

**HEALTH-RELATED QUALITY OF LIFE AMONG FARM WORKERS IN VICTOR
KHANYE DISTRICT, SOUTH AFRICA**

By

Zanele Hlophe

A research report submitted to the Faculty of Health Sciences,
University of the Witwatersrand, Johannesburg

In partial fulfilment for the degree of

Master of Science in Nursing

Johannesburg 2021

DECLARATION

I, Zanele Precious Hlophe declare that this research report is my own unaided work. It is being submitted for the degree of Master of Science in Nursing at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree at any other university.



Signed _____

Date: 30 April 2021

ACKNOWLEDGEMENTS

Above all I would like to thank God who has always been by my side, giving me strength and hope throughout this journey.

I am grateful to my supervisor Dr Tshabalala for her guidance, support, prayers, patience and her critical input throughout this research study. Without her assistance and insightful input this research report would have been difficult to achieve.

I will like to extend my gratitude to the University and all the lecturers at the Department of Nursing.

I would also like to thank my manager, mama Valencia Zungu at Netcare N17 Hospital ICU for her support and patience throughout this journey: *Diyabulela mama*, may God bless her.

I also want to say thank you to all my colleagues for their support.

I extend my heartfelt gratitude to my beloved mother Ruth and my sister Thuli for their prayers, love and support: *Ngiyabonga bo Methula*. Again my gratitude extends to Itumeleng and Sibonga; their support has meant everything to me.

To my crew, my people, *bo Mabilabila* and *bo Sengane* I will forever be thankful for their unconditional love and support; I am humbled to have a family like you.

To my number one fan, my loving husband Vusi “*Nkosi Dlamini Hlubilomuhle*”: for his unconditional love through it all, for always believing in me and for always bringing out the best in me. He has been a mother to our children when I was away; I will forever be grateful to him. To my two beautiful children Nothando and Sibusiso, for their understanding when I was not around or too busy to spend time with them; because of them I now know what unconditional love is. Without their support this project wouldn't have been a success and to them this project is dedicated. Lastly, thank you to all my friends and family who have been part of this journey.

DEDICATION

I dedicate this thesis to my loving husband and my two beautiful children, without whom none of my success would be possible.

ABSTRACT

Background

Farm workers' social and economic conditions often have an impact on their health, their ability to live fulfilling lives, and thus their HRQoL. The study sought to investigate and describe HRQoL among farm workers.

Methods: A cross-sectional, descriptive, correlational design was used on a sample of 191 (n=191) farm workers from seven farms within the Victor Khanye Municipality in Mpumalanga. The SF-36 Health Survey was used and descriptive and inferential data analysis was done.

Results: Female median scores were lower than those of males, which is suggestive of poorer HRQoL in females. There was no statistically significant relationship between any of the eight domains of the SF-36 with education and duration of employment.

Existence of a chronic disease was significantly associated with Role Limitations due to physical health, and history of injury was found to be significantly associated with Physical Functioning, Energy/Fatigue and General health.

Low median scores in the General Health domain were observed on all the socio-demographic features used in this study.

Recommendations: A qualitative study to explore the needs of farm workers and expansion of currently provided services and incorporation of occupational health care services into the existing services.

Conclusion: Socio-demographic features play a role in HRQoL. Overall, farm workers rated their health as good. However, low mean scores in all socio-demographic aspects in the General Health domain are an indication of perceived poor HRQoL.

Key words: SF-36, Health-related quality of life, Farm workers

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENTS.....	iii
DEDICATION.....	iv
ABSTRACT	v
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF ACRONYMS	xiii
CHAPTER ONE: GENERAL ORIENTATION OF THE STUDY.....	1
1. 1 INTRODUCTION AND BACKGROUND TO THE STUDY	1
1.2 PROBLEM STATEMENT.....	3
1.3 RESEARCH QUESTION	4
1.4 PURPOSE OF THE STUDY	4
1. 5 OBJECTIVES	4
1.6 SIGNIFICANCE OF THE STUDY	4
1.7 OPERATIONAL DEFINITIONS.....	4
1.8 SUMMARY OF THE RESEARCH METHODOLOGY	5
• Ethical considerations	7
1.9 ORGANIZATION OF CHAPTERS	8
1.10 SUMMARY	8
CHAPTER 2: LITERATURE REVIEW.....	9
2.1 INTRODUCTION	9
2.2 SYNOPSIS OF THE FARMING INDUSTRY IN SOUTH AFRICA.....	9
2.3 HEALTH-RELATED QUALITY OF LIFE	10
2.4 FACTORS THAT AFFECT HEALTH-RELATED QUALITY OF LIFE	11
2.4.1 Demographic factors.....	11
• Age and gender	12
• Education.....	12
2.4.2 Health-related factors.....	12
• Physical functioning	13
• Pain	13
• Social functioning and mental health	14

2.4.3 Work-related factors.....	15
CHAPTER THREE: RESEARCH DESIGN AND METHOD	17
3.1 INTRODUCTION	17
3.2 RESEARCH PURPOSE AND OBJECTIVES.....	17
3.3 RESEARCH DESIGN	17
3.3.1 Quantitative and descriptive survey	17
3.3.2 Correlational study design.....	18
3.3.3 Cross-sectional study design	18
3.4 STUDY SETTING	18
3.5 POPULATION AND SAMPLING	19
3.5.1 Population.....	19
3.5.2 Sample size and sampling	20
• Sample size.....	20
• Sampling method	20
3.6 DATA COLLECTION	21
3.6.1 Data collection instrument.....	21
3.6.2 Reliability and validity of the instrument	23
3.6.3 Data collection procedure	23
3.7 DATA ANALYSIS.....	24
3.8 ETHICAL CONSIDERATIONS.....	25
3.8.1 Institutional approval	26
3.8.2 Participant consent	26
3.9 SUMMARY.....	27
CHAPTER FOUR: RESULTS AND DISCUSSION.....	28
4.1 INTRODUCTION	28
4.2 DATA ANALYSIS PROCESS	28
4.3 PRESENTATION OF FINDINGS.....	29
4.3.1 SECTION A: Socio-Demographic Characteristics of Farm Workers	29
4.3.1.1 Age (Section A; Q1).....	29
4.3.1.2 Gender (Section A; Q2)	29
4.3.1.3 Marital status (Section A; Q4).....	30
4.3.1.4 Educational level (Section A; Q5)	31
4.3.1.5 Type of job, duration and income (Section A; Q6–8)	31
• Type of job (Section A; Q6)	31
• Duration of employment (Section A; Q7).....	31

• Income (Section A; Q8) -----	31
4.3.1.6 Lifestyle (Section A; Q9 and 10)	32
• Smoking (Section A; Q9) -----	32
• Alcohol consumption (Section A; Q10) -----	32
4.3.1.7 Overall health and chronic illnesses (Section A; Q11 and 12)	32
• Overall health (Section A; Q11) -----	33
• Diagnosed chronic illness (Section A; Q12) -----	33
4.3.1.8 Basic amenities (Section A; Q13 and 14)	33
• Access to running water (Section A; Q13) -----	34
• Access to electricity (Section A; Q14) -----	34
• Access to health care services (Section A; Q15) -----	34
4.3.1.9 Injury or traumatic experience (Section A; Q16 and 17)	34
4.3.2 SECTION B: Health-Related Quality of Life (HRQoL)	35
4.3.2.1 General health	35
4.3.2.2 Physical functioning	36
4.3.2.3 Role limitation due to physical health and emotional problems	37
4.3.2.4 Impact of physical health or emotional problems on social functioning	38
4.3.2.5 Presence of pain	38
• Role limitations due to pain -----	39
4.3.2.6 Fatigue, energy and emotional well-being	39
4.3.2.7 Health or emotional problems interfered with social activity	40
4.3.2.8 Perceptions about general health	41
4.3.2.9 Aspects that could influence HRQoL	42
4.3.3 SECTION C: Relationship between demographic factors and HRQoL	42
4.3.3.1 Test for normality and QoL	42
4.3.3.2 Relationship between QoL domains and gender	43
4.3.3.3 Relationship between QoL domains and age	44
4.3.3.4 Relationship between QoL domains and marital status	45
4.3.3.5 Relationship between QoL domains and education	46
4.3.3.6 Relationship between QoL domains and job description	48
4.3.3.7 Relationship between QoL domains and employment duration	49
4.3.3.8 Relationship between QoL domains and income	51
4.3.3.9 Relationship between QoL, smoking and alcohol	52
4.3.3.10 Relationship between QoL and access to basic amenities	53
4.3.3.11 Relationship between QoL and general health	54

4.4 DISCUSSION OF THE ASSOCIATION BETWEEN QOL AND SOCIO- DEMOGRAPHIC CHARACTERISTICS	54
4.4.1 Introduction	54
4.4.2 Relationship between QoL and socio-demographic characteristics	55
4.4.2.1 Relationship between QoL and gender, age and marital status	55
• Gender	55
• Age	55
• Marital status	56
4.4.2.2 Relationship between QoL and educational level	56
4.4.2.3 Relationship between QoL and job description, duration of employment and income	57
4.4.2.4 Relationship between QoL, smoking and alcohol	59
4.4.2.5 Relationship between QoL and access to electricity, water and health services	60
4.4.2.6 Relationship between QoL and general health	60
4.5 SUMMARY	61
CHAPTER FIVE: SUMMARY OF MAIN FINDINGS, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION	62
5.1 INTRODUCTION	62
5.2 SUMMARY OF THE RESEARCH PROCESS	62
5.3 SUMMARY OF THE FINDINGS	63
5.3.1 Gender	63
5.3.2 Age	63
5.3.3 Marital status	63
5.3.4 Employment duration, job description and income	63
5.3.5 Smoking and alcohol	64
5.3.6 Access to electricity, water and health services	64
5.3.7 General health	64
5.4 LIMITATIONS OF THE STUDY	65
5.5 RECOMMENDATIONS	65
5.5.1 Recommendations for nursing education	65
5.5.2 Recommendations for research	66
5.5.3 Recommendations for nursing practice and public health	66
5.6 CONCLUSION	67
6. REFERENCES	68
APPENDIX A: ETHICS APPROVAL	78

