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Job satisfaction of healthcare professionals in two East London public hospitals in South Africa in the context of Covid-19.

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A thesis presented in partial fulfilment for the degree of Master of Business Administration to the Faculty of Commerce, Law, and Management, University of the Witwatersrand.

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DECLARATION

I Nkosilathi Dlodlo declare that this research report entitled 'Job satisfaction of health care professionals in two East London public hospitals in South Africa in the context of Covid-19' is my unaided work. I have acknowledged, attributed and, referenced all ideas sourced elsewhere. I am hereby submitting it in partial fulfilment of the requirements of the degree of Master of Business Administration at the University of the Witwatersrand, Johannesburg. I have not submitted this report before for any other degree or examination to any other institution.

N. Dlodlo.

Nkosilathi Dlodlo

Signed at East London on 28 February 2023

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ABSTRACT

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Thesis title: **Job satisfaction of health care professionals in two East London public hospitals in South Africa in the context of Covid-19.**

Introduction: Job satisfaction of healthcare workers is important to provide better patient care and with the prediction by the World Health Organization (WHO) that there would be a shortage of healthcare workers by 2030. The Covid-19 pandemic affected healthcare workers differently and hence the reason for the study. The aim is to explore and understand healthcare workers' job satisfaction during the Covid 19 pandemic and make recommendations for human resource management to keep healthcare workers satisfied.

Methodology: data collection was done from the 10th of October 2022 to the 5th of January 2023, with 203 participants from Cecilia Makiwane Hospital (CMH) and Frere Hospital (FH). Convenience sampling was done through an online survey that compromised of demographic and modified job satisfaction survey questions (JSS).

Results: 82% of the participants were dissatisfied with the pay and remuneration; 76% were dissatisfied with supervision from the hospital management, and 83% were dissatisfied with contingent rewards. The healthcare workers were only moderately satisfied with their relationships with co-workers, which had a 41% satisfaction level.

Conclusion: there is a need to improve on financial and non-financial components that would then motivate the healthcare workers and inevitably lead to better job satisfaction levels through regular assessment and improved policies that meet the needs of the healthcare workers.

TABLE OF CONTENTS

DECLARATION i
ACKNOWLEDGEMENTS ii
ABSTRACT iii
LIST OF TABLES vi
LIST OF FIGURES vii
DEFINITIONS OF KEY TERMS AND CONCEPTS viii
ACRONYMS AND ABBREVIATIONS viii
CHAPTER 1: INTRODUCTION 1
1.1 Introduction 1
1.2 Problem Statement 2
1.3 Aim 3
1.4 Research questions 3
1.4.1 Research question 1 3
1.4.2 Research question 2 3
1.4.3 Research question 3 3
1.4.4 Research question 4 3
1.5 Delimitations 4
1.5.1 Inclusion criteria 4
1.5.2 Exclusion criteria 4
1.6 Assumptions 4
1.7 Significance of the study. 4
CHAPTER 2: LITERATURE REVIEW 6
2.1 Background of the Two East London Hospitals 6
2.2 The Covid-19 Pandemic 7
2.3 Job Satisfaction 9
2.4 Human Resource Strategies for the Department of Health 11
2.5 Theoretical framework: Job satisfaction theory 12
2.6 Conclusion of Literature Review 14
CHAPTER 3. RESEARCH METHODOLOGY 16
3.1 Research Approach 16
3.2 Research Design 16
3.3 Data Collection Methods 17
3.4 Population and Sample 17
3.4.1 Population 17
3.4.2 Sample 18
3.4.3 Sampling method 18
3.5 The Research Instruments 19
3.6 Procedure for Data Collection 19
3.7 Data Analysis Strategies and Interpretation 20
3.8 Quality Assurance 20
3.8.1 External validity 20
3.8.2 Internal validity 20
3.8.3 Reliability 21
3.9 Ethical Considerations 21
3.9.1 Informed consent 21
3.9.2 Confidentiality and anonymity 21
3.9.3 Mitigation of possible risks 21
3.9.4 Ethical clearance 22

CHAPTER 4: RESULTS 23
4.1 Data screening 23
4.2 Demographic data analysis 24
4.2.1 Gender 24
4.2.2 Healthcare workers profession 24
4.2.3 Healthcare workers departments. 25
4.2.4 Work experience. 26
4.2.5 Marital status 26
4.2.6 Race 27
4.2.7 Covid-19 waves worked. 27
4.3 Reliability statistics 28
4.4.1 Pay 29
4.4.2 Supervision (Hospital management). 31
4.4.3 Fringe Benefits 32
4.4.4 Contingent Rewards 34
4.4.5 Co-workers 35
4.4 Conclusion 36
CHAPTER 5: DISCUSSION 37
5.1 Introduction 37
5.2 Job satisfaction 38
5.2.1 Job satisfaction levels 38
5.2.2 Supervision (hospital management) 38
5.2.3 Pay and remuneration 39
5.2.4 Contingent rewards 40
CHAPTER 6 CONCLUSION 40
6.1 Conclusions 40
6.2 Limitations 41
6.3 Recommendations 41
REFERENCES **43**
APPENDICES **50**
Appendix A: Adapted Job Satisfaction Survey 50
Appendix B: Consent form 53
Appendix C: Participant Information Sheet 54
Appendix D: Ethical Clearance 56
Appendix E: ECDoH ethics committee certificate 57
Appendix F: Approval from the Hospital Committees 58
Appendix G: Permission letters from the Hospital CEOs 60
Appendix H: Confirmation of Professional Editing 63

LIST OF TABLES.

Table 3-1: Nine facets of JSS. 19
Table 4-1: Reliability statistics 28
Table 4-2: The respondents grouped by pay level satisfaction. 30
Table 4-3: The respondents grouped by the supervision levels of satisfaction. 32
Table 4-4: The respondents grouped by the fringe benefits levels of satisfaction. 33
Table 4-5: The respondents grouped by the contingent rewards levels of satisfaction. 34
Table 4-6: The respondents are grouped by their levels of satisfaction with their co-workers 35
Table 4-7: Hypothesis outcome. 36

LIST OF FIGURES

Figure 2-1: Maslow's hierarchy of needs 13
Figure 4-1: The proportion of the genders among the respondents. 24
Figure 4-2: The proportion of the different professionals among the respondents. .. 25
Figure 4-3: The proportion of the respondents in the different hospital departments 25
Figure 4-4: The proportion of the respondents that had different work experiences. 26
Figure 4-5: The proportion of the marital status among the respondents. 27
Figure 4-6: The proportion of the races among the respondents. 27
Figure 4-7: The proportion of the respondents that worked during different Covid-19 waves at the two hospitals. 28

DEFINITIONS OF KEY TERMS AND CONCEPTS

Coronavirus disease (COVID-19): is an infectious disease caused by the SARS-CoV-2 virus, leading to respiratory symptoms from mild to severe (WHO, n.d-a).

Job satisfaction: is the level of serenity that someone feels for work, which influences performance(Masum et al., 2016, p. 2).

Pandemic: ‘an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people” (Last, 2001 as cited in (Kelly, 2011, p. 540)).

ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune-Deficiency Syndrome
BCMM	Buffalo City Metropolitan Municipality
CMH	Cecilia Makiwane Hospital
COVID-19	Coronavirus Disease
DoH	Department of Health
ECDOH	Eastern Cape Department of Health
FH	Frere Hospital
HIV	Human Immuno-Deficiency Virus
HR	Human Resources
HTMT	Heterotrait/monotrait
ICU	Intensive Care Units
JS	Job Satisfaction
JSS	Job Satisfaction Survey
NDoH	National Department of Health
PPE	Personal Protective Equipment
SA	South Africa
SD	Standard deviation
SPSS	Statistical package for social science
TB	Tuberculosis
UK	United Kingdom
WHO	World Health Organization

CHAPTER 1:INTRODUCTION

1.1 Introduction

Job satisfaction is the level of serenity that someone feels for work, which influences performance (Masum et al., 2016). Motivation is the passion for pursuing something that will lead to gratification. There is a link between motivation and job satisfaction as both improve healthcare worker performance, thus leading to an improved level of care provided to the patients, ensuring better patient care management (Lambrou et al., 2010). High levels of job dissatisfaction were recorded among doctors working in the private sector in South Africa (Pillay, 2008), healthcare workers in Addis Ababa (Aklilu et al., 2020), and public nurses in three selected hospitals in Amhara, Ethiopia (Ayalew et al., 2021). In another study of healthcare providers in public hospitals in Punjab India, the majority were dissatisfied with their working conditions (Singh et al., 2019), while a minority of healthcare professionals in eastern Ethiopia were satisfied with their working environment and benefits packages (Merga & Fufa, 2019). High-income countries like New Zealand and the United Kingdom (UK) showed high levels of job satisfaction with New Zealand being better than the UK (Grant, 2004).

Several studies have shown that financial and non-financial incentives have improved job satisfaction (Akinyemi & Atilola, 2013; Chmielewska et al., 2020; Lambrou et al., 2010). The main motivating factors are appreciation by manager/supervisor, a stable job/income and job training while most dissatisfaction arises with regard to working conditions, lack of resources and poor infrastructure (Lambrou et al., 2010). These dissatisfying conditions were amplified during the Covid-19 pandemic and highlighted gaps in healthcare administration even though human resources implemented strategies for health according to the 2030 Human Resources for Health Strategy Goals (NDoH, 2020).

The South African health sector is made up of the public sector which caters for 80% of the population and the private sector which caters for the remaining 20%. Africa has a low ratio of a doctor, nurses and midwives (14 per 10 000 people in the population) and South Africa had at least 60 per 10000 population which is better than the norm, but there is a high level of inequality worsened by the unequal distribution of healthcare workers between the private and public sector (NDoH, 2020). The South African health

sector bears the quadruple burden of diseases like human immune virus (HIV/AIDS), tuberculosis, high maternal mortality rate and high levels of noncommunicable diseases (NDoH, 2020). In late 2019, the Covid-19 pandemic became a global disaster that put considerable strain on South Africa's health system and led to a lack of resources, high levels of stress, physical exhaustion, increased risk of infection and low safety for health care workers (Mulaudzi et al., 2021; Mdzinwa et al., 2021). Since the worst of the pandemic is over, the researcher believed that this would be a good time to reassess job satisfaction of healthcare professionals in two East London public hospitals (Frere and Cecilia Makiwane Hospital) (FH and CMH respectively), in South Africa in the context of Covid-19.

1.2 Problem Statement

The WHO estimates a global healthcare shortage of 18 million by 2030, especially in low to middle-income countries (WHO, n.d-b). This means the South African health system is not immune to the shortage of healthcare workers which then translates to overworking the few healthcare workers available. Poor job satisfaction and high job stress have been associated with high levels of job turnover (Fasbender et al., 2018). Two studies done in South Africa showed high level of job dissatisfaction among professional nurses in the public sector compared to the private sector (Pillay, 2009) with more than half of medical doctors working in the private sector experienced job dissatisfaction (Pillay, 2008). South Africa still has an elevated level of inequality, and its healthcare system is burdened by chronic infection diseases like HIV/AIDS, TB, and maternal and neonatal deaths (NDoH, 2020). The public health system is worsened by the ever-growing population on which 80% of the South African population relies for its healthcare needs (Buswell, 2022, June 14). The Covid-19 pandemic impacted the healthcare system negatively as it led to overstretching of scarce resources and overworking of the healthcare workers leading to mental disorders and burnout (Dawood et al., 2022). Such a crisis would indubitably influence the job satisfaction of healthcare workers; hence, the study being conducted will contribute to the knowledge pool in the literature on job satisfaction of healthcare workers in a developing country during the pandemic.

1.3 Aim

To explore and understand healthcare worker job satisfaction during the Covid-19 pandemic and make recommendations for human resource management to keep healthcare workers satisfied with their jobs.

1.4 Research questions

1.4.1 Research question 1: What is the difference in the job satisfaction levels of healthcare workers between the two public hospitals?

H_1: the healthcare workers have a positive job satisfaction level in the two public hospitals.

