.
1	2	3	4	5	7. Tenho fé em Deus.
1	2	3	4	5	8. Estou desejoso(a) de experimentar coisas novas.
1	2	3	4	5	9. Gosto de fazer bem o que faço.
1	2	3	4	5	10. Sinto que o que faço ajuda a que as coisas resultem.
1	2	3	4	5	11. Eu gosto de mim.
1	2	3	4	5	12. Eu posso concentrar-me numa tarefa e continuar com ela durante algum tempo.
1	2	3	4	5	13. Eu tenho sentido de humor.
1	2	3	4	5	14. Faço planos para realizar coisas.