APPENDIX C: INSTITUTION APPROVAL (1) 79

APPENDIX C: INSTITUTION APPROVAL (2) 80

APPENDIX C: INSTITUTION APPROVAL (3) 81

APPENDIX C: INSTITUTION APPROVAL (4) 82

APPENDIX C: INSTITUTION APPROVAL (5) 83

APPENDIX C: INSTITUTION APPROVAL (6) 84

APPENDIX D: PERMISSION FOR DATA COLLECTION INSTRUMENT 85

APPENDIX E: DATA COLLECTION INSTRUMENT..... 86

PART B: RAND 36 ITEM HEALTH SURVEY SHORT FORM SURVEY (SF-36)..... 89

APPENDIX F: INFORMATION LETTER 93

APPENDIX G: CONSENT FORM FOR PARTICIPANTS..... 95

LIST OF TABLES

Table 3.1	Overview of the Population of the farms	4
Table 4.1:	Demographic characteristics of farm workers (n=183)	15
Table 4.2	Health Status	19
Table 4.3	Type of injury or traumatic experience	21
Table 4.5	General health (n=183)	22
Table 4.6	Daily activities physical functioning (n=183)	23
Table 4.7	Role limitation due to physical health and emotional problems (n=183)	24
Table 4.8	Impact of physical health or emotional problems on social functioning (n=183)	25
Table 4.9	Pain (n=183)	26
Table 4.10	Role limitation due to pain (n=183)	26
Table 4.11	Fatigue, energy and emotional well-being (n=183)	27
Table 4.12	Times that physical health or emotional problems interfered with social activity (n=183)	29
Table 4.13	Perception about general health (n=183)	29
Table 4.14	Aspects that could influence health related quality of life	31
Table 4.15	Test for normality and quality of life	32
Table 4.16	Relationship between quality of life domains and gender	32
Table 4.17	Relationship between quality of life domains and age	33
Table 4.18	Relationship between quality of life domains and gender	34
Table 4.19	Relationship between quality of life domains and education	36
Table 4.20	Relationship between quality of life domains and job description	37
Table 4.21	Relationship between quality of life domains and employment duration	39
Table 4.22	Relationship between quality of life and income	40
Table 4.23	Relationship between quality of life, smoking and alcohol	42
Table 4.24	Relationship between quality of life and access to basic amenities	43
Table 4.25	Relationship between quality of life and general health	44

LIST OF FIGURES

Figure 4.1 Smoking habits of farm workers	17
Figure 4.2 Alcohol consumption	18
Figure 4.3 Accessibility to basic amenities (n=183)	19
Figure 4.3 Injury or traumatic experiences	20

LIST OF ACRONYMS

WHO	World Health Organisation
HRQOL	Health Related Quality of Life
USA	United States of America
Stats SA	Statistic South Africa
QoL	Quality of Life
SA	South Africa
DoH	Department of Health
SF-36	Short Form-36
UNICEF	United Nations Children's Fund
CDC	Centers for Disease Control and Prevention

CHAPTER ONE: GENERAL ORIENTATION OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

This chapter provides an overview of this study, which was conducted to find out more about the demographics of farm workers in the Victor Khanye Municipality in Mpumalanga¹, their health-related quality of life (HRQoL), and the association between the former and latter. It gives background regarding the farming setting in South Africa and what led to the study. A summary of the research methodology used, as well as the measures put in place to protect the rights of the participants, are presented.

According to the South African Basic Conditions of Employment Act No. 75 of 1997, the term “farm worker” refers to an agricultural worker or employee, describing an individual employed mainly in an agricultural setting who is involved in cultivating plants and livestock. Included in this definition is anyone employed within the farm setting, such as security guards, general workers, domestic workers, and others within that setting (RSA 1997). According to the Constitution of the Republic of South Africa, 1996, farm workers are entitled to the same human rights as all other citizens, including all rights that are applicable to workers, as stated in the Bill of Rights (RSA, 1996).

Statistics South Africa’s 2011 Census report showed that close to 3 million households, or 19.9% of the population, were involved in agriculture as farm workers at the time (Stats SA, 2011). About 5% of the farm workers were employed on permanent contracts, whereas 25.2% had employment of limited duration, and 23.6% of an unspecified duration. The last two types of employment are more common in agricultural settings, as production of certain foodstuffs is seasonal. Visser and Ferrer (2015) highlighted that because most employers use seasonal off-farm workers, accommodation becomes a problem, leading to the development of underserviced temporary informal settlements. Living in such overcrowded areas poses health risks associated with the lack of basic necessities, such as water, sanitation, and lack of health facilities, which could have an impact on the quality of life (QoL) of farm workers and their families.

Farm workers are an important component of the economic system that contributes to the national gross domestic product (GDP) (Zhang and Diao, 2020). In South Africa, a report

¹ A province in South Africa. Situated near the capital city, Pretoria.

by Statistics South Africa (Stats SA) in December 2020 showed that the farming sector had continued its positive growth and contribution to the GDP during the third quarter (Q3) of 2020 (Farmer's Weekly Magazine, 2021). Yet, despite their huge impact on the South African economy, farm workers still face the challenge of not being recognised. In some instances, this is attributed to their having a relatively lower level of education and this is used as an excuse to pay them a lower income. Some farm workers may be migrant workers and therefore not in possession of the necessary permits to reside or work in South Africa (South African Human Rights Commission, 2011).

Farm work is often recognised as being difficult, associated with hard physical labour and long working hours (Kim, 2014). Donham and Thelin (2016) concur that the setting involves intense toil, and add that it is one of the most dangerous industries to work in. Kim's concern (2014) is that farm workers are an understudied population in occupational health and yet they have major health problems, as do workers in other heavy industries such as mining, and yet, workers might not even be aware that they are affected.

McCullagh, Sanon and Foley's concern (2015) is that due to the hard physical work involved, pain may be perceived as a normal part of a farm worker's lifestyle. However, it could actually be an indication of a condition specific to the farm setting: farmer's syndrome. This syndrome is a generalised illness characterised by physical fatigue, body pain, mental tension and infections, among other clinical features (Lee, 2004).

Health problems, be they physical, mental or social, tend to have an impact on an individual's QoL. Findings from a study conducted in North West Province, South Africa, showed that farm workers had observable indicators suggestive of poor physical health, low levels of well-being and poor QoL (Thekiso, Botha, Wassing and Kruger, 2013).

Literature has shown that poor working and living conditions can pose physical, mental and social health problems, which can affect the HRQoL of farm workers (Lemke and Jansen van Rensburg, 2014; Visser and Ferrer, 2015; Zerbo, Delgado and González, 2020). The findings in the literature are discussed in Chapter 2.

In some areas, farm workers are housed in generally poor conditions, where there are issues such as overcrowding as well as lack of water, sanitation, access to health care facilities and other amenities. Possible exposure to health risks could result in infection with communicable and non-communicable diseases, affecting workers' health-related quality of life (Zerbo, Delgado, and González, 2020).

Health-Related Quality of Life (HRQoL)

Perceived health status or “health-related quality of life” is recognised as one of the most important aspects in evaluating the impact of a person’s health on their ability to live a fulfilling life (CDC, 2011; Manuti, Rizza, Pileggi, Bianco, and Pavia, 2013; Zerbo, Delgado and González, 2020). This involves evaluating physical, psychological and social functioning and well-being, which includes both positive and negative aspects.

The ability to live a fulfilling life is one of the key indicators of quality of life (QoL). Feeling “fulfilled” means “feeling happiness and satisfaction” (Merriam-Webster’s Collegiate Dictionary, 2020) based on the perception of the degree to which an individual’s desires and ambitions are being met. Being “comfortable” is one of the key concepts included in the definition of QoL; the other two are being “healthy” and being “able to enjoy the activities of daily living” (WHOQOL, 1997). These are also components of HRQoL. However, “being comfortable” goes beyond the scope of health, since it involves other aspects such as employment, housing, education, access to health care and facilities, and one’s relationship with their neighbourhood, community, or greater environment. Aspects of culture, values, and spirituality are also key domains of overall QoL (CDC, 2011).

HRQoL is therefore a sub-component of QoL, since the scope in HRQoL is confined to impact of health-related aspects, whereas QoL incorporates aspects beyond health. For the purpose of our study, HRQoL is defined as “perceived health status and daily functioning, including physical and mental health, role limitations, and social functioning.”

1.2 PROBLEM STATEMENT

Literature has shown that farm workers, like many other occupational groups, continue to be a marginalised occupational group that is vulnerable to major health problems despite being a valuable part of the agricultural sector that contributes greatly to the South African economy. Farm workers’ social and economic conditions often have an impact on their health, their ability to live fulfilling lives, and thus their HRQoL (South African Human Rights Commission, 2011; CDC, 2011). In Thekiso et al. (2013), farm workers were reported to have poor physical health status and QoL. However, they are an understudied population in occupational health (Myoung, 2014). Hence, there is a scarcity of studies conducted in the South African context on HRQoL among farm workers.

1.3 RESEARCH QUESTION

What is the health-related quality of life (HRQoL) among farm workers in the Victor Khanye Municipality, South Africa?

1.4 PURPOSE OF THE STUDY

The purpose of the study was to investigate and describe HRQoL among farm workers in the Victor Khanye Municipality, South Africa, and to provide recommendations that can be used to improve the HRQoL of farm workers in general.

1.5 OBJECTIVES

The objectives of the study were to:

1. Describe demographic features of the farm workers studied.
2. Describe the HRQoL among these farm workers.
3. Ascertain the relationship between demographic factors and HRQoL.

1.6 SIGNIFICANCE OF THE STUDY

The researcher found that there were very few studies describing farm workers' QoL or HRQoL in the South African context. Therefore, the researcher anticipates that the results will contribute to the current body of knowledge, as well as providing baseline data to help plan intervention programmes for farm workers based on the needs identified. For example, the Mpumalanga Department of Health could potentially use the information as a guide for incorporating occupational health services into the current primary health care mobile units.

1.7 OPERATIONAL DEFINITIONS

Farm worker: a person employed to work in an agricultural setting (Merriam-Webster's Collegiate Dictionary, 2020). In the context of this study, it refers to all the farm workers

engaged in agricultural activities and remunerated in the seven (n=7) farms in the Victor Khanye Municipality, South Africa, who were questioned for this study.

Health-related quality of life (HRQoL): how an individual's health can affect their QoL (Karimi and Brazier, 2016). For the purposes of this study, the 36-item Short Form Health Survey, SF-36 (designed by Ware and Sherbourne, 1992), was used to assess the farm workers' perceptions of factors that could affect their QoL, such as physical functioning, physical role limitations, emotional role limitations, social functioning, bodily pains, mental health, vitality, and general health.

1.8 SUMMARY OF THE RESEARCH METHODOLOGY

In this section, a brief summary of the research methodology is presented. Detailed information is presented in Chapter Three.