1.4.2 Research question 2: How did the hospital management (supervisor) impact the healthcare workers' job satisfaction and how did the two hospitals compare?

H_2: The hospital management (supervisor) did not influence healthcare workers' job satisfaction in both hospitals.

1.4.3 Research question 3: What influence did pay and remuneration have on healthcare workers' level of job satisfaction, and how do the two hospitals compare to each other?

H_3: Pay and remuneration positively influence the healthcare workers' job satisfaction in both hospitals.

1.4.4 Research question 4: What influence did contingent rewards have on healthcare workers' job satisfaction, and how do the two hospitals compare to each other?

H_4: Contingent rewards positively influence healthcare workers' job satisfaction in both hospitals.

1.5 Delimitations

Research delimitations refer to the specific boundaries, limitations, or constraints that researchers intentionally impose on their study. These limitations help define the scope and focus of the research, clarifying what aspects or variables are included or excluded from the study. Delimitations are set to ensure that the research remains feasible, manageable, and relevant to the research objectives.

1.5.1 Inclusion criteria

- Healthcare workers of the clinical units which include medical doctors and nurses who are working at Frere Hospital (FH) and Cecilia Makiwane Hospital (CMH) who have worked in either hospital from the first wave to the fourth wave of Covid-19. The healthcare worker can be included even if they worked in one of the four waves of Covid-19 pandemic.
- 18 years and above.
- Temporary or permanent contracts.
- The time is from 1 April 2020 to the termination of the nation-state of disaster in South Africa, 4 April 2022.

1.5.2 Exclusion criteria

The following were not included in the study.

- Healthcare workers who did not work in any of the Covid-19 waves.
- Healthcare workers not employed at CMH and FH.
- Non-clinical units' healthcare workers.

1.6 Assumptions

The researcher assumed that respondents would answer honestly to get a true reflection of the job satisfaction of healthcare workers.

1.7 Significance of the study.

The research holds importance as it aims to generate comprehensive insights into the levels of job satisfaction among healthcare workers during the Covid-19 pandemic. The findings have the potential to impact human resource management policies concerning job satisfaction in the healthcare sector, as existing literature emphasises

the use of both financial and non-financial incentives. By exploring this subject, the research contributes to the understanding of factors that influence job satisfaction and provides valuable knowledge that can inform decision-making in healthcare organisations (Akinyemi & Atilola, 2013; Chmielewska et al., 2020; Lambrou et al., 2010).

CHAPTER 2: LITERATURE REVIEW

In this chapter, the researcher focuses on five themes to give a better understanding of prior knowledge about the research topic. Firstly, background information is discussed about the two East London public hospitals, followed by a look at the impact of Covid-19 pandemic on healthcare workers with regard to their job satisfaction. An understanding of what job satisfaction means especially about healthcare workers and the factors determining it are explored. The theoretical framework of job satisfaction theory is analysed in depth. Finally, the researcher examines the human resource management strategies that are employed to keep healthcare workers satisfied in their jobs. The literature review was searched from EBSCOhost, ProQuest, and Science Direct databases, filtered to include studies done in English in the past 20 years with the following keywords: job satisfaction, healthcare workers, Covid-19, job motivation and human resource strategies.

2.1 Background of the Two East London Hospitals

Frere and Cecilia Makiwane hospitals are public hospitals situated in the Eastern Cape under the Buffalo City Metropolitan Municipality (BCMM). The BCMM was one of the hotspot areas in the Eastern Cape during the Covid1919 pandemic, following the Nelson Mandela metro, Sarah Baartman, and BCMM (Dayimani, 2021).

FH is a large public tertiary hospital situated in East London. It has 800 beds and is supported by CMH (ECDoH, 2016). CMH is a regional public hospital situated in Mdanstane, named after Cecilia Makiwane, the first black nurse in South Africa (ECDoH, 2016). CMH is a 600 bed facility which comprises of 350 in wards, a 150-bed step-down facility and 100-bed psychiatric unit (Mariswe, 2019). Both hospitals provide major services which include general and specialised medical and surgical services. It was the end point for most of the Covid-19 cases in the region as it also has both Intensive Care Units (ICU) which were necessary for patients with severe forms of Covid-19 (CMH, 2022; ECDoH, 2021).

Both these hospitals were crucial in the fight against Covid-19 in the BCMM. The health workers worked tirelessly to ensure the patients were cared for despite the increased number of cases and lack of resources (Mulaudzi et al., 2021). The experience of dealing with the Covid-19 pandemic for healthcare workers needs to be

documented and the impact on their job satisfaction measured which will help the department deal with future crises and ensure the employees are taken care of during that period.

2.2 The Covid-19 Pandemic

The Covid-19 outbreak began in China in December 2019 and was declared a pandemic by the WHO on 11 March 2020 (WHO, 2020). South Africa recorded its first Covid-19 case in March 2020 and the numbers kept rising until a state of national disaster was declared and lockdown Level 5 regulations were implemented (Smith, 2020). The Eastern Cape was one of the provinces which was leading in the numbers (Mahlehla, 2020, December 29), which meant the healthcare workers were at the forefront of the fight against this pandemic while the government, health department and private sector were busy organising funds to obtain all the necessary resources and human capital to fight this deadly disease (de Villiers et al., 2020). The unexpected outbreak led to a few months of being unprepared as the health system was not ready for the pandemic (Mulaudzi et al., 2021). The lack of personal protective equipment (PPE) led to an increased risk of infection among healthcare workers, which contributed to stress, anxiety and the lack of a safe working environment which contributed to job dissatisfaction (Mulaudzi et al., 2021). Efforts to tackle this discontent manifested in the form of strikes, as healthcare workers sought to advocate for their fundamental right to safety. This occurred despite the existence of the nursing pledge and the Hippocratic oath for medical doctors, which ethically require health workers to make personal sacrifices in alignment with their profession or for the wellbeing of their patients (Mulaudzi et al., 2021).

The first wave from March 2020, led to many healthcare workers working overtime despite the shortage of PPE and staff (Mdzinwa et al., 2021; Mulaudzi et al., 2021). The ECDoH employed supporting staff on short-term or temporary contracts, including doctors, nurses and support services to help alleviate the shortage (Dayimani, 2021). Hiring more staff still did not meet the level of demand that the Covid-19 caused and worsened the problems in the healthcare system. Many healthcare workers also got infected (Mdzinwa et al., 2021) and due to the 14 days of isolation or quarantine for those infected, the few who were still healthy remained to carry the heavy burden and fill in for those who were on sick leave. The days were later reduced from 14 to 10 to

7 days as the DoH learned more information about the Covid-19 pandemic (National Institute for Communicable Diseases (NICD), 2022).

In the Eastern Cape, strikes for better working conditions, salary increases and availability of PPE continued (Jonas, 2020, December 16) which meant that the needs of the healthcare workers were unmet. This led to a lack of motivation and no job satisfaction, compounded by the stress that came from the high workload (Dawood et al., 2022; Jonas, 2020). The provision of PPE would reassure the healthcare workers that they mattered, and that their safety was a priority to their employer (the government). Strikes by healthcare workers to fight for their basic needs took place despite the government promising that PPE would be available for them (Mulaudzi et al., 2021). The delay in deliveries and the high demand for PPE at the beginning of the Covid-19 pandemic meant that people were fighting for scarce resources though the priority was to make sure the frontline workers received the PPE first so they could serve their patients (Mulaudzi et al., 2021).

Studies have revealed that the Covid-19 pandemic led to traumatic experiences, increased stress, depression, anxiety, burnout for healthcare workers and death (Dawood et al., 2022; Di Tella et al., 2020). The stress of not having enough resources to help the South African population was overwhelming (Dawood et al., 2022). Mental disorders were diagnosed among public healthcare workers caused by the Covid-19 pandemic in KwaZulu Natal province in 2020, and a poor level of support from their employers was perceived (Dawood et al., 2022). Lower levels of organisational support and poor perceptions of organisational support are risk factors for adverse mental health outcomes (Ricci-Cabello et al.,2020 as cited in (Dawood et al., 2022, . ?). More than two-thirds to three-quarters had a low perception of organisational support despite 95% of healthcare workers having access to some form of psychosocial support at their workplace (Dawood et al., 2022). Healthcare workers' participation in workplace wellness activities leads to reduced occupational stress and burnout, leading to increased job satisfaction (Ledikwe et al., 2018). The healthcare workers' mental health was tested during the Covid-19 pandemic with the world applauding them as heroes but at the same time dying inside with fear of being stigmatised if they showed that they were also fragile as human beings (Shigemura et al., 2021). This leads to our hypothesis:

H_1: The healthcare workers have a positive job satisfaction level in the two hospitals.

2.3 Job Satisfaction

Job satisfaction is a multidisciplinary facet that is needed in every workplace. Employers, leaders and, organisations want their employees to be satisfied with their jobs which is linked to job commitment (Ahmad et al., 2021). The more motivated and satisfied the employee the more service delivery or outcomes from that employee will benefit the organisation's performance (Kim, 2004). Sarwar and Khalid (2011 cited in (Ahmad et al., 2021) state that job satisfaction is an emotional reaction to a person's job because of the mutual and physical environments of an organisation while Ahmad et al., (2021) state that it refers to an employee's feeling of enjoyment or accomplishment as a result of their work, which aids in determining how much an individual enjoys or dislikes their job. Job satisfaction in the healthcare sector is crucial, as it leads to satisfied healthcare workers who will provide quality services to the communities. Job satisfaction is linked to job performance directly and beneficially (Kim, 2004).

The study comparing professional nurses from the public vs private sector found that the difference in their satisfaction level was mostly due to work context involving safety, resources, workload and work schedule, management, remuneration and autonomy (Pillay, 2009). The primary source of dissatisfaction among public nurses stemmed from concerns regarding safety. This included apprehension about the safety of their workplace and personal well-being, heightened risks of contracting highly drug-resistant tuberculosis (XDR TB) and HIV/AIDS, potential for injuries, and the overall physical demands of the work environment (Pillay, 2009). The Covid-19 pandemic exacerbated all these dissatisfying factors as it was caused by a highly virulent coronavirus increasing the risk of infection to the healthcare workers, decreasing their safety even more, and worsening the situation because of scarce resources like PPE and, shortages of staff (Mdzinwa et al., 2021). The demanding work environment due to a high number of patients then led to mental and psychological effects that then manifested as stress, depression, anxiety, burnout, and post-traumatic disorders (Dawood et al., 2022). This then opens a gap in the literature

to assess the impact of the Covid 19 pandemic on the job satisfaction levels of healthcare workers during this global crisis and add to the literature.

A similar study that focused on medical doctors' job satisfaction in the South African private sector, found high dissatisfaction levels of 55,69% with doctors dissatisfied with the work environment pressures, managed care, pay, administrative duties and time constraints although they were satisfied with social and personal relationships at work and in the community (Pillay, 2008). The Covid-19 pandemic also added a lot of administrative duties as it involved contact tracing the people who were in contact with Covid-19 positive patients and, calling the possible contact individual. Since it is a notifiable disease, it meant all necessary information had to be obtained to keep up with the statistics of the number of positive Covid-19 cases and to assess hotspot areas in the country (Brown et al., 2021). The administration was time-consuming and increased the doctor's workload.

In developing countries, job satisfaction among healthcare workers has been relatively moderate. Research conducted in three selected public hospitals in Amhara, Ethiopia, indicated a job satisfaction rate of 52.4% among nurses (Ayalew et al., 2021). Similarly, a study in Addis Ababa found a job satisfaction rate of 53.8% among healthcare workers (Aklilu et al., 2020). In Nigeria, resident doctors reported a job satisfaction rate of 55.2% (Akinyemi & Atilola, 2013). However, healthcare workers in Punjab, India expressed a significantly higher dissatisfaction rate of 75.3% regarding their working conditions (Singh et al., 2019). A study done in the United States of America of imaging medical staff showed 53% job satisfaction with the work environment and 43% commitment to their current employer (Watson, 2008). Most of these studies showed the impact of a bad working environment or conditions. This then suggests that a good working environment can contribute positively to job satisfaction. As highlighted by Akinyemi and Atilola (2013), satisfaction with the working environment was found to be strongly associated with a 25-fold increase in the likelihood of overall job satisfaction among Nigerian resident doctors. Similarly, in eastern Ethiopia, the influence of the working environment and benefits packages on the job satisfaction of health professionals was relatively low, at 38.5% (Merga & Fufa, 2019). Considering the impact of the Covid-19 pandemic on the working environment, as mentioned earlier, it becomes crucial to examine and validate this notion.

H_2: The hospital management (supervisor) did not influence healthcare workers' job satisfaction in both hospitals.

2.4 Human Resource Strategies for the Department of Health

The National Department of Health (2020) includes the 2030 plans for Human Resources for Health Strategy Investing in the Health Workforce for Universal Health Coverage. One of the goals is to build an enabled, productive, motivated and empowered health workforce which is supposed to be achieved between 2020/21 to 2024/25 but due to Covid-19 pandemic there has been a delay in its implementation according to the former Minister of Health Dr Mkhize. This strategy would ensure that management of healthcare workers would allow the healthcare workforce to be the driving force in making a change in the public health sector (NDoH, 2020). A satisfied workforce is linked to better organisational performance (Kim, 2004). Motivated healthcare workers will be engaged in their commitment to the health system and the patients and driven to provide the best services which will inevitably result in excellence in service delivery and better patient outcomes and management.

The Covid-19 pandemic strained the already overburdened health system and in so doing directly and indirectly affected some of the determinants of job satisfaction. The crisis of the Covid-19 pandemic brought together the private and public sectors and, government to fight the coronavirus and the rising number of cases. The role of human resource management department was crucial at that point as they had to shift resources and reallocate a budget for such an emergency to help the frontline workers by getting the necessary resources like PPE, sanitisers, extra supportive staff, and healthcare workers to fill in for the shortage of staff. The ECDoH was one of the departments that employed healthcare workers on short-term contracts and renewed them to help other healthcare workers during the different waves of the Covid-19 pandemic (Dayimani, 2021). The continued support of healthcare workers by the human resource management department was necessary to keep the healthcare workers satisfied.

The human resource management department is responsible for providing financial and non-financial incentives to keep healthcare workers motivated and satisfied at work (Akinyemi & Atilola, 2013; Chmielewska et al., 2020; Lambrou et al., 2010). A study done in Viet Nam stated that financial and non-financial incentives were the

motivators for Viet Nam's public healthcare staff to work in rural areas. These incentives of a stable job, income and training were appreciated by managers, colleagues, and the community. The main discouraging factors were low salaries and difficult working conditions (Dieleman et al., 2003). The human resource management department's role in keeping the healthcare workers motivated is important, especially in instances as the Covid-19 pandemic (Batura et al., 2016) leading to the two hypotheses below:

H_3: Pay and remuneration positively influence healthcare workers' job satisfaction in both hospitals.

H_4: Contingent rewards positively influence healthcare workers' job satisfaction in both hospitals.

2.5 Theoretical framework: Job satisfaction theory

Job satisfaction constitutes different factors that involve the mental, physical and environmental factors that lead one to be happy about their work (Mueller & Kim, 2008 as cited in Ahmad et al., 2021). Despite different authors sharing the same notion of the importance of different factors leading to job satisfaction, other authors believe that job satisfaction is explained through the content and process theories of job satisfaction (Lynne, 2012 as cited in Ahmad et al., 2021). Maslow's hierarchy of needs and Herzberg's motivation-hygiene theory are two theories that have contributed immensely to the content theories of job satisfaction with a focus on either intrinsic or extrinsic job satisfaction as they look at the needs to be attained for people to be satisfied with their jobs (Udechukwu, 2009). The process theories like the theory of attribution, expectancy, equity, and goal setting involve looking at how motivation occurs resulting in job satisfaction (Ahmad et al., 2021). The researcher focuses on the content theories of Maslow's hierarchy of needs and Herzberg's motivation-hygiene theory as these two are explored by the survey questions (Appendix A).

Maslow's hierarchy of needs states that humans have five basic needs to satisfy, and motivation increases as these needs are met and decreases as needs are not met (Ahmad et al., 2021). These needs comprise physiological, safety, love/belonging, esteem, and self-actualisation, from lowest to the highest (Bassett-Jones et al., 2005, as cited in Ahmad et al., 2021). Maslow believed that human beings aspire to the self-actualised state (Ramlall, 2004, as cited in Udechukwu, 2009). Alrawashdeh et al.

(2021) found that healthcare workers' basic needs were not met from basic needs of physiological needs which include food, water, warmth, and rest.

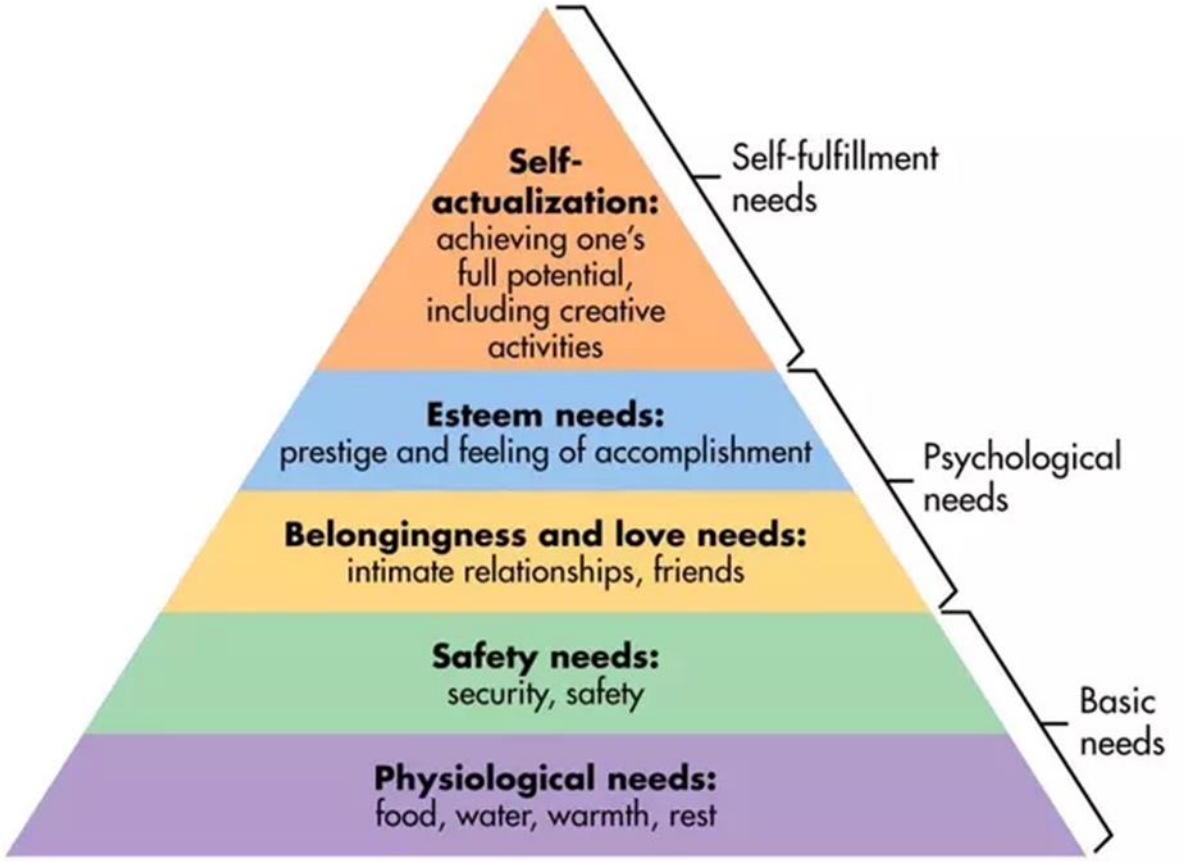

Figure 2-1: Maslow's hierarchy of needs

Source: McLeod (2007, as cited in Ahmad et al., 2021)

Herzberg's motivation-hygiene factor theory is one of the main tenets concerning job satisfaction (Smerek & Peterson, 2006). Herzberg identified two components that contribute to the motivation of work: motivator factors also referred to as intrinsic factors as they deal with the internal state of mind. The hygiene factors also called extrinsic factors that deal with the external work context (Smerek & Peterson, 2006).

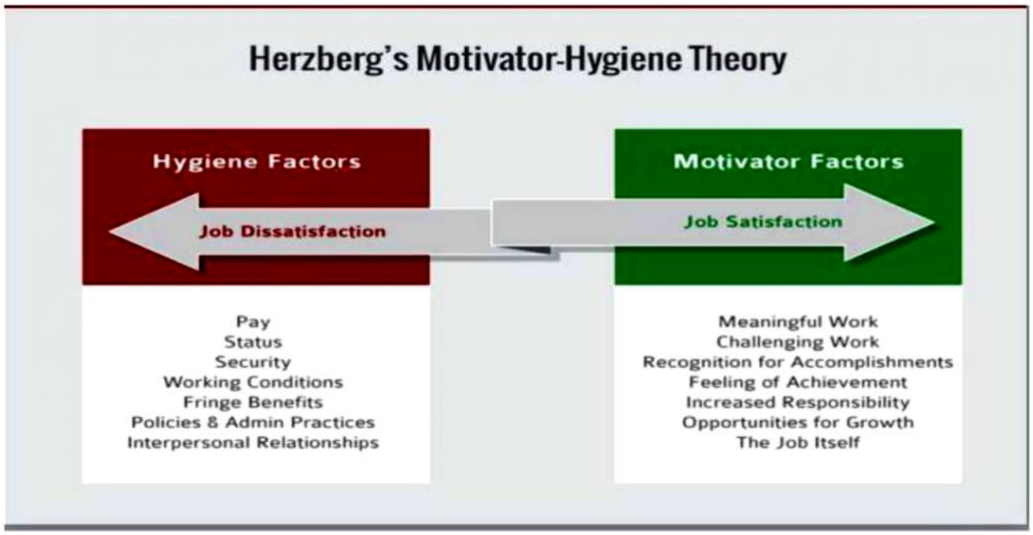

Figure 2-2: Herzberg's motivation-hygiene theory

Source: Herzberg (1959, as cited in Ahmad et al., 2021,).

When present, the motivators result in job satisfaction as the basic needs of the individual will be met. The hygiene factors, also called dissatisfiers, when present can remove the dissatisfaction to a certain point but cannot be relied upon to provide satisfaction and improved performance (Miner, 2005).

The survey questions, attached as Appendix A, explore the motivation factors (promotion, contingent rewards, and nature of work) and hygiene factors (pay, fringe benefits, operating conditions, co-worker and supervision). Communication is the only other aspect that is included as part of the job satisfaction survey (JSS). The understanding of these theories will help the researcher understand job satisfaction and hence make appropriate recommendations for the human resource department to implement.

2.6 Conclusion of Literature Review

Job satisfaction of healthcare workers is fundamental as they are the backbone of the health system. The Covid-19 pandemic negatively impacted the job satisfaction of healthcare workers. Understanding what factors influenced their job satisfaction is necessary in policy implementation and human resource strategies that keep them motivated. Financial and non-financial incentives have been proven to be effective in the past to keep healthcare workers job satisfied. The two content theories of Maslow's

hierarchy of needs and Herzberg's motivation-hygiene theory are crucial in keeping healthcare workers motivated and inevitably job satisfaction.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Research Approach

This was a quantitative study in which, the adapted JSS was used to measure job satisfaction. The findings from previous studies indicate that, with the addition of statements indicating the nature of the work environment and the organisation of the local health system, this instrument might be utilised in similar settings and populations (Batura et al., 2016).

Previous research on healthcare workers through a quantitative research approach yielded good results (Ayalew et al., 2021; Chmielewska et al., 2020; de Oliveira Vasconcelos Filho et al., 2016; Lambrou et al., 2010; Pillay, 2008).