- **Research design**

Gray, Grove and Burns (2015) refer to a research design as a general plan for implementing a study. A quantitative, descriptive, cross-sectional, and correlational design was considered most suitable for this study. Detailed information of the research design is presented in section 3.3.

For this study, a quantitative and descriptive research design was chosen to collect information related to the farm workers' socio-demographic data, access to basic amenities, history of chronic disease, as well as history of trauma and QoL-related aspects (Brink, van der Walt and van Rensburg, 2018). The study is cross-sectional as data was collected once from farm workers present during the data collection period (Brink, van der Walt and van Rensburg, 2018). A correlational approach was applied during the data analysis process to establish and describe the relation between socio-demographic factors and HRQoL (Setia, 2016).

- **Research setting**

The research setting refers to the place where the study was conducted (Polit and Beck, 2018). Refer to section 3.4 for a detailed description of the research setting. The study was conducted in the Victor Khanye Local Municipality (formerly known as Delmas Local

Municipality) located in the Nkangala area in the Mpumalanga province, South Africa. The area is located close to Mpumalanga's border with the Gauteng province, and is less than 100 km from Pretoria, Johannesburg and eMalahleni (formerly known as Witbank).

The area is approximately 1,567 square kilometres large, and the population is estimated to be 75 452 people (IDP, 2017–2021). The area is predominantly made up of formal residential areas with some small settlements, several agricultural holding areas, and commercial agriculture and mining areas. No specific information was found regarding population in the agricultural settings and informal settlements, despite the fact that the area is characterized by an increase in mining and agriculture activities. Agriculture is the leading sector as it accounts for 33.9% of local economic activities. The farms in the region specialise in the production of maize, wheat, potatoes, chickens and livestock.

For the purpose of this study, data was collected from farm workers working at the seven farms where consent to conduct the study was granted.

- **Population and sampling**

A population is a specific group of individuals or a setting that the researcher is interested in for the purpose of a scientific study, and it is used to determine a statistical sample (Polit and Beck, 2018).

In the context of this study, the target population consisted of the farm workers on the farms in the area where the study was conducted. Seventeen (N=17) farms throughout the Victor Khanye Municipality in Mpumalanga were contacted to request consent to allow the researcher to access the farms to interact with the farm workers, as most of the farm workers live on-site. However, not all the farm owners consented to the research. Therefore, the total population interviewed for this study came from the seven (n=7) farms in the area that gave consent.

The second population-related aspect pertains to the farm workers. A sample size was calculated based on a total population of 338 (N=338) from the seven (n=7) farms, using a confidence level of 95% and allowing for a marginal error of 5% (Raosoft, 2005). The outcome was a sample size of 181 (n=181), and an additional 10% was added, which resulted in a sample size of 191 (n=191) to accommodate for questionnaires not returned or incorrectly filled in since this was a respondent administered data collection method.

A non-probability convenience sampling method was used to recruit a sample of 191 (n=191) farm workers. Brink, van der Walt and van Rensburg (2018) stated that a convenience sampling method is useful for selection and choice of readily available subjects. De Vos, Strydom, Fouché and Delport (2011) have also stated that convenience sampling is a rational choice in a case where it is impossible to identify all the members of a population. Refer to section 3.5 and Table 3.1 for detailed descriptions of the population, sample and sampling strategy.

- **Data collection and analysis processes**

Data were collected using a self-administered 36-item Short Form Health Survey, SF-36 (Ware and Sherbourne, 1992) (included in Appendix E), which has been used in a number of studies related to HRQoL, and was found to be suitable for this study.

The computer statistical software package STATA version 13.1 was used for data analysis. Descriptive data analysis was conducted for the farm workers' socio-demographic data, access to basic amenities, history of chronic disease, history of traumatic experience, and QoL-related questions. Inferential statistical analysis was used to describe the relation between socio-demographic factors and HRQoL. The results were presented as means, variances, and ranges of scores. Quantitative content analysis was conducted for the two open-ended questions and the results were coded and categorised. Quantitative content analysis was conducted for the two open-ended questions and the results were coded and categorised. Further detailed information is presented in section 3.7.

- **Ethical considerations**

Institutional permission including (medical) ethics approval was requested from the Human Research Ethics Committee and the Research and Postgraduate Faculty of Health Sciences at the University of the Witwatersrand (see Appendix A). Permission to conduct the study was also requested from the farm owners and managers (see Appendix C). Lastly, farm workers were invited to participate in the study of their own accord (see Appendix F). All measures of achieving good quality and reliable research data, as well as ensuring farm workers' privacy, anonymity and confidentiality were observed. Informed consent was sought from the farm workers (see Appendix G). A full description of the process that was followed is included in section 3.8.

1.9 ORGANIZATION OF CHAPTERS

This research report begins by providing the background to the study, a justification for conducting the study, as well as a summary of the research methodology. In Chapter Two, the focus is on a literature review central to the farm workers and HRQoL.

Chapter Three includes a detailed description of the research context, design and methods used in the study. Chapter Four presents the findings of the study, as well as a discussion of the findings, and related literature support. In conclusion, Chapter Five includes a summary, as well as the study's limitations, and recommendations for practice, education and future research.

1.10 SUMMARY

This chapter discussed the purpose of conducting the study, the problem statement and the objectives. In addition, a summary of the research methodology as well as the definitions of applicable terms were given.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter includes a synopsis of the South African farming (agriculture) setting and a description of the concepts related to HRQoL from the literature. Factors affecting HRQoL are also presented. Google Scholar, PubMed and CINAHL search engines were used to access relevant studies.

2.2 SYNOPSIS OF THE FARMING INDUSTRY IN SOUTH AFRICA

Farming activities in South Africa include primary and secondary agriculture, mixed farming, horticulture, aqua farming, and farming other animal products or field crops, excluding the Forestry Sector (SAFLI, 2016). The terms “farm worker” or “employee” refer to anyone hired in these settings. Furthermore, according to the South African Basic Conditions of Employment Act No. 75 of 1997, the definition of “farm worker” includes other employees not directly involved in agricultural processes, such as domestic workers, security guards, and other general workers.

According to the Stats SA (2011) census, about 2.88 million households, or 19.9% of the population, were employed as farm workers in some capacity. However, the farming sector – like many other sectors – continues to shed a substantial number of jobs. A recent Stats SA (2020) Quarterly Labour Force Survey, published in Farmer’s Weekly of September 29, 2020, showed a 7.6% loss of employment, leaving 66 000 people unemployed by the sector (Erasmus and Coleman, 2020).

Some of the factors contributing to the decline in employment of farm workers is in areas where labour-saving machinery is used, for example, using pesticides and packaging machines (Simbi and Aliber, 2000). This leads to a reduction in jobs—or days of employment—and fewer opportunities for permanent employment. The COVID-19 epidemic has also contributed, as social distancing led to few seasonal employees being employed and in some areas retrenchments took place. The 2011 Stats SA figures showed that many farm workers had employment of limited duration, and 23.6% had employment of an unspecified duration. Only 5% of farm workers had permanent employment (Stats SA, 2011). A report from Kleinbooi (2013) showed that farm owners preferred to employ foreign or migrant workers, as foreign workers were perceived to be

less demanding of better wages and working conditions than local workers. The impact of this approach is that local workers are left unemployed and need to find employment elsewhere. Loss of employment also means eviction for many farm workers, as their tenure (i.e. residence) is linked to their employment (Lemke and Jansen van Rensburg, 2014). This results in homelessness and the emergence of rural informal settlements in farm areas. Visser and Ferrer, in a 2015 report on farm workers' living and working conditions in South Africa, commented on the increasing number of underserved informal settlements in rural or farm areas, as farmers were employing more off-farm permanent and seasonal workers as well as migrant or foreign workers.

Farming is an industry that contributes significantly to the South African gross domestic product (GDP), as demonstrated by the third quarter results of 2020, during which the farming sector continued its positive growth (Farmer's Weekly, 2021). Despite this positive growth, farm workers continue to be undervalued, are socially and politically invisible, and experience poverty (Lemke and Jansen van Rensburg, 2014) as well as being exposed to poor living and working conditions that affect their health and thus their HRQoL (Human Rights Watch, 2011).

2.3 HEALTH-RELATED QUALITY OF LIFE

According to Marcel (2014), the concept "health-related quality of life" (HRQoL) was first mentioned in articles published in the early to mid-80s. Torrance's "Utility approaches to measuring health-related quality of life" (1987) was one of the first publications defining HRQoL. This notable contribution, related to Ware's article (1987), stated that HRQoL can be defined as a subset of QoL, as the scope is limited to assessing the impact of health on QoL (Karimi and Brazier, 2016). The scope of the definition of QoL includes factors with an influence on life satisfaction, happiness, and both positive and negative feelings (Marcel, 2014).

The concepts HRQoL and QoL are often used interchangeably in the literature. This is related to the fact that both concepts measure people's perceptions related to physical, mental, emotional, and social functioning, and both can be applied in assessing the health status of individuals or populations, as well as in the context of a disease or disability and its treatment implementation (CDC, 2011). Karimi and Brazier (2016) commented that the definitions of HRQoL are also part of the definition of health and of QoL. Hence, Marcel's

report (2014) that “health”, “perceived health” and “health status” are other concepts used synonymously with HRQoL and QoL by many researchers and clinicians. HRQoL and QoL are concerned with well-being, which is a state of being comfortable, healthy or happy (Merriam-Webster’s Collegiate Dictionary, 2020). Well-being is included in the broad definition of health by the WHO (1984). In the context of HRQoL, this pertains to physical, mental, emotional and social functioning that affect an individual’s well-being. HRQoL is medically oriented or inclined, as the focus is on the effects of illness and the impact of treatment (Lin, Lin and Fan, 2013). In the assessment of QoL, the scope is broader and includes other determinants of health such as occupation, education, living conditions, spirituality and cultural aspects, among other factors. Karimi and Brazier (2016) commented that the inclusion of “health status” in some definitions of HRQoL and QoL results in confusion, and the interchangeable use of “health status”—among other terms—with HRQoL and QoL.

A number of studies on HRQoL were found in the literature. Notably, there is a paucity of studies conducted on farm workers in South Africa. In one of the few studies found in the literature—a comparative study conducted among farmers and the workers in China—the results showed that no health problems were reported by the majority of the farmers and workers (Liu et al., 2017). However, the HRQoL of workers was reportedly lower than that of the farm owners. This is consistent with working in a high-risk environment with poor socio-economic conditions. The literature shows that poor socio-economic conditions are linked to worse health, inaccessibility to healthcare, poorer living conditions, less knowledge about the negative consequences of health-compromising behaviour, and greater psychological stress, all resulting in low HRQoL (Jun, Kim and Chun, 2015).

2.4 FACTORS THAT AFFECT HEALTH-RELATED QUALITY OF LIFE

2.4.1 Demographic factors

A number of studies have shown that socio-demographic factors such as gender, age, and education have an effect on HRQoL (Jalali-Farahani et al., 2017; D’Souza, Karkad and Somayaji, 2013; Hajian-Tilaki K, Heidari and Hajian-Tilaki A, 2017).

- **Age and gender**

Jalali-Farahani et al. (2017) conducted a study exploring the impact of socio-demographic factors on HRQoL in Tehran, which showed that males in general had higher scores than females in the physical and mental domains indicating good HRQoL. Similar results were reported in a study conducted in the north of Iran by Hajian-Tilaki K, Heidari and Hajian-Tilaki A (2017). Men generally had higher scores, whereas significantly lower scores were reported by women for all subscales of HRQoL. In contrast, in a study conducted among Indian mining and agriculture workers, the results showed that the women in agriculture had significantly higher scores in physical health and mental HRQoL than women in mining (D'Souza, Karkad and Somayaji, 2013).

The significance of age in HRQoL was further confirmed in Jalali-Farahani et al. (2017) and Su and Wang (2019). In Jalali-Farahani et al. (2017), poor physical HRQoL was reported in both males and females of older age, while younger age, single or divorced, were factors affecting mental health in males. In Su and Wang (2017), advanced age was associated with low physical and mental HRQoL.

- **Education**

Education is one of the main factors affecting QoL. Numerous studies have shown an association between education and QoL. Significantly, a study exploring the impact of socio-demographic factors on the QoL of patients with chronic daily headaches (Vaish and Shekhawat, 2013) found that patients with higher educations had better QoL. Similar results were reported in Liu et al. (2017), where female farmers who had higher levels of education and income had better HRQoL. In Garnaes, Morkved and Salvesen (2021), the results showed that higher education and full-time employment were strong predictors of good HRQoL.

As stated by Gil-Lacruz, Gil-Lacruz and Gracia-Pérez (2020), it can be inferred that education influences an individual's behaviour by changing their knowledge, behaviours, skills and attitudes, which may influence their health and well-being and thus help people work to improve their HRQoL.

2.4.2 Health-related factors

Farm work is a setting with expectations of high productivity, as missed production and goods delivery deadlines affects multiple individuals, from farm owners to distributors

and sellers, and those who directly depend on farm products, ultimately the country's economy is affected (Gonzales, Ambong, Bais and Macaspac, 2020).

Productivity levels are important. In Westaway and Mosaka (2011), higher productivity and overall higher work quality were associated with general health and well-being as well as lower levels of pain.

However, productivity is also affected by general health and bodily pains, which are some of the aspects suggested by Ware and Sherbourne (1992) to measure HRQoL. Both aspects are part of the physical measures of the SF-36 questionnaire used in this study. Details of the instruments are presented in section 3.6.1 of chapter three. The other two aspects are physical role limitations and bodily pain. Another aspect essential in measuring HRQoL, as recommended by Ware and Sherbourne (1992), is mental health which consists of vitality, social functioning, and emotional and mental wellbeing.

The following section further discusses the key aspects affecting HRQoL and productivity: physical functioning, pain, social functioning and mental health.

- **Physical functioning**

Physical functioning generally refers to a person's ability to perform a variety of basic physical tasks and activities of daily living (Dias, 2014). The ability to perform tasks is essential in farming as it is a setting that requires physical strength to complete one's job. In addition, physical or mental impairments have the potential to adversely affect a farm worker's life and employment status (Windon, 2014).

According to Dias (2014), physical function consists of four mobility domains: the lower extremities, upper extremities, axial or central (related to neck and back functions), and complex activities essential for daily living. Limitations in physical functioning and mobility are important because of the link with decreased work ability and HRQoL. Gonzales, Ambong, Bais, and Macaspac (2020) conducted a study among smallholder rice farm workers in Philippines that showed a strong association between physical functioning, ability to work, and HRQoL.

- **Pain**

Pain has a negative impact on physical functioning. Farm work is a physically demanding job involving body movements and other physical stressors that can lead to

musculoskeletal strain and injury causing pain (Kearney, Allen, Balanay and Barry, 2016). According to Lui, Gu, Duan et al. (2017), musculoskeletal pain is the most reported problem among farm workers. Pain can lead to a lower HRQoL (Garnaes, Morkved, and Salvesen et al., 2021).

Musculoskeletal pain is associated with a common work position that exerts strain on the body, and/or repeated exposure to a stressor, and the duration of the exposure to the strain or stressor (Xiao, McCurdy, Stoecklin-Marois et al., 2013). The most common sites affected by pain are the back, knee, and hip. Back pain was reported to be the most common in a study by Khachadourian and Arah (2020), and accounted for 66% of the sample in a study of Latino farm workers on sweet potato farms in North Carolina (Kearney, Allen, Balanay and Barry, 2016).

It is concerning that in McCullagh, Sanon and Foley (2015), all the farm workers interviewed spoke of musculoskeletal pain and injuries as inevitable in an employment setting associated with hard work. Several studies have confirmed the impact of pain on HRQoL (Kim, 2014; Rodríguez-Romero, Pita-Fernández and Pérttega-Díaz, 2015; Liu et al., 2017). It is in this context that Benos, Tsaopoulos and Bochtis (2020), in a recent review on ergonomics in agriculture, recommends prioritising awareness of the risk factors related to musculoskeletal diseases.

- **Social functioning and mental health**

Social functioning defines an individual's ability to interact easily with people and their environment and the ability to function effectively in that environment (*Medical Dictionary*, 2009). Analysing social functioning among farm workers is important in identifying and minimising negative outcomes such as stress and depression associated with farm work and living-related factors (Anjara, Nellums, Bonetto and van Bortel, 2017). Findings from a systematic review describing the key risk factors affecting farmers' mental health showed that exposure to occupational hazards, especially chemical injuries, poor physical health, financial difficulties, climate variabilities and other injuries, predisposed farm workers to mental health problems (Daghagh, Wheeler and Zuo, 2019).

A comparative study in China by Liu et al. (2017) found that mental health-related issues, depression and anxiety were the most prevalent problems reported by both farmers and farm workers. The reported HRQoL index scores were 0.987 for farmers and 0.959 for workers ($P < 0.001$).

2.4.3 Work-related factors

The Constitution of the Republic of South Africa (1996), entitles farm workers to human rights as stated in the Bill of Rights, including all rights that are applicable to workers and citizens (RSA, 1996). Furthermore, workers' rights to safety and good conditions of employment are enshrined in the Occupational Health and Safety Act, 1993 (OHSA Act, 1993) (85 of 1993) and the Basic Conditions of Employment Act (No. 75 of 1997) Sectoral Determination 13: Farm worker sector, respectively. According to the OHSA Act (1993) employers should provide a reasonably safe work environment without hazards, and they also have a responsibility to inform workers about any hazards.

In South Africa, despite legislation aimed at improving the living and working conditions of farm workers, they continue to be exposed to several hazards as in many cases they manage multiple tasks (Komarek, De Pinto and Smith, 2020). Furthermore, the environment entails mostly working outside, with exposure to extreme temperatures as well as strenuous physical activities, several types of vehicles, machinery, and equipment, all of which may result in injury, musculoskeletal disorders, and excessive exposure to noise and vibration from machinery. Exposure to chemicals is another component of farm activities that predisposes workers to respiratory and skin-related conditions (Nguyen, Bertin, Bodin, Fouquet et al., 2019; Komarek, De Pinto and Smith, 2020).

Violating workers' rights to a safe, healthy, hazard-free environment results in employees being dissatisfied with work conditions, which affects their satisfaction with QoL (Devereux, 2020). The findings of a study conducted in nine European countries suggest an association between satisfaction with farm work and satisfaction with QoL (Herrera, Gerster-Bentaya and Knierim, 2018). Results showed that, of the total sample, one fifth had low levels of satisfaction with being in the farming sector and with their quality of life.

In a recently published study, Moda, Nwadike and Danjin (2021) highlighted work-related factors that could expose farm workers to stress and thus affect satisfaction with QoL. Some of the factors they highlighted are exposure to hazards, poor working conditions, lack of autonomy, and time pressures. They also commented on the importance of satisfaction around QoL at work as it relates to physical, psychological and spiritual well-being, considering the amount of time spent working, often outside in unfavourable weather conditions. It is thus important to identify any safety, health or environmental hazards that could affect farm workers' HRQoL (PKSafety.com, 2018). Liu et al. (2017) conducted a farmers' and workers' comparative study on HRQoL. The farm workers'

HRQoL was reported to be lower than that of the farm owners. The results are consistent with the hazards and risks they face, as well as the poor working conditions that most farm workers are exposed to. According to Liu et al. (2017), it is important that such factors be addressed, as they may affect the workers' physical, mental and social well-being and thus lower their HRQoL.

Conclusion

It is important to identify factors that affect QoL and thus have an impact on the HRQoL scores of farm workers. This chapter has presented a brief synopsis of the context of farming in South Africa, a brief description of HRQoL, and some factors that impact QoL and HRQoL.

CHAPTER THREE: RESEARCH DESIGN AND METHOD

3.1 INTRODUCTION

This chapter discusses the research methodology implemented to investigate farm workers' health-related quality of life (HRQoL). This includes the research design, the sampling process for the farms and the study participants, as well as data collection and analysis processes. It also describes the measures taken to ensure the rights of the participants, and the process followed to obtain permission from the ethics and postgraduate committees, the farm owners and managers, and the study participants.

3.2 RESEARCH PURPOSE AND OBJECTIVES

As described in the first chapter, the overall purpose of the study was to examine HRQoL among farm workers in the Victor Khanye Municipality, Mpumalanga, guided by the following objectives:

- a) To describe the demographic features of the farm workers studied.
- b) To describe HRQoL among these farm workers.
- c) To ascertain the relationship between demographic factors and HRQoL of farm workers.

3.3 RESEARCH DESIGN

A research design serves as a guide for decisions involved in planning a research project, such as the type of the study, selection of participants, and the data analysis process (Grove, Gray and Burns, 2015).

A quantitative, descriptive, cross-sectional, and correlational survey was used to examine the HRQoL of the farm workers (Grove, Gray and Burns, 2015; Polit and Beck, 2018).