3.2 Research Design

The study design adopted was an online survey. The survey allowed the researcher to ask the relevant questions according to already designed JSS questions proven in previous studies to address the researcher's questions.

Advantages of a survey (Jones et al., 2008) are:

- A survey offers convenience to both researchers and participants, allowing them to respond to research questions at their preferred time.
- The inclusion of videos in the survey can create a more personalized and engaging experience for participants.
- Surveys can be easily distributed to a large population, facilitating data collection on a broader scale.
- Control over data entry helps minimize errors and ensures the accuracy of collected information.
- Direct storage of data in analysis software streamlines the data management process.
- If a fifth wave of the Covid-19 pandemic occurs, surveys enable continued data collection without physical contact.

Disadvantages include:

- Developing an online survey requires expertise in survey creation and knowledge of information technology.
- Surveys may suffer from low response rates, potentially affecting the representativeness of the data.
- Technological barriers can exclude individuals who are not proficient in using online platforms.
- Questionnaires may miss important information that is not covered by the provided set of questions.

The survey design helped the researcher to answer the research question, to determine the relationship between variables like the impact of Covid-19 pandemic on the job satisfaction level of healthcare workers, and to predict any relationship between job satisfaction variables and lack of resources or shortage of staff (Creswell, 2018).

3.3 Data Collection Methods.

The online survey was circulated to the heads of department of each department and operational managers by the clinical managers of each hospital. The heads of department and operational managers then shared the survey with participants in their respective departments through emails and WhatsApp groups that they had created especially for those who did not have emails. The researcher engaged with leaders of each department to give more information about the study, created trust and reassured them of confidentiality and anonymity. This was aimed at increasing the response rate as the participants could put a face to the person behind the survey.

3.4 Population and Sample.

3.4.1 Population.

All healthcare workers at FH and CMH formed part of the study population. The healthcare workers were the nursing staff which included assistant nurses, enrolled nurses, registered/professional nurses, and medical doctors which included medical interns, community service medical doctors, medical officers/registrars, and consultants.

3.4.2 Sample

The sample for this research was the healthcare workers who were the medical doctors and nurses in the clinical units from FH (tertiary hospital) and CMH (Regional hospital) in East London, who worked during the first wave pandemic to the fourth waves of the Covid-19 pandemic. The healthcare workers were either permanently or temporarily employed at any of these institutions during any one of the Covid-19 waves.

3.4.3 Sampling method

This was a convenience sampling method as the researcher did not know the population of the healthcare workers. It gave the researcher access to those who might not be sampled based on the proposed method but can be included based on their availability to complete the survey.

This was because it is a cost-effective method and can be used when there is a short time to do the study, as seen from the plan in the next section (Hedt & Pagano, 2011). The sample was taken from medical, surgical, high/Intensive care, and emergency/OPD units. The sample size (384) was divided between FH and CMH according to their ratio in terms of the population and then further divided according to the four different units. This allowed for avoiding biased samples like obtaining results from one unit only.

The sample size was calculated using the formula.

The population size of FH and CMH healthcare workers (N)

The assumed proportion of the population who are satisfied at work = 50%

Margin of error (d) = 5%

Z-score ($Z\propto$) = 1.96 (Confidence level of the study is 95%)

Non-respondents = 10%

Computed sample size (CSS)

$$\mathrm{n} = \frac{(\boldsymbol{Z}\propto)^{\mathbf{2}}\boldsymbol{P}(\mathbf{1}-P)}{d^2}$$

n= 384

3.5 The Research Instruments

The actual instrument online survey was used for the research, attached as appendices A. It is a JSS originally produced by Spector (1994) but was adapted for use in this study and context with the inclusion of Covid-19 pandemic.

Table 3-1: Nine facets of the JSS.

Facets	**Question numbers**
Pay	1, 10,19, 28
Promotion	2, 11, 20, 33
Supervision/ Hospital management.	3, 12, 21, 30
Fringe Benefits	4, 13, 22, 29
Contingent rewards	5, 14, 23, 32
Operating conditions	6, 15, 24, 31
Co-workers	7, 16, 25, 34
Nature of work	8, 17, 27, 35
Communication	9, 18, 26, 36
Total satisfaction	1-36

Source (Spector, n.d.)

The advantages and shortcomings of the JSS are that it is an already-validated instrument, but it does not allow the participant to add any other points of discussion or to freely express themselves.

3.6 Procedure for Data Collection.

The researcher gathered the data by asking the respective hospital Chief Executive Officers to communicate with the heads of department or area managers through email and encourage sharing the instruments through department communication platforms like WhatsApp or Telegram. This was done after the researcher was granted ethical approval to do the study.

3.7 Data Analysis Strategies and Interpretation

The data was analysed using IBM SPSS (Statistical Package for Social Science) and Python software and descriptive statistics were obtained by calculating the mean, variance and standard deviation of each facet of the JSS. The responses to the items were numbered from 1 representing the strongest disagreement to 6 representing the strongest agreement. Each facet had a score ranging from 4 to 24 and negatively worded items were reverse scored with the total score of job satisfaction being the total of the nine facets ranging from 36 to 216. A score of 36 to 108 meant there was dissatisfaction, 108 to 144 meant there was ambivalence and 144 to 216 meant there was satisfaction (Spector, 1994).

Inferential statistics were calculated to test comparisons between the groups involved for the level of job satisfaction through independent T-test and ANOVA. A comparison of the mean sums scores of each facet was done to then determine the percentage of those who were satisfied or dissatisfied.

3.8 Quality Assurance

3.8.1 External validity

The modified structured JSS (Spector,1994) has been used in previous studies and shows that the instrument has significant internal consistency and validity. Ogunkuade and Ojiji (2018) found a validity with a Cronbach's alpha of 0.98 for the use of the JSS in Nigeria while Tsounis and Sarafis (2018) in the translated Greek version of the JSS confirmed the validity by confirmatory factor analysis: the factor loads were high and ranged between 0.61 and 0.90.

3.8.2 Internal validity

The JSS has both content and face validity with a Cronbach's alpha of 0.98 (Ogunkuade & Ojiji, 2018). Construct and discriminant validity was evaluated using the heterotrait-monotrait (HTMT) ratio. For constructs to be considered discrete and have adequate discriminant validity, the HTMT ratio should be less than 0.90. A value below this threshold suggests that the constructs are sufficiently distinct and do not exhibit substantial overlap in their measurement (Henseler et al., 2014).

3.8.3 Reliability

Spector (1994) stated that the JSS had a reliability coefficient alpha of 0.92 Ogunkuade and Ojiji (2018) found that in Nigeria, its Cronbach's alpha was 0.75 and showed a statistically significant reliability coefficient through the split-half reliability test. This shows that the JSS from Spector (1994) is both valid and reliable in producing consistency in results.(Ogunkuade; & Ojiji, 2018). Even though the tool is reliable, it still needed to be tested for reliability through a pilot study.

3.9 Ethical Considerations.

3.9.1 Informed consent

Each participant was required to sign an informed consent form by clicking accept after reading the consent form. The format of this consent form can be found in Appendix B of this proposal. A detailed description of the whole process involved in this study was provided in the participant information sheet supplied to each study participant (Appendix C).

3.9.2 Confidentiality and anonymity

Everyone participating in the study was given a unique study number. Demographic data and personal identification data gathered on everyone was kept confidential, unless otherwise required by the law. The data collected was stored in a secure encrypted file with password security and was only available to the researcher and the supervisor. The data was coded before it was sent to a statistician for analysis.

3.9.3 Mitigation of possible risks

The study had minimal risks of harm. The potential social risk was the concern about personal information being safe and there might be some emotional discomfort as Covid-19 pandemic had been a burden to all healthcare workers. Participant were reassured through the information sheet that the researcher would maintain confidentiality of their personal information for this study as it was important to minimise this risk. A psychologist for counselling was organised for those that might experience emotional discomfort.

3.9.4 Ethical clearance

An ethical clearance certificate from Wits Business School reference number WBS/BA2534134/390 was obtained (Appendix D). The ECDoH ethics committee issued certificate reference number EC_202209_009 (Appendix E). The FH and CMH hospital committee approved, reference number FCMHREC/A0148/2022 (Appendix F). The hospital CEOs also gave permission letters to CMH and FH (Appendix G).

CHAPTER 4: RESULTS

This chapter presents the findings of the survey conducted on the healthcare workers in the two East London public hospitals in the Eastern Cape.

The research aimed to determine job satisfaction among the healthcare workers that worked during the Covid-19 pandemic at CMH and FH in the Eastern Cape Province. The survey findings are analysed and discussed in detail. The results are organised according to the research objectives. Firstly, the demographics of the respondents in the study are presented, followed by the presentation of descriptive analysis results, and then reliability.

4.1 Data screening

A total of 379 responses were collected through the Qualtrics platform available through the university. Of this total, 119 responses were excluded as they had missed out three questions on the survey and 57 responses were removed from the dataset as the respondents only completed the demographics section and did not attempt a single survey question. In addition, some completed the demographics and only 18 questions of the 36 survey questions.

After data cleaning, 203 questionnaires were used for the data analysis, which constituted 147 from FH and 42 from CMH while 14 did not indicate the hospital. The remaining cases were checked for missing values. Missing values were imputed using the series mean of the questions/facet that were answered. The series mean is the average of all values in a data series that was calculated by adding up all the values in the series and then dividing by the number of values in the series.

The word responses on a six-point Likert scale were recoded to numbers as follows: “Disagree very much” = 1, “Disagree moderately” = 2, “Disagree slightly” = 3, “Agree slightly” = 4, “Agree moderately” = 5 and “Agree very much” = 6. The recording of the scales allowed for the calculation of means when using both SPSS and Python Jupyter Notebook.

4.2 Demographic data analysis

In this section, the demographics of the 203 respondents which included age, gender, race, health workers' profession, marital status, current work departments, the Covid-19 waves worked, and years of experience are discussed.

The mean age of the respondents was 41.1 (SD 11.1) years. The ages of the respondents ranged between 24 and 66 years of age and had a median of 42 years.

4.2.1 Gender

Many of the respondents were women (75%) (Figure 4.1, below), followed by men who made up about 24%; a third (non-binary) gender comprised less than 0.5% and some did not want to disclose their gender.

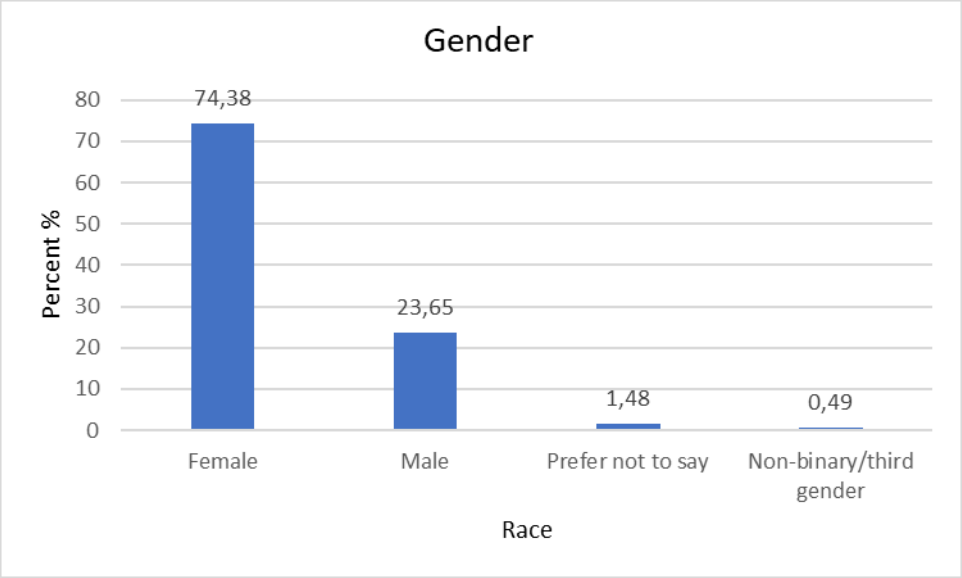

Figure 4-1: The proportion of the genders among the respondents

4.2.2 Healthcare workers profession

The majority of participants in the study were professional nurses, accounting for 39.4% of the total respondents (Figure 4.2). They were followed by medical officers/registrars, making up approximately 22.7% of the participants. Other respondent categories included nursing assistants (11.3%), enrolled nurses (9.4%), medical interns (10.8%), consultants (5.4%), and community service medical doctors (1%).

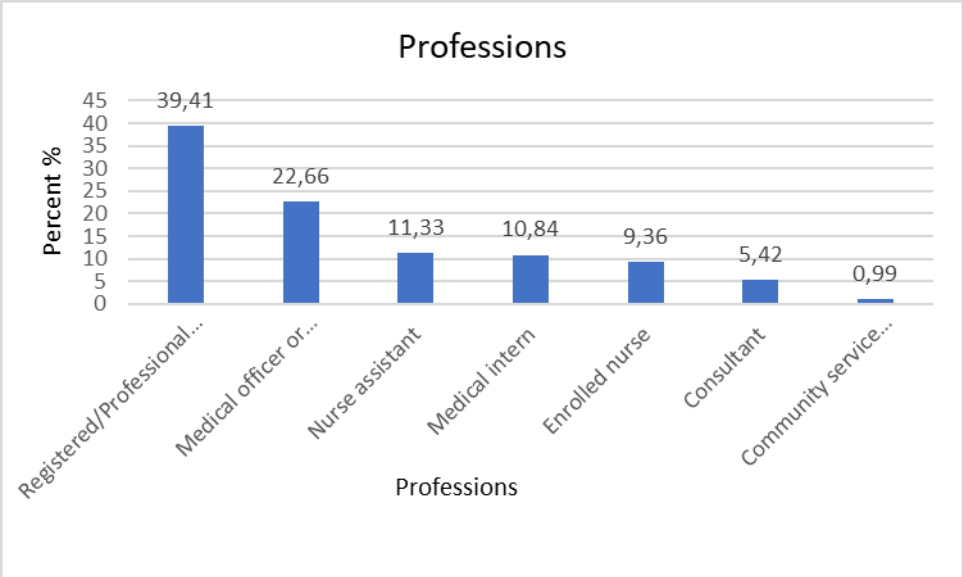

Figure 4-2: The proportion of the different professionals among the respondents

4.2.3 Healthcare workers departments.

The surgical departments from the two hospitals were the major contributors with 55.7% (Figure 4.3), then medical departments with 23.6%, with the High care/ICU/Renal and OPDs/Casualty units making up 7.4% each.

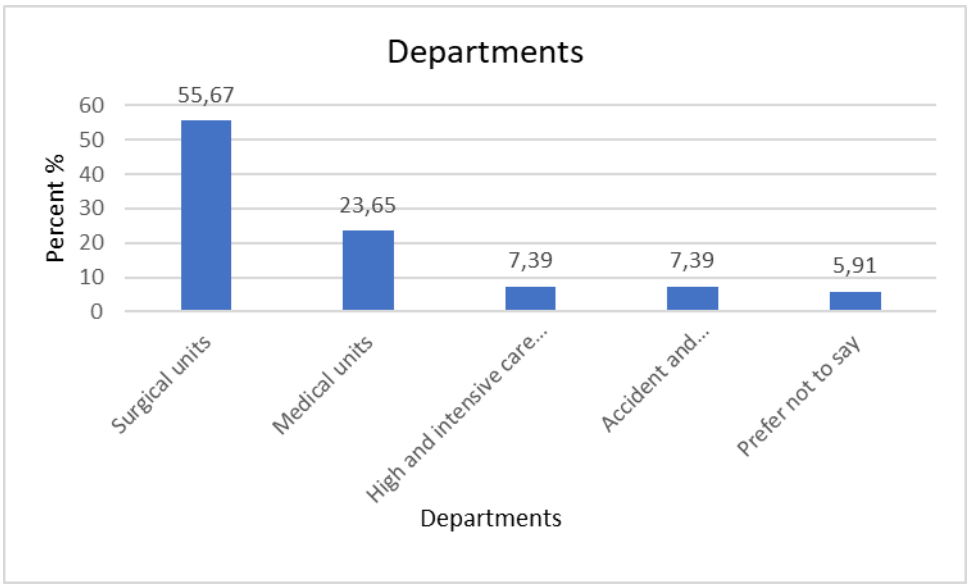

Figure 4-3: The proportion of the respondents in the different hospital departments

4.2.4 Work experience.

Work experience of the participants ranged from 1 year to those with over 20 years of experience as shown in Figure 4.4. Most respondents had between one and five years of experience at 33.5% followed by those with above 20 years of experience at 24.6%. Those with between six and ten years of experience made up 24.1%; those with between 11 and 15 years of experience were about 14%, and those that had between 16 and 20 years made up 3.9% of respondents.

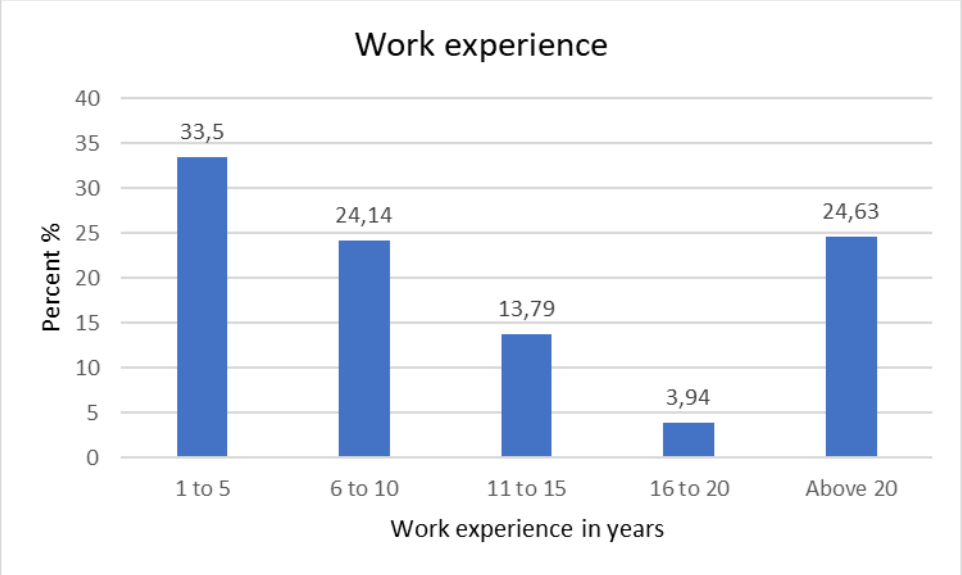

Figure 4-4: The proportion of the respondents that had different work experiences

4.2.5 Marital status

Figure 4.5 shows that the largest proportion of the respondents were married at 46.3%, followed closely by single at 39.4%. A small percentage of the population was divorced at 6.9%, in a partnership at 4.4%, and widowed at 3.0%

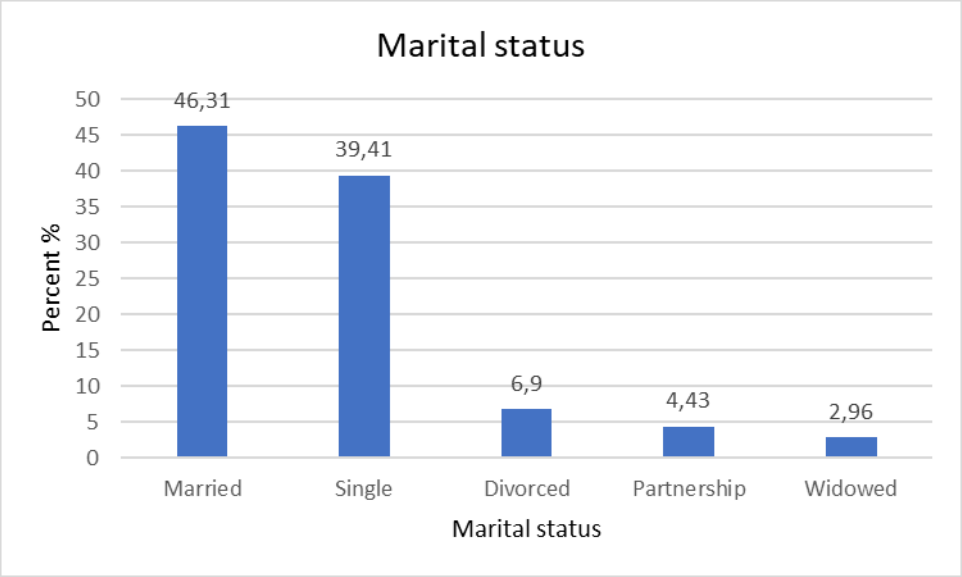

Figure 4-5: The proportion of the marital status among the respondents

4.2.6 Race

Figure 4.6 shows that respondents of the African ancestry constituted about 60% of the respondents followed by the coloured, white, Indian, those who did not want to disclose their ethnicity and lastly Asians who made up less than 1%.

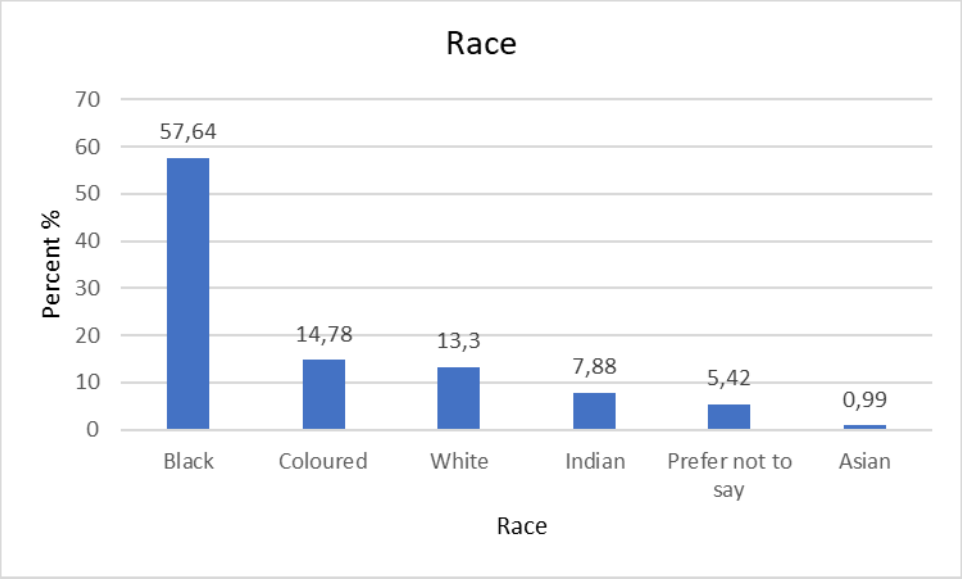

Figure 4-6: The proportion of the races among the respondents

4.2.7 Covid-19 waves worked.

The majority (66.6%) of the respondents worked during all four Covid-19 waves as shown in Figure 4.7, with the smallest proportion having worked during the first wave

(5.9%), followed by the third wave (7.6%, then the fourth wave (8.4%) and lastly the second wave (11.4%) across the two hospitals.