3.3.1 Quantitative and descriptive survey

Quantitative and descriptive designs are used where studies require description to give meaning to the findings and to quantify the problem or describe possible solutions based on the numerical data generated (Brink, van der Walt and van Rensburg, 2018). A

research survey is a data collection technique in which questionnaires are used for data collection, either by mail or in person (Polit and Beck, 2018). Surveys are mainly used to obtain quantitative and descriptive data to describe variables and provide numeric information that can be analysed statistically (Grove, Gray and Burns, 2015; Polit and Beck, 2018).

A survey was chosen for exploration of the broad concepts of health and QoL as they require numerous questions for effective investigation (Check and Schutt, 2012). For the purpose of this study, a 36-Item Short Form Health Survey (SF-36) questionnaire, often used as a global measure of HRQoL, was chosen for the quantitative and descriptive collection processes of demographic and QoL-related data (Ware and Sherbourne, 1992).

3.3.2 Correlational study design

A correlational design can be used to determine and interpret the association between variables (Setia, 2016). Brink, van der Walt and van Rensburg (2016) acknowledge that correlational studies can confirm the presence of an association and also help researchers to understand the nature and degree of a relationship. However, they may be inadequate to indicate whether a causal relationship exists. In the context of this study, a correlational design was applied to ascertain the association between the eight QoL domains and demographic characteristics.

3.3.3 Cross-sectional study design

Setia (2016) describes a cross-sectional study design as a process of collection of data on a phenomenon during a single data collection period. The choice of a cross-sectional design for this study was based on the researcher's decision to gather data on demographic and HRQoL factors once during the period of data collection. In the context of this study, the farm workers participated once in the study, at a specific time in the data collection process (Brink, van der Walt and van Rensburg, 2018).

3.4 STUDY SETTING

The research setting refers to the environmental context where a study is conducted (Polit and Beck, 2018). The research setting for this study is a small farming town in the Victor Khanye Municipality. The municipality is located within the Nkangala Municipality in the Highveld area of the Mpumalanga province. The area is known for its agricultural activities.

Farms specialise mainly in the production of maize, wheat, potatoes, chickens and livestock. The study was conducted among farm workers from seven (n=7) farms, as indicated in Table 3.1.

3.5 POPULATION AND SAMPLING

3.5.1 Population

Population is a term used to determine who should be included in the study, as it relates to people with specific characteristics of interest to the researcher (Polit and Beck, 2018). In this study, the population is divided into two aspects, which are the farms context and the farm workers respectively.

Farms: In the demarcated area of study in the east and west of the Victor Khanye Municipality in Mpumalanga, there were found to be 17 farms in total. All the farm owners were approached for permission to survey the workers for the study. Ten farm owners did not consent to their farm workers participating in the study, meaning that the total population of the farm workers in the municipality could not be determined, as most of the farm workers reside in the employment area. Therefore, for the purpose of this study, all the farms wherein the owner had granted permission for the study (n=7) were regarded as the total population and included in the study based on the total population sampling method (Brink, van der Walt, and van Rensburg, 2018). Six (n=6) of the seven farms were located in the western part of the town and one (n=1) in the eastern part of the town (refer to Table 1). All seven farms were part of an area serviced by the Mpumalanga health care mobile unit.

Farm workers: The total population consisted of 338 (N=338) farm workers who were working on the seven (n=7) farms included in the study (refer to Table 3.1).

Table 3.1 Population of the farms (n=7) and the farm workers (N=338)

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Total
Type of farming	Maize	Pigs	Vegetables	Vegetables	Green houses	Chickens	Poultry and livestock	
Geographical location	West	West	West	West	East	West	West	
Total number of farm workers	60	30	30	128	40	20	30	338

3.5.2 Sample size and sampling

- **Sample size**

A sample is defined as a subset of a population selected by the researcher to be included in the research study (Brink, van der Walt and van Rensburg (2016). Grove, Gray and Burns (2015) highlighted the importance of the selected sample having similar characteristics to the population to allow for generalisation of the results to represent the total population.

The sample size for this study was 199 ($n=199$). This consisted of 181 ($n=181$) farm workers, based on the total population of 338 ($N=338$), and using a confidence level of 95% while allowing for a marginal error of 5% (Raosoft, 2005), with an additional 10% of the sample added. The extra 10% was added to accommodate for questionnaires not returned or incorrectly filled in, as this was a respondent-administered survey.

- **Sampling method**

The researcher found the non-probable convenience sampling method to be a suitable approach considering that farm workers were only available for short periods for data collection. Grove, Gray and Burns (2015) described sampling as a process of selecting a subset or portion of the population to represent the total population in the study.

Randomization strategies are not implemented in convenience sampling; hence, they are also known as haphazard or accidental sampling. Brink, van der Walt and van Rensburg (2018) stated that lack of use of random selection strategies could lead to less representation and results not being generalisable. Polit and Beck (2018) alluded to the fact that even though it is the weakest form of sampling, convenience sampling continues to be the most used method. LoBiondo-Wood and Haber (2006) commented that careful consideration of inclusion and exclusion criteria can contribute towards acceptable representativeness.

In the context of this study, a total population sampling method was applied for selection of the farms, meaning that all the seven ($n=7$) farms were included in the study, as many of the original population of 17 ($N=17$) farm owners did not consent to the proposed research study.

With regards to the farm workers, both male and female farm workers were eligible to participate in the study. Farm workers had to be 18 years of age and above. Secondly participants needed to have worked on the farm for at least three months. Finally, the prospective participants should preferably have been able to understand English. However, the researcher was available to explain the questions to the farm workers in their preferred language as needed. Exclusion criterion was applied to two categories of farm workers: seasonal workers and the temporarily employed.

3.6 DATA COLLECTION

A successful data collection process is dependent on the level of preparation of the researcher. The two most important aspects in data gathering is the selection of the appropriate data collection instrument as well as the data collection process on the selected sample that meets the inclusion criteria.

3.6.1 Data collection instrument

The chosen data collection tool for the study was the 36-Item Short Form Health Survey, SF-36 (Ware and Sherbourne, 1992). The SF-36 is a standard QoL questionnaire, created by the Rand Corporation in 1992 as part of the Medical Outcomes Study (MOS) and now used as a global measure of HRQoL.

The SF-36 questionnaire was chosen for this study since it is easy to administer this self-reporting questionnaire exploring the impact of physical, mental and social health status of an individual and thus assessing HRQoL. Items in the SF-36 are arranged in eight scales. Table 3.2 is an indication of the eight scales, the number of items in each scale, and the relevant question numbers. Questions related to SF36 used in this study are in Section B of Annexure E. On the other hand, Section A consisted of a researcher-constructed socio-demographic data collection component. Data gathered included age, gender, citizenship, marital status, education level, income, and employment-related aspects. Also included were aspects regarding lifestyle, general health (including existence of a chronic disease and history of injury), and access to basic amenities such as housing, water and electricity.

Table 3.2 SF-36 Short Form Health Survey

Scales	Number of items	Number on questionnaire (Annexure E)
General health perceptions	5	1, 33, 34,35, 36
Physical functioning	10	3, 4,5,6,7,8,9,10,11,12
Social functioning	2	20, 32
Role limitations (physical)	4	13,14,15,16
Role limitations (emotional)	3	17,18,19
Mental health	5	24, 25, 26, 28, 30
Energy of vitality	4	23, 27, 29, 31
Pain	2	21, 22
SF-36 change item: Change in health over the last year	1	2

The SF-36 items were measured using a Likert scale, with different variables used for each scale. Most of the items had five responses, and each item was scored on a range of 0 (lowest) to 100 (highest). Items were scored so that a high score defines a more favourable health state.

Note the exceptions: the item “change in health” in Q2 was measured on a scale where 1 represents “excellent” and 5 “poor”. Therefore, a lower score defined a more favourable health state than a higher score. Similarly, for Q20, which assessed the impact of physical or emotional problems on normal social activities, a low score indicates no limitation and a high score indicates the presence of limitations in social functioning.

“Limited” and “not limited” were variables used to indicate role limitation due to physical health in Q3 to Q10. On the other hand, “yes” or “no” were applied for role limitation due to physical or emotional problems. Responses to questions on social functioning (in Q20 and Q32) and pain (in Q21 and Q22) were measured using ratings between “not at all” or “none”.

Lastly, energy versus fatigue (in Q23 to Q31) as well as social functioning (Q20 and 32) were measured using the scale “all of the time” to “none of the time” – the higher the score, the higher the QoL.

In addition to scoring both items in the same direction, responses 1 through 5 for item 20 were mapped to values of 100, 75, 50, 25, and 0 respectively, and the results were represented as an interquartile range. Responses 1 through 5 for item 32 were mapped to values of 0, 25, 50, 75, and 100.

3.6.2 Reliability and validity of the instrument

According to Heale and Twycross (2015), validity is defined as the extent to which a concept is accurately measured in a research study, while reliability refers to the consistency of the instrument. This means that if a study is repeated under the same conditions the same results would be produced. The SF-36 is a validated instrument that is freely available in the public domain, and its eight scales have shown reliability and validity in various studies. The Cronbach's alpha test of its internal consistency is reported to be ≥ 0.9 .

In the context of this study, a questionnaire trial run was conducted on 10 ($n=10$) farm workers at one of the farms that had the most workers. The farm workers included in the trial run were not included in the main study. The purpose of the trial run was firstly, to assess for appropriateness of the 36-Item Short Form Health Survey (SF-36) for the South African context, especially for activities conducted in the farm area. Secondly, it would establish if the questionnaire was user friendly and easy to follow. Thirdly, it would help gauge if the farm workers understood the content, and finally, it would establish how long it would take to fill in the questionnaire, so as to negotiate with the farm owners and the potential participants regarding the best time to participate in the study.

The 36-Item Short Form Health Survey (SF-36) was found to be suitable for the South African context. There were no major changes implemented except for the following:

- Q23: "pep" was changed to "full of energy".
- Q28: "feeling blue" was changed to "sad".

With regards to time needed, most of the farm workers finished within 10 minutes, and at the most it took 15 minutes to complete the survey.

3.6.3 Data collection procedure

The questionnaire trial run and the main study data collection processes were implemented once the institutional permissions had been sought and granted. Detailed information is given in section 3.8.

In preparation for the data collection session, the researcher contacted farm owners that had consented to the study in advance to establish a suitable time for the farm workers to be surveyed in terms of farm production needs.