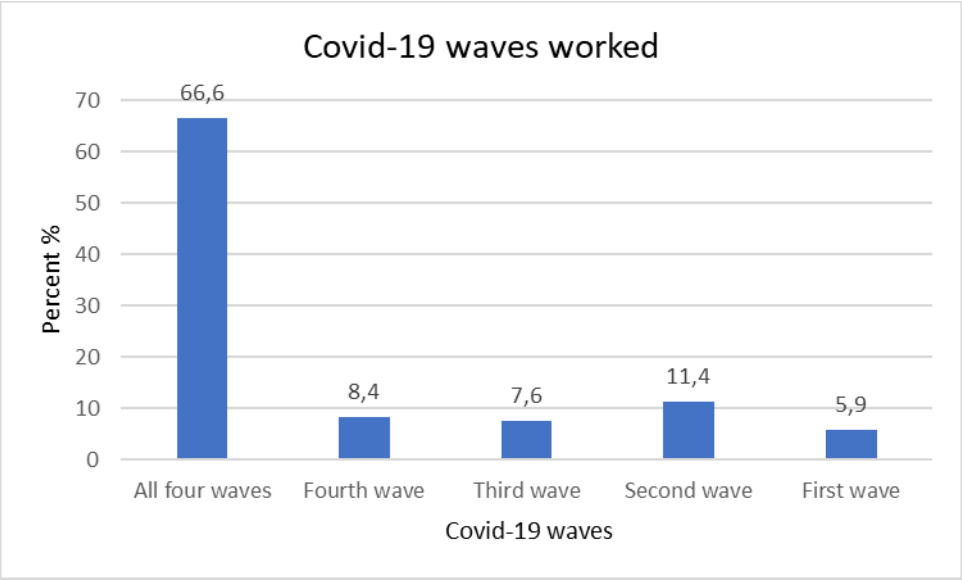

Figure 4-7: The proportion of the respondents that worked during different Covid-19 waves at the two hospitals

4.3 Reliability statistics

Using the modified JSS, nine categories were focused on: pay, promotion, supervision, fringe benefits, contingent rewards, co-workers, nature of work and communication. After calculating the reliability scores, Table 4.1 show that pay was 0.69, supervision was 0.58, fringe benefits was 0.39, contingent rewards was 0.41 and co-workers was 0.66, these five constructs were considered for further analysis. The researcher used constructs with a reliability score of at least 0.4 and above to continue analysing the data. Four constructs were discarded as the Cronbach's alphas were too low, namely, promotion (0.06), operating procedures (-0.14), nature of work (0.12) and communication (0.2).

Table 4-1: Reliability statistics

Scale	Cronbach's Alpha	Description
Pay	0.69	Pay and remuneration
Promotion	0.06	Promotion opportunities

Supervision	0.58	Immediate supervisor, in this case is the hospital management
Fringe benefits	0.39	Monetary and nonmonetary fringe rewards
Contingent rewards	0.41	Appreciation, recognition and rewards for good work
Operating procedures	-0.14	Operating policies and procedures
Co-workers	0.66	People you work with
Nature of work	0.12	Job tasks themselves
communication	0.2	Communication within the hospitals

4.4.1 Pay

There were statistically significant differences (p-value = .016) in the levels of satisfaction with the pay received between the respondents at the two hospitals. The respondents at the CMH had a higher average than the respondents at the FH.

There were no statistically significant differences (p-value = .66) in the level of satisfaction about the pay received among respondents in the different departments.

There were statistically significant differences (p-value < .001) in the levels of satisfaction with the pay received between the different medical professions at the two hospitals. The consultants had a higher average of satisfaction (2.6 vs 1.5) compared to the nurse assistants; the nurse assistants compared to the medical interns (2.8 vs 1.6); the consultants compared to the professional nurses (2.6 vs 1.6); the medical interns compared to enrolled nurses (2.8 vs 1.8); the medical interns compared to the professional nurses (2.8 vs 1.6) and the medical officers compared to the professional nurses (2.1 vs 1.6). The other pairs were not statistically significant.

There were no statistically significant differences (p-value = .38) in the level of satisfaction with regard to the pay received among respondents who had different years of experience at the two hospitals.

There were statistically significant differences (p-value = .027) in the level of satisfaction with regard to the pay received among respondents based on their gender at the two hospitals. The male gender had a statistically significant (p-value = .038)

higher score of satisfaction compared to the female gender (2.26 vs 1.81). The other comparison between the other genders was not statistically significant (p-value >.05).

There were no statistically significant differences (p-value = .43) in the level of satisfaction regarding the pay received among the respondents that had different marital statuses at the two hospitals.

There were statistically significant differences (p-value <.0001) in the level of satisfaction with regard to the pay received among respondents based on their race/ethnicity at the two hospitals. The Indians had a statistically significant (p-value = .012) higher score of satisfaction compared to the blacks (2.56 vs 1.70) and the white had a higher score compared to the blacks (2.56 vs 1.70). The white race had a higher score than the coloured group (2.56 vs 1.80) The other comparison between the other race groupings was not statistically significant (p-value > .05).

Overall, 82.3% of the respondents were dissatisfied with the pay received, 13.8% were ambivalent and only 3.9% were satisfied with the payment received as shown in the Table 4-2 below.

Table 4-2: The respondents grouped by satisfaction with pay levels.

Groupings	**n (%)**	**Mean**	**Min**	**Max**
Ambivalent	28 (13.8%)	13.79 ± 0.92	13	16
Dissatisfied	167 (82.3%)	6.15 ± 2.52	4	12
Satisfied	8 (3.9)	18.12 ± 1.12	17	20

This section examines the differences in the levels of satisfaction with regard to the pay received among the respondents at two hospitals based on various factors. Results show that there were statistically significant differences in satisfaction among respondents based on their gender, medical profession and race/ethnicity. There were no statistically significant differences in satisfaction among respondents based on their department, years of experience or marital status.

4.4.2 Supervision (Hospital management).

There were statistically significant differences (p-value = .044) in the levels of satisfaction with the supervision rendered to the staff at the two hospitals. The respondents at the CMH had a lower average than the respondents at the FH.

There were no statistically significant differences (p-value >.05) among the respondents in the level of satisfaction regarding the supervision received at the different departments.

There were no statistically significant differences (p-value = .16) among the respondents in the level of satisfaction regarding the supervision received by the different registered professionals at the hospitals.

There were no statistically significant differences (p-value = .41) in the level of satisfaction with regard the supervision received among respondents who had different years of experience at the two hospitals.

There were no statistically significant differences (p-value = .40) in the level of satisfaction regarding the supervision received among the different genders at the two hospitals.

There were no statistically significant differences (p-value = .085) in the level of satisfaction regarding the supervision received among the respondents that had different marital statuses at the two hospitals.

There were no statistically significant differences (p-value > .05) among the respondents in the level of satisfaction regarding the supervision received by the different races at the two hospitals.

Overall, 75.9% of the respondents were dissatisfied with the supervision received, 17.7% were ambivalent and only 6.4% were satisfied with the supervision received as shown in Table 4-3 below.

Table 4-3: The respondents grouped by the levels of satisfaction on supervision.

Groupings	n (%)	Mean	Min	Max
Ambivalent	36 (17.7%)	14.06 ± 1.09	13	16
Dissatisfied	154 (75.9%)	7.67 ± 2.58	5	12
Satisfied	13 (6.4%)	18.85 ± 2.34	17	24

This section analysed the levels of satisfaction with the supervision rendered to the staff at two hospitals, CMH and FH. The results showed that there were statistically significant differences between the two hospitals, with the respondents at CMH having a lower average than those at FH. There were no statistically significant differences among the respondents in the level of satisfaction regarding the supervision received in different departments, among the different registered professionals, different years of experience, genders, or marital status or among the different races.

4.4.3 Fringe Benefits

There were statistically significant differences between the respondents at the two hospitals in terms of being satisfied with the fringe benefits (p-value = .03) received, with the staff at the FH having a higher level of satisfaction compared to those at CMH.

There were no statistically significant differences (p-value > .05) in the level of satisfaction among the respondents in terms of the fringe benefits in the different departments at the two hospitals.

There were statistically significant differences (p-value > .004) in the level of satisfaction among the respondents in terms of the fringe benefits received by the different registered professionals at the two hospitals. A statistically significant difference (p-value = .027) in the level of satisfaction was noted between the nurse assistant and medical intern. There were not statistically significance (p-value > .05) between the other professionals.

There were no statistically significant differences (p-value = .80) in the level of satisfaction with regard to the fringe benefits received among respondents who had different years of experience at the two hospitals.

There were no statistically significant differences (p-value = .40) in the level of satisfaction regarding the fringe benefits received among the different genders at the two hospitals.

There were no statistically significant differences (p-value = .30) in the level of satisfaction regarding the fringe benefits received among the respondents that had different marital statuses at the two hospitals.

There were statistically significant differences (p-value < .0001) in the level of satisfaction regarding the fringe benefits received among respondents based on their race/ethnicity at the two hospitals. The Indians had a statistically significant (p-value = .034) higher score of satisfaction compared to the blacks (2.90 vs 2.12) and those that did not want their ethnicity known had a statistically significant (p-value = .002) higher score compared to the blacks (3.22 vs 2.12). The white race had a statistically significant (p-value = .0004) higher score compared to the black (2.96 vs 2.12). The comparison between the other race groupings was not statistically significant (p-value > .05).

Overall, 73.9% of the respondents were dissatisfied with the fringe benefits they were given, 22.7% were ambivalent and only 3.4% were satisfied with the fringe benefits received as shown in Table 4-4.

Table 4-4: The respondents grouped by the levels of satisfaction on fringe benefits.

Groupings	**n (%)**	**Mean**	**Min**	**Max**
Ambivalent	46 (22.7%)	14.28 ± 0.95	13	16
Dissatisfied	150 (73.9%)	7.78 ± 2.67	4	12
Satisfied	7 (3.4%)	17.86 ± 0.90	17	19

There were statistically significant differences between the level of satisfaction with fringe benefits at two hospitals, with staff at one hospital being more satisfied than the other. There were also significant differences in satisfaction among registered professionals and among those of different ethnicities. There were no significant differences between genders, years of experience or marital status.

4.4.4 Contingent Rewards

There were no statistically significant differences (p-value > .05) in the level of satisfaction among the respondents in terms of the contingent rewards received.

There were no statistically significant differences (p-value > .05) in the level of satisfaction among the respondents in terms of the contingent rewards between the different registered professional groupings.

There were no statistically significant differences (p-value = .29) in the level of satisfaction with regard to contingent rewards received among respondents who had different years of experience at the two hospitals.

There were no statistically significant differences (p-value = .78) in the level of satisfaction regarding the contingent rewards they received with among the different genders at the two hospitals.

There were no statistically significant differences (p-value = .19) in the level of satisfaction with regard to contingent rewards they received among respondents based on their ethnicity.

Overall, 82.8% of the respondents were dissatisfied with the contingent rewards received, 13.8% were ambivalent and only 3.4% were satisfied with the contingent rewards received as shown in Table 4-5.

Table 4-5: The respondents grouped by the levels of satisfaction on contingent rewards.

Groupings	**n (%)**	**Mean**	**Min**	**Max**
Ambivalent	28 (13.8%)	14.4 ± 1.1	13	16
Dissatisfied	168 (82.8%)	7.3 ± 1.9	4	12
Satisfied	7 (3.4%)	19.0 ± 2.2	17	23

This section summarises the results of an investigation into the level of satisfaction among respondents concerning the contingent rewards received. The results revealed that there were no statistically significant differences among any of the demographic groups studied, with p-values all greater than .05.

4.4.5 Co-workers

There were no statistically significant differences among the respondents in terms of the respondents' race in terms of the co-workers (p-value > .05) worked at the two hospitals.

There were no statistically significant differences (p-value = .68) in the levels of satisfaction with the co-workers they worked with in the different departments.

There were no statistically significant differences (p-value = .61) in the levels of satisfaction with the co-workers they worked with in the different departments.

There were no statistically significant differences (p-value = .89) in the level of satisfaction regarding the co-workers they worked with among the respondents that had different marital statuses at the two hospitals.

There were statistically significant differences (p-value = .003) in the level of satisfaction with regard to co-workers they worked with among the different races at the two hospitals. The black race had a statistically significant (p-value = .010) higher score compared to the coloured race. The other comparisons of races were not statistically significant (p-value > .05).

Overall, 22.7% of the respondents were dissatisfied with the co-workers they worked with, 36.5% were ambivalent and only 40.9% were satisfied with the co-workers they worked with as shown in Table 4-6.

Table 4-6: The levels of satisfaction with their co-workers

Groupings	**n (%)**	**Mean**	**Min**	**Max**
Ambivalent	74 (36.5%)	14.5 ± 1.07	13	16
Dissatisfied	46 (22.7%)	10.2 ± 1.93	4	12
Satisfied	83 (40.9%)	19.5 ± 2.16	16	24

Analysis of the data shows that there were no statistically significant differences in levels of satisfaction with co-workers among respondents of different races, marital statuses, and departments. However, there was a statistically significant difference in satisfaction with co-workers between black and coloured races. This was indicated by a p-value of .010.

4.4 Conclusion

Table 4-7: Hypothesis outcomes

Hypothesis	**Outcome**	**Decision**
H_1: the healthcare workers have a positive job satisfaction level in the two public hospital	Low satisfaction ranges from 3-6 %	Reject null hypothesis
H_2: The hospital management (supervisor) did not influence healthcare workers job satisfaction in both hospitals	Ambivalent: 18% Dissatisfied: 76% Satisfied: 6%	Reject null hypothesis
H_3: Pay and remuneration positively influence the healthcare workers job satisfaction in both hospitals	Ambivalent: 14% Dissatisfied: 82% Satisfied: 4%	Reject null hypothesis
H_4: Contingent rewards positively influence healthcare workers job satisfaction in both hospitals	Ambivalent: 14% Dissatisfied: 83% Satisfied: 3%	Reject null hypothesis

CHAPTER 5: DISCUSSION

5.1 Introduction

According to studies done during the Covid-19 pandemic crisis, the pandemic left healthcare workers with mental disorders, trauma and burn-out from their duties which then would affect their job satisfaction (Dawood et al., 2022; Di Tella et al., 2020). The study had an unequal distribution of participants with FH (72%), CMH (21%) and unknown (7%) which made comparing the two hospitals unfair as FH participants comprised about 340% more than the CMH. This could be explained either by the fact that FH is a tertiary level hospital and hence has more employees than CMH, a regional level hospital, or it might have been a case that when cleaning the data, most discarded participants were from CMH compared to FH.

A higher number of surgical units' participants (56%) than the other units, medical (24%), high care/ICU (7%) and accident and emergency/OPDs (7%), was expected as there were more surgical disciplines in each hospital compared to medical units and high care/ICU was only reserved for few patients. By contrast, another study on motivational factors and job satisfaction involving nurses and doctors in Cyprus public hospitals had more participants from the medical units (40%), surgical (32%) and accident and emergency/outpatients (26%) (Lambrou et al., 2010).

The nurses (registered, enrolled, and assistant nurses) contributed 60% and medical doctors (consultant, medical interns, medical officers/registrar) 40% of the participants. This is due to the high number of nurses per each hospital compared to doctors and supports most studies that show high participation from the nursing staff (Lambrou et al., 2010; Merga & Fufa, 2019). The healthcare system is well staffed with experienced healthcare workers with 34% having between one to five years' work experience and 64% having more than five years' experience. Most studies agree with the fact that staff with experience equal to or less than 5 years contribute the most (Ayalew et al., 2021; Lambrou et al., 2010; Merga & Fufa, 2019). Women (74%) comprised the majority of participants, than men (24%) which is similar to most studies (Aklilu et al., 2020; Ayalew et al., 2021; Lambrou et al., 2010) and the opposite of other job satisfaction studies (Pillay, 2008; Singh et al., 2019).

There was an almost equal distribution of the married (46%) and unmarried (54%) participants. In terms of ethnicity, the blacks were the majority (58%) then the coloured (15%) and whites (13%), which is in line with the demographics as Eastern Cape where isiXhosa and Afrikaans which are the main languages spoken there. Most of the participants (78%) had worked through all four Covid-19 waves which should give a true reflection of the impact of Covid-19 on their job satisfaction.

The findings of this study clearly show a high level of dissatisfaction among healthcare workers during the Covid-19 pandemic period, concerning their pay and remuneration (82%), hospital supervision (76%), fringe benefits (74%) and contingent rewards (83%). Only 41% of the healthcare workers were satisfied with their co-workers while 36% had mixed feelings about co-workers. The co-worker satisfaction level could be because during the Covid-19 pandemic there was a need to be more supportive of each other as the healthcare workers were dealing with a crisis. The results aligned with of previous studies where good satisfaction levels with co-workers were found (Lambrou et al., 2010; Pillay, 2008; Singh et al., 2019).

5.2 Job satisfaction

5.2.1 Job satisfaction levels

Research question 1: What is the difference in the job satisfaction levels of healthcare workers between the two public hospitals?

H_1*:* Healthcare workers have a positive job satisfaction level during the Covid-19 pandemic.

There is a generally low level of job satisfaction among healthcare workers as shown by the results: 4% were satisfied with pay and remuneration; 6% with hospital management supervision; and 3% with both fringe benefits and contingent rewards. There was only 41% satisfaction with co-workers.

5.2.2 Supervision (hospital management)

Research question 2: What is the impact of the hospital management (supervisor) on the healthcare workers' job satisfaction, and how did the two hospitals compare?

H_2: The hospital management (supervisor) does not influence healthcare workers' job satisfaction in both hospitals.

The healthcare workers were satisfied (6%) and had mixed feelings (18%) but were mostly dissatisfied (76%), which means they were dissatisfied with how hospital management supervised them during the Covid-19 pandemic. This could be because this was a health system crisis; it was the first time the hospital management had to deal with such; and the magnitude of the problem found the health system unprepared for Covid-19. The low mean score for CMH (3) and FH (2), meant both hospitals were dissatisfied with hospital management though CMH was slightly dissatisfied while FH was moderately dissatisfied. This could be because CMH refers some of its patients to FH since FH is a tertiary hospital and meant that the workload was much greater for FH hospital management (Knowledgehub, 2022). Thus, the hospital management had an unsatisfactory impact on the job satisfaction of healthcare workers in both hospitals. This is contrary to other studies where supervision was found to be satisfactory for healthcare workers (Masum et al., 2016; Singh et al., 2019). Supervision had a significant value of 0.04 with a Cohen's d point estimate of 0.4 meaning. It had a medium effect on the job satisfaction levels of the healthcare workers (Berg, 2023), leading to the rejection of null hypothesis 2.

5.2.3 Pay and remuneration.

Research question 3: What influence does pay and remuneration have on healthcare workers' level of job satisfaction, and how do the two hospitals compare to each other?

H_3: Pay and remuneration positively influence healthcare workers' job satisfaction in both hospitals.

Pay and remuneration were dissatisfaction factors for most healthcare workers when assessing job satisfaction (Masum et al., 2016; Pillay, 2008, 2009; Rosta et al., 2009). The study aligns with those studies as there 82% of the respondent's expressed dissatisfaction with 14% having mixed feelings about it. However, a study done in India involving healthcare workers found a 62,6% satisfaction rate with pay from the participants, which is contrary to this study (Singh et al., 2019). CMH had 35 participants with a mean score of 2.4 and a standard deviation of 1.15. FH had 124 participants with a mean score of 1.8 and a standard deviation of 0.97. Both hospitals had a low mean score on average of 2 each out of 6, which shows moderate dissatisfaction with their pay and remuneration. The Cohen's d of 0.6 meant that pay and remuneration have a large effect on healthcare workers' job satisfaction as the

range ≥ 0.6 means there is a large effect (Berg, 2023). The high dissatisfaction with pay and remuneration negatively influences job satisfaction, leading to a rejection of null hypothesis 3. The cause of the dissatisfaction could be attributed to the government's failure to fulfil their commitment to salary increments for civil servants and the absence of bonuses or danger allowances, especially considering the heightened risks healthcare workers faced during the Covid-19 pandemic, which increased the chances of illness and mortality among them.

5.2.4 Contingent rewards

Research question 4: What influence do contingent rewards have on healthcare workers' job satisfaction, and how do the two hospitals compare to each other?

H_4: Contingent rewards positively influence healthcare workers' job satisfaction in both hospitals.

The healthcare workers were dissatisfied (83%) with the contingent rewards, 14% were ambivalent and 3% were satisfied, though the contingent rewards were not a significant influence on job satisfaction according to the study (p-value = 0.51). This means that the healthcare workers do not regard contingent rewards as an influencer on their job satisfaction; thus, null hypothesis 4 is rejected. The high dissatisfaction level is supported by other studies (Ayalew et al., 2021; Masum et al., 2016; Singh et al., 2019), so, the DoH should consider improving contingent rewards which have been linked to good motivation which also has a positive impact on job satisfaction and retaining of the healthcare workers in the public sector (Akinyemi & Atilola, 2013), especially since studies have shown that the Covid-19 pandemic left healthcare workers traumatised and with mental disorders like anxiety and depression (Dawood et al., 2022; Di Tella et al., 2020).

CHAPTER 6 CONCLUSION

6.1 Conclusions

The research study concludes that there is low job satisfaction among healthcare professionals in the two East London public hospitals. The factors most affecting job satisfaction were pay and remuneration, supervisor, and contingent rewards. Job satisfaction was greatly influenced by the number of Covid waves that the healthcare

professionals worked as the majority worked all four waves. Overall, there was dissatisfaction with almost all facets except one. Despite this health crisis, the DoH human resource management department should improve the job satisfaction levels of the healthcare workers to be able to deal more effectively with any health crisis that may arise and improve patient care by improving the factors that already affect job satisfaction.

6.2 Limitations

1. The study had its limitations which includes a shortage of time to do data collection in one of the hospitals because of a delay in getting hospital ethics approval.
2. Since the survey was an online anonymous link, some healthcare workers did not trust the link as they assumed it might be a scam to rob them financially.
3. Some healthcare workers were not technologically savvy and hence reluctant to participate in the research.
4. Most healthcare workers felt that the research would not help improve their current state of affairs and felt it was useless to participate as nothing would change to improve their dissatisfaction with some of the issues at work.
5. Lack of free Wi-Fi/data supply was another impediment, as high living expenses mean that people prioritised what they will spend their Wi-Fi/data on.

6.3 Recommendations

1. A good job environment will result in healthcare workers maintaining job satisfaction despite crises like Covid-19. Thus, it is essential for the human resource department to improve job satisfaction levels on a routine basis.
2. Ways should be made in which the pay and remuneration packages are at least acceptable and are comparative with the current living expenses so that the healthcare workers can keep up with their living expenses. Using bonuses and danger allowances in case of crisis management might help increase job satisfaction.
3. Non-financial rewards should be promoted to keep the healthcare workers motivated leading to improved job satisfaction.

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APPENDICES

Appendix A: Adapted Job Satisfaction Survey

Demographic questionnaire for Job satisfaction of health care professions in two East London public hospitals in South Africa in the context of Covid-19.

1. Which hospital are you currently working in? Frere or Cecilia Makiwane Hospital.
2. Which department are you currently working in? Medical units, surgical units, High care/Renal unit/ICU, and casualty/OPDs
3. What is your current registration? Nurse assistant, enrolled nurse, registered/professional nurse, medical intern, community service medical doctor, medical officer/ registrar, and consultant.
4. Years of experience: 1-5 years, 6-10, 11-15, 16-20, above 20 years
5. Sex: male, female, biennial, prefer not to say
6. Current age in years.
7. Marital status: single, married, divorced, widowed, and in partnership.
8. Race: black, white, coloured, Indian, prefer not to say.
9. Which of the Covid waves did you work at? First, second, third, and fourth waves, all the waves.

Job satisfaction survey.

The following questions are based on a Likert scale from disagree very much to agree very much. Each answer is allocated a number.

Disagree very much = 1

Disagree moderately= 2

Disagree slightly= 3

Agree slightly= 4

Agree moderately= 5

Agree very much =6

There are 9 constructs in the survey with each construct composed of 4 questions.

Pay.

1. I feel l am being paid a fair amount for the work l do.
2. Raises are too few and far between.
3. When l think about what they pay me, l feel unappreciated by the hospital.
4. I feel satisfied with my chances of salary increases.

Promotion.

1. There is too little chance for promotion in my job.
2. Those who do well on the job stand a fair chance of being promoted.
3. People get ahead as fast here as they do in other places.
4. I am satisfied with my chances for promotion.

Supervision (Hospital management).