Upon arrival at a farm, the researcher approached the farm owners regarding a suitable time and place for addressing all the farm workers.

The researcher then approached farm workers for introduction and an initial verbal explanation about the study. This was followed by distribution of the participant information letters (see Appendix F) to invite the farm workers to take part in the survey. The participant information letter was read out to the farm workers and also interpreted and explained by the researcher according to the preferred language of the farm workers. Those who agreed to participate were requested to sign a consent form (see Appendix G) and were also requested to come one by one to a designated area for data collection.

The potential participants were requested to answer truthfully and reassured that there were no right or wrong answers. They were informed that all collected information was confidential. Assurance was given that the information would only be accessible to the researcher and the supervisor, to be used for research purposes only. In addition, participants were asked not to write their names or any identifying data on the forms.

Once all the participants had signed the consent forms, these were placed in a sealed box. Then the questionnaire (see Appendix E) was handed out to be filled in. For those who needed assistance, the researcher was available to offer guidance and assistance. The farm workers were asked to place completed questionnaires in a sealed box that was provided. The box was only opened later in the supervisor's office by the researcher and the supervisor (for analysis).

3.7 DATA ANALYSIS

The data analysis process is regarded as one of the key important steps in research as it involves activities that yield information by generating meaning from the data gathered through applying statistical analysis and interpretation (Polit and Beck, 2018); Grove et al. (2015).

The questionnaires were re-checked for completeness before data capturing. This was followed by data coding, after which data was captured from the numbered questionnaires into an Excel spreadsheet using a password-secured personal computer. Data was then imported into Statistical software package STATA version 13.1 for data analysis.

Descriptive analysis was used for the demographic variables in Section A as well as for descriptions of the quality of life of the farm workers in Section B. The responses from the categorical and ordinal data generated were presented as frequencies and percentages.

Quantitative content analysis was conducted for qualitative data generated from the two open-ended questions at the end of Section A of the questionnaire. The responses of farm workers who had had an injury or traumatic experience—as well as any information they wanted to add that could influence or improve their HRQoL—were quantified, coded and categorized (Rossouw, 2010).

For section C, non-parametric inferential statistics were used to establish the relationship between HRQoL domains and the socio-demographic characteristics. The Mann-Whitney U test was used to compare differences between two independent groups. In the context of this study, the Mann-Whitney U test was used to test the relationship between QoL domains and gender-based demographic characteristics (referring to male and female) as well as access to basic amenities.

The Kruskal-Wallis H test was used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable. Therefore, in this study, it was applied to marital status, education, job description, employment duration and income. The descriptive statistics of median and interquartile range were used to summarize the results. The strength of the relationship was tested using Spearman's rank correlation test was used to test for. A p-value of ≤ 0.05 was deemed statistically significant.

3.8 ETHICAL CONSIDERATIONS

According to De Vos et al. (2011), research ethics provide guidelines on the morally acceptable manner in which research should be facilitated to ensure safety, as well as to protect the dignity, rights and welfare of research participants. De Vos et al. (2011) stated that the main aim is to protect participants from any form of harm; the researchers must ensure that participants are given accurate information and that confidentiality and anonymity are not compromised in the research process. In this study, all applicable ethical standards to ensure integrity of research in the research process were implemented as follows.

3.8.1 Institutional approval

A clearance certificate (M190351) to conduct the study was granted by the University of the Witwatersrand Human Research Ethics Committee (Medical) (see Appendix A) and the Research and Postgraduate Committee of the Health Sciences at the University of the Witwatersrand (see Appendix B). Permission was also sought from the farm owners and management to conduct the study at their farms (see Appendix C).

There was no need to apply for specific authorization to use the 36-Item Health Survey (SF-36) instrument. In the interest of promoting public health, the Rand Corporation freely allows researchers to have access to and use SF-36 without further written permission (see Appendix D).

3.8.2 Participant consent

According to Polit and Beck (2018), as well as Brink, van de Walt and van Rensburg (2018), it is the ethical right of every research participant to be given adequate information that will enable them to make informed decisions as to whether they would like to be part of a study. Farm workers were informed of their free choice to withdraw at any time during the study without being penalised and that there were no risks involved in participating in the study. On submission of the completed questionnaires, each participant was asked if they still wanted to participate and have their questionnaire included in the study, as after submission it would be difficult to locate the unnamed questionnaire to remove it.

To uphold ethical principles, as stated in Polit and Beck (2018), the researcher implemented the following process:

- Verbal information, as well as a participating information letter, was handed out to potential participants for them to help them gain understanding of the study (see Appendix F).
- To ensure autonomy, before participants consented to be part of the study, they were reminded that being part of the study was voluntary and they had the right to withdraw from the study at any point without any explanation. Finally, they were informed about the potential risks and benefits of taking part in the study.
- On agreeing to participate, the farm workers were requested to sign the consent forms (see Appendix G).

- To ensure confidentiality, no information was written on the questionnaire that could have identified either the farms or the participants. The questionnaires were only numbered after data was collected for the purpose of computing results. Participants were asked not to write their names or any identifying data on the questionnaire. Furthermore, they were informed that all collected data were confidential and would only be accessible to the researcher and the supervisor.
- In the interests of justice, which involves equal and fair treatment to those participating in a research study and their right to privacy, all farm workers were given the same information regarding the study and were provided with an option to “opt out” should they feel a need to do so (Grove, Gray and Burns, 2015).
- To ensure privacy, data collection was done in a private area away from the management office or administration block. Participants were also reassured that the information obtained from the study would only be used for the purpose of this study. Those who required assistance with filling in the questionnaire were interviewed further away from the rest of the group to maintain privacy.

3.9 SUMMARY

This chapter presented the overall research design that was used to establish farm workers' HRQoL. The selection process for farms and farm workers, as well as the data collection and analysis method were also explained, and the ethical considerations were described.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 INTRODUCTION

This chapter presents a summary of the data analysis used in the current study, the results of the study and the discussion of the findings.

Section 4.2 describes the data analysis process. Included in this section is the handling of the two open-ended questions asking farm workers about injuries and traumatic experiences, and if there was anything that respondents wanted to add that might influence or improve their HRQoL.

Section 4.3 discusses the general findings regarding the socio-demographic characteristics of the farm workers. Section 4.4 looks at the association between QoL and the socio-demographic characteristics found. Section 4.5 closes the chapter with a summary.

4.2 DATA ANALYSIS PROCESS

The response rate was 91.6% based on 183 (n=183) returned questionnaires out of the 199 (n=199) that were distributed.

The required sum of the distributed questionnaires (n=199) was determined and filled as follows. A required total of 183 respondents (n=183) was calculated from the total farm worker population of 338 (N=338), using a confidence level of 95%, and allowing for a marginal error of 5% (Raosoft, 2005) with an additional 10% of the sample added to accommodate questionnaires that were not returned or were incorrectly filled in, since this was a respondent administered survey. Recruitment of the required number was implemented as specified in Table 3.1 of Chapter Three, wherein a minimum of 30 workers was recruited to participate in the study from each farm until the sample size was reached. However, in farms that had less than 30 (n=30) workers (i.e. Farm 6), all farm workers were invited to be part of the study.

STATA version 13.1 was used to derive descriptive results on socio-demographic data as well as on all the 36-Item Short-Form Health Survey (SF-36) scales (Ware and Sherbourne, 1992) (see Appendix E). In addition, inferential statistical analysis was done

to find the relation between demographic factors and the HRQoL. The results in this study are presented based on means, variances and ranges of scores.

Quantitative content analysis was conducted for the two open-ended questions included in the study. The first question asked participants to add information related to injury or traumatic experience, whereas the second asked participants to express what they thought could improve their HRQoL.

4.3 PRESENTATION OF FINDINGS

4.3.1 SECTION A: Socio-Demographic Characteristics of Farm Workers

Table 4.1 gives a composite presentation of results showing age, gender, marital status, and education level, as well as the type of job, working duration, and monthly income. Data that was collected regarding lifestyle, access to basic amenities, and health-related aspects is presented in separate tables and figures.

4.3.1.1 Age (Section A; Q1)

The results in Table 4.1 show that most of the participants (80, or 43.7%) were aged from 21 to 35, and 78 (42.6%) were aged 36 to 50 years. Eighteen participants (9.8%) were between the ages of 51 and 70 years, while seven (3.83%) were aged from 16 to 20. The study findings showed that all the farm workers were at an acceptable age as none were below the age of 16. According to the Section 43(1) of the Basic Conditions of Employment Act (75 of 1997), no child aged 15 or less should be working.

4.3.1.2 Gender (Section A; Q2)

In relation to gender, the results show that most of the participants were females. According to the data in this research, there were 93 (50.8%) females who took part in the study while 90 (49.2%) represent males. There is an equal balance or distribution between males and females, with only 3 (1.6%) more females than males.

Table 4.1: Demographic characteristics of farm workers

Variable	Description	Frequency (n) & Percentage
Age group (n=183)	16–20	7 (3.83)
	21–35	80 (43.72)
	36–50	78 (42.62)
	51–70	18 (9.84)
Gender (n=183)	Male	90 (49.18)
	Female	93 (50.82)
Marital status (n=182)	Married	63 (34.62)
	Single	72 (39.56)
	Divorced	3 (1.65)
	Widowed	18 (9.89)
	Cohabiting	26 (14.29)
Educational level (n=183)	Basic (reading and writing)	24 (13.11)
	Primary	53 (28.96)
	High School	99 (54.10)
	Vocational training	2 (1.09)
	Undergraduate	2 (1.09)
	Graduate	3 (1.64)
Type of job (n=183)	Tractor drivers	18 (9.84)
	Field workers	37 (20.22)
	Office and administration	5 (2.73)
	Packaging	24 (13.11)
	Chemicals	7 (3.83)
	General workers	92 (50.27)
Duration of employment (n=183)	1–5 years	109 (59.56)
	5–10 years	36 (19.67)
	10–15 years	26 (14.21)
	15–20 years	7 (3.83)
	20 years and more	5 (2.73)
Income per month (n=183)	R500–R1500	50 (27.32)
	R1500–R2500	34 (18.58)
	R2500–R3500	63 (34.43)
	R3500–R4500	20 (10.93)
	R4500–R5500	5 (2.73)
	Above R5500	11 (6.01)

4.3.1.3 Marital status (Section A; Q4)

Table 4.1 shows the marital status distribution of participants, with 72 (39.6%) never having married, followed by 63 (34.6%) that were married. A small percentage (1.7%, n=3) had been divorced and 18 (9.89%) were widowed.

4.3.1.4 Educational level (Section A; Q5)

The results of the study, as shown in Table 4.1, revealed that more than half (99, or 54.1%) participants had received high school education, while two (1.1%) had done vocational training and undergraduate studies. The results also showed that three (1.6%) had graduate degrees. It can be concluded that the selected sample is literate, as only a small percentage (13.1%; n=24) had only basic reading and writing skills.

4.3.1.5 Type of job, duration and income (Section A; Q6–8)

In this subsection, participants were requested to state their type of job and the duration of employment. In addition, they were requested to state an estimate of their personal monthly income.

- **Type of job (Section A; Q6)**

As shown in Table 4.1, half of the sample of the participants (92, or 50.3%) were general workers, followed by 37 (20.2%) who were field workers, and 24 (13.1%) work with packaging. Seven of the participants dealing with chemicals accounted for seven (3.8%) of the sample and five (2.73%) were office and administration workers.

- **Duration of employment (Section A; Q7)**

The results showed that 59.6% (109) had been employed for the shortest time, ranging from one to five years; 36 (19.7%) worked for 5 to 10 years, and 26 (14.2%) for 10 to 15 years. A minority of 12 (6.56%) reported being employed for 15 to 20 years and more.

- **Income (Section A; Q8)**

When comparing personal monthly income, the highest-paid participants were in the minority, with 11 (6.01%) being paid R5 500 and above, while the majority of the participants (n=63, 34.4%) earned between R2 500 and R3 500. The lowest-paid workers (n=50, 27.4%) were earning between R500 and R1 500 per month.

These results also show that half of the sample (n=92, 50.3%) were general workers. Secondly, sixty percent (59.6%) of the employment period ranged from one to five years. Finally, the majority (80.33%) of the participants earn less than the minimum national rate of R20 per hour or R3 500 per month stipulated by South African legislation (Department of Labour, National Minimum Wage Act, Republic of South Africa, 2018).

4.3.1.6 Lifestyle (Section A; Q9 and 10)

This subsection asked participants about two lifestyle-related questions: smoking and consumption of alcohol.

- **Smoking (Section A; Q9)**

As Figure 4.1 shows, a majority of 136 (74.73%) of the participants stated that they were non-smokers, while 46 (25.27%) were smokers.

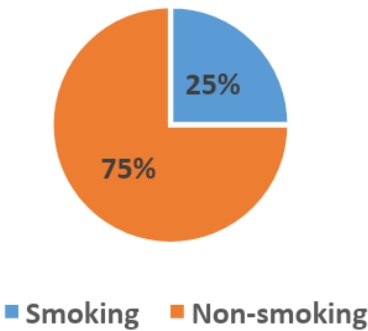


Figure 4.1 Smoking habits of farm workers

- **Alcohol consumption (Section A; Q10)**

With regards to alcohol intake, the results in Figure 4.2 show that almost half (49.18%; n=90) stated that they drink occasionally, while 85 (46.45%) or never drink alcohol. A minority of 8 (4.37%) admitted to consuming alcohol every day.

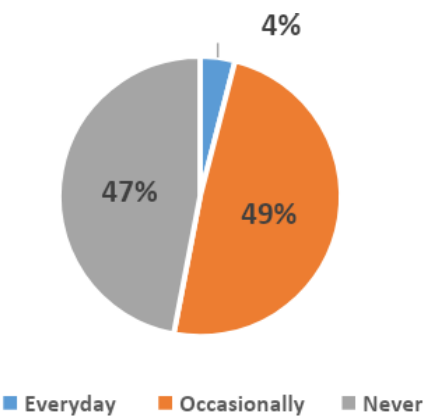


Figure 4.2 Alcohol consumption

4.3.1.7 Overall health and chronic illnesses (Section A; Q11 and 12)

In this subsection, participants responded to two questions aimed at establishing their overall **health** status. In addition, they were asked whether they had a diagnosed chronic illness. The results are presented in Table 4.2.

Table 4.2 Health status

Overall health (n=181)	Good	106 (58.56)
	Satisfactory	56 (30.94)
	Fair	14 (7.73)
	Poor	5 (2.76)
Chronic illness (n=183)	Yes	67 (36.61)
	No	116 (63.39)

- **Overall health (Section A; Q11)**

With regards to overall health, the results in Table 4.2 show that almost sixty percent (n=106, or 58.6%) rated their health as good, and 56 (30.9%) reported satisfactory health. A very small sample of 14 (7.7%) expressed fair overall health, followed by five (2.3%) with poor health. The majority of participants (80%) perceived their health status as good or satisfactory.

- **Diagnosed chronic illness (Section A; Q12)**

Less than forty percent (36.6%, n=67) indicated having a diagnosed chronic illness, while more than sixty percent (63.4%, 116) responded that they did not have any diagnosed chronic illness.

4.3.1.8 Basic amenities (Section A; Q13 and 14)

This subsection queried participants about their access to basic amenities such as running water, electricity and health care services.

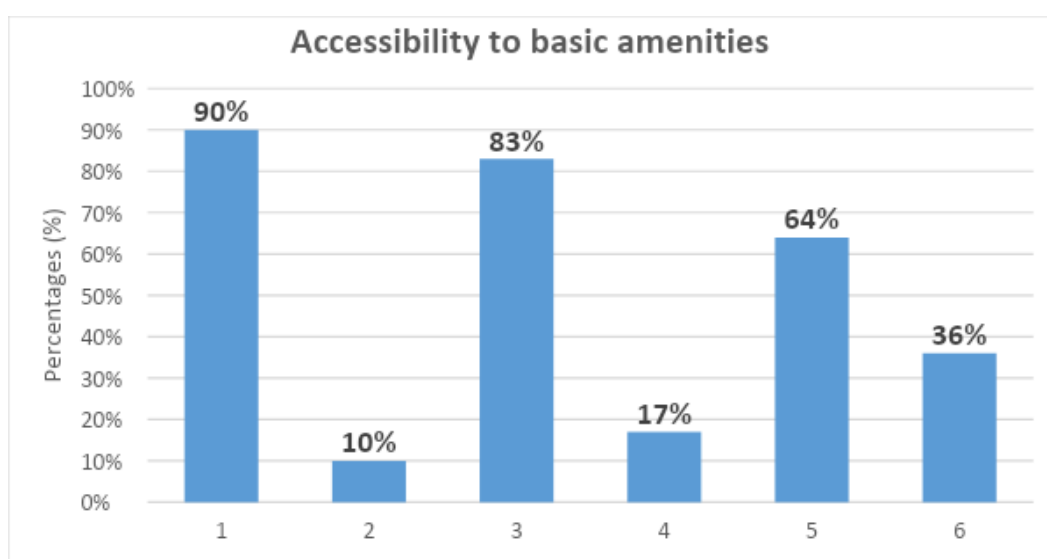


Figure 4.3 Access to basic amenities

- **Access to running water (Section A; Q13)**

As Figure 4.3 shows, the majority 165 (90.16%) of the participants reported having running water.

- **Access to electricity (Section A; Q14)**

The majority of farm worker 151 (82.51%) reported having access to electricity.

Therefore, most participants had access to water and sanitation, which could be associated with living at work or staying in formal houses in the area.

- **Access to health care services (Section A; Q15)**

Figure 4.3 shows that 117 (63.9%) of the participants had access to health care services, while 66 (36.1%) did not have access to health care.

4.3.1.9 Injury or traumatic experience (Section A; Q16 and 17)

The participants were asked to indicate if they ever had an injury or traumatic experience that affected their overall HRQoL. Figure 4.4 shows that 20 (10.9%) of the participants indicated exposure to injury or traumatic experience.

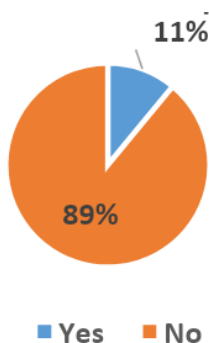


Figure 4.4 Injury or traumatic experiences

Farm workers that had exposure to injury or traumatic experiences were requested to specify the type of injury or traumatic experience. Quantitative content analysis was used for analysis of the responses to these open-ended questions. The responses were categorized into six types of injuries or traumatic experiences listed in Table 4.3.

Table 4.3 Type of injury or traumatic experience

Category	Quotes	(n=20)
Domestic violence	"I was attacked by my husband; I was admitted in hospital for a week for my injuries" "I am abused by my boyfriend and i am scared to report it or to leave him"	4 (20%)
Occupational injury	"While I was working I fell on one knee and now i cannot stand for too long as I get tired quickly" "I was injured at work"	7 (35%)
Victim of crime	"I was robbed" "I was attacked and robbed traveling by foot from town"	7 (35%)
Victim of crime and sexual abuse	"I was raped in my house by robbers"	1 (5%)
Traumatic grief or loss	"I received a message from back home that I had lost all my family."	1 (5%)

Table 4.3 shows that seven (n=7, or 35% of) farm workers had experienced occupation-related injuries, while the same number reported crime-related incidents. Moreover, four (n=4, or 20%) cited experiences of domestic violence. One person (5%) experienced trauma related to loss of a family member, and one person (5%) was able to share that they had been a victim of sexual abuse.

4.3.2 SECTION B: Health-Related Quality of Life (HRQoL)

In this section, descriptive data related to HRQoL generated from the analysis of the SF-36 items is presented. The SF-36 items were measured using a Likert scale; different variables were used for each scale and summarised into eight section scales. The eight sections of the SF-36 are: physical functioning, role limitations due to physical health problems, role limitations due to emotional problems, energy/fatigue, emotional well-being, social functioning, presence of pain and general health.

4.3.2.1 General health

Table 4.4 reflects participants' perceptions of current health in comparison with the previous year.

Table 4.4 General health

Items	1	2	3	4	5
Q1. General health (n=182)	Excellent	Very good	Good	Fair	Poor
	14 (7.69)	12 (6.59)	110 (60.44)	42 (23.08)	4 (2.20)
Q2. Compared to a year ago, how would you rate your health? (n=181)	So much better than a year ago	Somewhat better than a year ago	About the same	Somewhat worse than a year ago	So much worse than a year ago
	18 (9.94)	31 (17.13)	102 (56.35)	24 (13.26)	6 (3.31)

A total sample of n=136 participants (or 74.72%) perceived their general health as excellent, very good, or good. Twenty-three percent (23.08%, n=42) perceived their health to be fair, while n=4 (2.20%) indicated poor general health.