1. The hospital management was quite competent in doing its job during the covid 19 pandemic.
2. The hospital management was unfair to me during the covid 19 pandemic.
3. The hospital management showed too little interest in the feelings of healthcare workers during covid 19.
4. I like the hospital management.

Fringe benefits.

1. I am not satisfied with the benefits l receive.
2. The benefits we receive are as good as most other hospital offers.
3. The benefits package we have is equitable (fair and impartial)
4. There are benefits we do not have that we should have.

Contingent rewards.

1. When l does a good job, l receive the recognition for it that l should receive.
2. I do not feel that the work l do is appreciated.
3. There are a few rewards for those who work here.
4. I don't feel my efforts are rewarded the way they should be.

Operating conditions.

1. Shortage of staff and limited resources like sanitisers, PPE, etc. made doing a good job difficult during Covid 19 pandemic.
2. My efforts to do a good job are seldomly/rarely blocked by shortage of staff and lack of resources like PPE, sanitizers, and consumables during covid 19 pandemic.
3. I had too much work to do during Covid 19 pandemic.
4. I had too much paperwork (administration work) during the Covid 19 pandemic.

Coworkers.

1. I like the people l work with.

2. I find l must work harder at my job because of the incompetence of the people l work with.

3. I enjoy my coworkers.

4 There is too much bickering and fighting at work.

Nature of work.

1. I sometimes feel my job is meaningless, especially during the Covid 19 pandemic.

2. I like doing the things l do at work during the Covid 19 pandemic.
3. I feel a sense of pride in doing my job during the Covid 19 pandemic.
4. My job is enjoyable especially during the Covid 19 pandemic.

Communication.

1. Communication seems good within the hospital.
2. The goals of the hospital are not clear to me.
3. I often feel that l does not know what is going on with the hospital.
4. Work assignments or expected duties are not fully explained.

Appendix B: Consent form

Title of project: Job satisfaction of healthcare professionals in two East London public hospitals, in South Africa in the context of Covid 19.

Researcher: Nkosilathi Dlodlo

I agree to participate in this research project. The research has been explained to me and I understand what my participation will involve. I agree to the following:

(Please circle the relevant options below).

I agree that my participation will remain anonymous	YES	NO
I agree that the researcher may use this information anonymously in his / her research report	YES	NO
I agree that the information I provide may be used anonymously after this project has ended, for academic purposes by other researchers, subject to their own ethics clearance being obtained.	YES	NO

Appendix C: Participant Information Sheet

Dear Sir / Madam

My name is Dr. Nkosilathi Dlodlo, and I am a master's student in Business Administration at the University of the Witwatersrand, Johannesburg. As part of my studies, I must undertake a research project. I am investigating **Job satisfaction of healthcare professionals in two East London public hospitals in South Africa in the context of Covid 19** under Ms. Ayanda Magida as my supervisor. This research project aims to explore and understand healthcare workers' job satisfaction, then make recommendations to Human resource management.

As part of this project, I would like to invite you to take part in answering a questionnaire. This activity will involve an online survey and will take around 10 minutes. This data will be stored in secure and encrypted storage and only the researcher and supervisor will have access to this data. It will be deleted after five years.

There will be no personal costs to you if you participate in this project, you will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. You may withdraw at any time or not answer any questions if you do not want to. The online survey will be completely confidential and anonymous as I will not be asking for your name or any identifying information, and the information you give to me will be held securely and not disclosed to anyone else. I will be using a pseudonym (false name) to represent your participation in my final research report. If you experience any distress or discomfort at any point in this process, you can stop or resume another time. If you need support or counseling services following the online survey, these are available free of charge at the hospital.

If you have any questions during or afterward about this research, feel free to contact me at the details listed below. This study will be written up as a research report which will be available online through the university library website. The data collected from this research project will be stored in a password-encrypted backup computer storage unit and will be kept for five years. With your permission, the data collected from this research project may be used by other researchers. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), ethics number **WBS/BA2534134/390**, Eastern cape department of health research committee reference number **EC_202209_009** and the permission has been granted by clinical managers of Cecilia Makiwane and Frere hospital.

Yours sincerely,
Nkosilathi Dlodlo

Researcher:
Nkosilathi Dlodlo,
2534134@students.wits.ac.za and cellphone number 073 7055 106

Supervisor:
Ms. Ayanda Magida
Ayanda.magida@wits.ac.za
+27 11 717 3953

Appendix D: Ethical Clearance.

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/BA2534134/390
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below)

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

Project title	Job satisfaction of health care professionals in two East London public hospitals in South Africa in the context of Covid-19
Investigator / Researcher	Dr Nkosilathi Dlodlo
Nature of Project	MBA (Research Article)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentialty.
Issue Date of Certificate	25 09 2022
Expiry date	Date of submission of the project / research report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 anthony.stacey@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

25/09/2022
Date:

Appendix E: ECDoH ethics committee certificate

Province of the
EASTERN CAPE
HEALTH

Enquiries: Yvonne Gixela Tel no: 079 074 0859

Email: Yvonne.Gixela@echealth.gov.za / ncebagixela22@gmail.com

Date: 29 September 2022

Job satisfaction of health care professionals in two East London public hospitals in South Africa in the context of Covid-19 (EC_202209_009)

Dear Dr. N. Dlodlo

The department would like to inform you that your application for the above mentioned research topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Ethics Research Committee.

2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.

3. The Department of Health expects you to provide a progress update on your study every 3 months (from date you received this letter) in writing.

4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Eastern Cape Health Research Committee secretariat. You may also be invited to the department to come and present your research findings with your implementable recommendations.

5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

SECRETARIAT: EASTERN CAPE HEALTH RESEARCH COMMITTE

2030 NDP

TOGETHER, MOVING THE HEALTH SYSTEM FORWARD

Appendix F: Approval from the Hospital Committees

Doc ID: FCMHREC/F050/2020 Date 29 July 2020

EASTERN CAPE PROVINCE

DEPARTMENT OF HEALTH **ISEBE LEZEMPILO**

CECILIA MAKIWANE AND FRERE HOSPITALS RESEARCH ETHICS COMMITTEE
NHREC PROVISIONAL REGISTRATION NUMBER: REC-260219-056

DEPARTMENT OF INTERNAL MEDICINE
PRIVATE BAG X 9047
EAST LONDON
5200

Assoc Prof AG Parrish
Cell: 082 5765930
E-mail: andygp@mweb.co.za

Enquiries:

24 November 2022

Protocol Title: Job satisfaction of health care professionals in two East London public hospitals in South Africa in the context of Covid-19
Protocol Reference Number: FCMHREC/A0148/2022
Protocol Status: Approved

To

Dear

The FCMHREC has reviewed the above amended application. The proposed study takes the form of a survey of staff members, and as such does not entail substantial clinical risk. Compliance with standards of Good Clinical Practice in terms of anonymizing information and data security are still essential in terms of collection, storage and publication of results.

Explanation of protocol status: 'approved' – the study may proceed with the conditions listed below; 'amendments required' – the suggested amendments are needed before the study will be approved and in the interim the study may not proceed; 'study not approved' – the study protocol was felt to contain substantive issues which will be spelt out below and the study may not proceed.

Period of approval: one year from the date of this letter. At the end of the approval period, please notify the committee of the status of the project (completed, discontinued or need for a further approval period). Also notify the committee at completion of the project on how you intend to feedback results to the local clinical and/or patient community.

Conditions of approval: Please inform the FCMREC in writing on the appropriate form if any of the following occurs: proposed protocol changes (FCMHREC/F056/2021); serious or unexpected adverse events (FCMHREC/F046/2021); unforeseen events that may affect the continuing ethical acceptability of the project. Urgent issues should also be communicated promptly either electronically or telephonically.

If you wish to appeal a decision of the FCMHREC, please do so using form FCMHREC/F047/2021.

Please note that the clinical governance structure of the institution(s) in which you intend to perform this study still need to be contacted both for permission to work within their clinical domain, and also so that they are aware of your activity on site.

Yours sincerely



Assoc Prof AG Parrish
MBChB, DA(SA), MMed(Med), MMedSci, FCP(SA)
Chair, CMH and Frere Research Ethics Committee

Appendix G: Permission letters from the Hospital CEOs

Province of the
EASTERN CAPE
HEALTH

Office of Senior Manager Medical Services • Cecilia Makiwane Hospital
Private Bag X 9047 • East London •5200 •South Africa
Tel: 043 708 2132 E-mail: bongiwe.yose-xas@echealth.gov.za: website: www.ecdoh.gov.za

30 September 2022

RE: JOB SATISFACTION OF HEALTH CARE PROFESSIONALS IN TWO EAST LONDON PUBLIC HOSPITALS IN SOUTH AFRICA IN THE CONTEXT OF COVID-19 (EC_202209_009)

Dear Dr N. Dlodlo

Permission is hereby granted for you to conduct the above mentioned research study at Cecilia Makiwane Hospital subject to the following:

1. Complying with the provision of the permission letter dated 29 September 2022.
2. Complying with your Research Methodology Plan as approved by the relevant ethics committees.
3. Introducing yourself to the relevant management division of the hospital and providing the necessary documentation showing permission and approval of research study to be conducted at the hospital.
4. Ensuring minimal disturbance to the day to day operations of the relevant department of the hospital.
5. Observe the confidentiality of information and participants.

Your compliance in this regard will be highly appreciated and wishing you all the best in your research study.

Dr B.A Yose-Xasa
Senior Manager Medical Services

30/09/2022
Date

Province of the
EASTERN CAPE
HEALTH

EAST LONDON HOSPITAL COMPLEX
Frere Hospital, Amalinda, Private Bag/Ingxowa Eyodwa X 9047, East London, 5200
South Africa • Tel: (043) 709 2135 • Fax: (043) 709 2443 • Website: www.ecdoh.gov.za

INTERNAL MEMORANDUM

To:	Dr. N. Dlodlo, MBA Student, University of Witwatersrand
From:	Dr. J. Thomas, Director Clinical Governance, Frere Hospital
CC:	Heads of Department, Frere Hospital Mrs. N. Kakaza; Acting Deputy Director Nursing services, Frere Hospital Health care professionals
Subject:	Research Request: "Job satisfaction of health care professionals in two East London public hospitals in South Africa in the context of Covid 19."
Date:	28 November 2022

Your correspondence for the above Research Request refers. Your request to access Frere Hospital has been approved.

It is requested that a copy of the completed analysis be submitted to this office for record purposes.

You can liaise with the following persons to coordinate the research:

1. Heads of Departments Tel: (043) 709 2207,2074,2263,2077,2198,2159,2212
2. Mrs. N. Kakaza, Tel: (043) 709 2781

Regards,

Dr. J. Thomas
Clinical Governance Director: Frere Hospital

Appendix H: Confirmation of Professional Editing

Blue Diamonds Professional Editing Services (Pty) Ltd

Polishing your brilliance

Email: jacquibaumgardt@gmail.com

Website: www.jaybe9.wixsite.com/bluediamondsediting

22 June 2023

Declaration of editing

A Research Report

Job satisfaction of healthcare professionals in two East London public hospitals in South Africa in the context of Covid-19

by

Nkosilathi Dlodlo

I declare that I have edited and proofread this thesis. My involvement was restricted to language usage and spelling, completeness and consistency and referencing style. I did no structural re-writing of the content.

I am qualified to have done such editing, being in possession of a Bachelor's degree with a major in English, having taught English to matriculation, and having a Certificate in Copy Editing from the University of Cape Town. I have edited more than 400 Masters and Doctoral theses, as well as articles, books and reports.

As the copy editor, I am not responsible for detecting, or removing, passages in the document that closely resemble other texts and could thus be viewed as plagiarism. I am not accountable for any changes made to this document by the author or any other party subsequent to the date of this declaration.

Sincerely,



Dr J Baumgardt
UNISA: D. Ed. Education Management
University of Cape Town: Certificate in Copy Editing
University of Cape Town: Certificate in Corporate Coaching







Blue Diamonds Professional Services (Pty) Ltd (Registration Number 2014/092365/07)
Sole Director: J Baumgardt