Farm workers were asked to compare their health status with how it was a year before. A few (n=18, or 9.94%) indicated that their health was much better than the previous year; 31 (17.13%) indicated that it was somewhat better than the previous year; 102 (56.35%) felt that it was about the same; 24 (13.26%) indicated that it was somewhat worse than the previous year; and 6 (3.31%) stated that it was so much worse than the previous year. Notably, a combined sample of 151 (83.42%)—more than the 136 (74.7%) a year ago—perceived their general health to be excellent, very good or good. At the same time, 102 participants (56.35%) rated their health as good this year, compared to the previous year's 110 (60.44%).

A total sample of 136 (74.72%) of the participants perceived their general health as excellent, very good or good. Twenty-three percent (23.08%, n=42) perceived their health to be fair, while 2.20% (n=4) indicated poor general health.

Notably, 24 respondents (13.26%) indicated that their general health was “somewhat worse” than the previous year, while 6 (3.31%) stated that it was “so much worse” than the previous year.

4.3.2.2 Physical functioning

The health of individuals sometimes limits them regarding the daily activities they can undertake. The participants were asked about the activities they could not perform as a result of their health (see Table 4.5).

Table 4.5 Daily activities limiting physical functioning

Items	Yes, limited a lot	Limited a little	No, not limited at all
Q3. Moderate activities (n=183)	0 (00%)	4 (2.19)	179 (97.81)
Q4. Vigorous activities such as running, lifting heavy objects and continuous digging (n=183)	8 (4.37)	68 (37.16)	107 (58.47)
Q5. Lifting or carrying groceries (n=183)	6 (3.28)	36 (19.67)	141 (77.05)
Q6. Climbing several flight (n=182)	5 (2.75)	22 (12.09)	155 (85.16)
Q7. Climbing one flight of stairs (n=183)	3 (1.64)	20 (10.93)	160 (87.43)
Q8. Bending, kneeling or stooping (n=183)	10 (5.46)	53 (28.96)	120 (65.57)
Q9. Walking more than one kilometre (n=181)	5 (2.76)	18 (9.94)	158 (87.29)
Q10. Walking several blocks (n=183)	5 (2.73)	12 (6.56)	166 (90.71)
Q11. Walking one block (n=181)	2 (1.10)	8 (4.42)	171 (94.48)
Q12. Bathing or dressing (n=183)	1 (0.55)	6 (3.28)	176 (96.17)

Ten questions were asked in this section to elicit physical functioning limitations. Findings showed that more than 50% of all participants did not have physical limitations. However, of concern is the number of participants less able to do activities related to farm work. For example, for Q4, just 58.47% were able to perform vigorous activities (such as running, lifting heavy objects, and continuous digging, and for Q8, 65.57% could do bending, kneeling or stooping., This was low compared to a range of 77.05% to 97.81% in the other eight questions. The results indicated that a significant number of participants have a work-related physical function limitation.

4.3.2.3 Role limitation due to physical health and emotional problems

Physical health or emotional status can affect role functionality. Survey participants were asked about the activities they could not perform as a result of physical or health emotional problems. The results are presented in Table 4.6.

Table 4.6 Role limitations due to physical health and emotional problems

Role limitation in the last 4 weeks due to physical health	Yes	No
Q13. Cut down the amount of time you spent on your or other activities (n=183)	9 (4.92)	174 (95.08)
Q14. Accomplished less than you would like (n=183)	20 (10.93)	163 (89.07)
Q15. Were limited in the kind of work or other activities (n=182)	22 (12.09)	160 (87.91)
Q16. Had difficulty performing work or activities (n=183)	17 (9.29)	166 (90.71)
Role limitation in the last 4 weeks due to emotional problems	Yes	No

Q17. Cut down on the amount of time working (n=180)	12 (6.67)	168 (93.33)
Q18. Accomplished less than you would like (n=181)	12 (6.63)	169 (93.37)
Q19. Didn't do work or other activities (n=181)	12 (6.63)	169 (93.37)

Firstly, Table 4.6 shows self-reported role limitations due to physical problems. Slightly more than 20% (n=39) stated they were limited or had difficulty in performing work-related activities. About 11% (n=20) stated that they accomplished less than what they would have liked to.

Secondly, Table 4.6 shows role limitations due to emotional problems. In all three questions, slightly less than 7% admitted to having emotional problems that interfered with their work or regular daily activities.

The results in this section indicate that the majority of the participants did not have physical health or emotional problems affecting their role functionality.

4.3.2.4 Impact of physical health or emotional problems on social functioning

Participants were asked to indicate to what extent physical health or emotional problems had interfered with their normal social activities with family, friends, neighbours or groups in the past few weeks.

Table 4.7 Impact of physical health or emotional problems on social functioning

Items	Not at all	Slightly/Moderately	Severe	Very severe
Q20. Impact of physical health or emotional on social life during the past few weeks (n=181)	81 (44.75)	85 (46.96)	8 (4.42)	7 (3.87)

As shown in Table 4.7, slightly less than five percent (n=8, or 4.42%) stated severe impact, and 3.87% (n=7) indicated very severe impact of emotional problems on social functioning. The results further showed that n=85 (46.97%) of the participants indicated a slight or moderate effect, while n=81 (44.75%) participants stated that their social activities were not affected at all.

4.3.2.5 Presence of pain

Participants were asked to state how much body pain they had experienced during the previous four weeks. Noted in Table 4.8 is that a significant number (73.68% or n=135) reported pain ranging from mild to very severe. Almost 65% (n=118) reported mild to moderate pain, and less than 10% (n=16, or 8.79%) reported severe to very severe pain.

Table 4.8 Pain

	None	Mild	Moderate	Severe	Very severe
Q21. Body pain in the past 4 weeks (n=182)	48 (26.37)	82 (45.06)	36 (19.78)	10 (5.49)	6 (3.30)

- **Role limitations due to pain**

A follow-up question was asked to establish the extent to which pain interferes with their normal work (including work outside the home and house work).

Table 4.9 Role limitations due to pain

Items	Not at all	Slightly/Moderately	Quite a bit	Extremely
Q22. How much does pain interfere with normal work? (n=180)	56 (31.11)	91 (50.55)	21 (11.67)	12 (6.67)

Table 4.9 shows, 56 (31.11%) of the total number of participants indicated that pain did not interfere with their normal work. However, a combined total of 112 (62.22%) stated that pain interfered slightly, moderately or quite a bit, while 12 (6.67%) had extreme pain interfering with normal work.

4.3.2.6 Fatigue, energy and emotional well-being

Table 4.10 Fatigue, energy and emotional well-being

	All of the time	Most/good bit of the of the time	Some/ little of the time	None of the time
Q23 [Do you have] Energy (n=182)	18 (9.89)	75 (41.2)	85 (46.7)	4 (2.20)
Q24 [Do you feel] Nervous (n=181)	3 (1.66)	26 (14.36)	96 (53.03)	56 (30.94)
Q25 [Have you ever] Felt so down in the dumps that nothing could cheer you up (n=180)	3 (1.66)	35 (19.44)	104 (57.78)	38 (21.11)
Q26. Have you felt calm and peaceful (n=176)	10 (5.68)	62 (35.22)	98 (55.68)	6 (3.41)
Q27. [Do you have a] Lot of energy (n=181)	14 (7.73)	78 (43.09)	84 (46.41)	5 (2.76)
Q28. Have you felt downhearted (n=173)	2 (1.16)	34 (19.65)	117 (67.63)	20 (11.56)
Q. 29 Do you feel worn out (n=179)	8 (4.47)	64 (35.76)	96 (53.63)	11 (6.15)
Q30. Have you been a happy person (n=182)	50 (27.47)	83 (45.61)	47 (25.82)	2 (1.10)
Q31. Do you feel tired (n=182)	3 (1.66)	94 (51.65)	85 (46.7)	0 (00)

The data gathered regarding perceptions of energy levels in the most recent weeks revealed that 51.09% (n=93) felt energetic most (n=75) or all (n=18) of the time. However,

46.7% (n=85) expressed having energy only some or little of the time and 2.20% (n=4) had no energy at any time.

For questions 23 to 31, the same number of participants (n=3, or 1.66%) in Q24, Q25, and Q31 stated they felt nervous all the time, felt so down in the dumps that nothing could cheer them up, and felt tired all the time. Another 1.16% (n=2) and 4.47% (n=8) felt downhearted and worn out. These are expressions suggestive of stress or depression or work-related tiredness, although it should be noted that it is perceived as lasting all of the time.

Secondly, the results in Q23 and Q27 also seem to suggest that slightly more than half (51.09% or n=93) of the participants perceived themselves to have energy, and 50.82% (n=92) said they had a lot of energy, ranging from “all of the time” to “most or a good bit of time”.

Thirdly, the results seem to suggest that a majority of the participants generally felt peaceful and calm, except for 3.41% (n=6) and 1.10% (n=2), who said they have never been happy people.

4.3.2.7 Health or emotional problems interfered with social activity

This section deals with how much of the time physical health or emotional problems interfered with respondents’ social activities, such as visiting friends or relatives, in the previous four weeks.

Table 4.11 shows that for 55.80% (n=101) this had occurred none of the time. Conversely, a minority of 8.84% (n=16) stated that it happened either all of the time or most of the time, while a combined total of 64 (35%) indicated that it happened some or a little bit of the time.

Table 4.11 Times that physical health or emotional problems interfered with social activity

Items	All of the time	Most of the time	Some/ a little bit of the time	None of the time
Q32. Times that physical health or emotional problems interfered with social activity (n=181)	5 (2.76%)	11 (6.08%)	64 (35.35%)	101 (55.80%)

4.3.2.8 Perceptions about general health

Table 4.12 summarises how participants responded to four questions about their perceptions of their general health.

Table 4.12 Perceptions about general health

Items	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
Q33. Seem to get sick a little easier (n=182)	17 (9.34)	33 (18.13)	75 (41.21)	39 (21.43)	18 (9.89)
Q34. I am as healthy as anybody I know (n=182)	18 (9.89)	23 (12.64)	122 (67.03)	14 (7.69)	5 (2.75)
Q35. I expect my health to get worse (n=182)	4 (2.20)	25 (13.74)	106 (58.24)	31 (17.03)	16 (8.79)
Q36. Health is excellent (n=182)	18 (9.89)	24 (13.19)	95 (52.20)	38 (20.88)	7 (3.85)

Participants indicated whether it seems to be easier than before for them to get sick. Fifty participants (27.59%) responded that this was the case, compared to 57 (31.32%) who replied negatively. About 41% (n=75) were not sure.

The second question pertains to participants' perceptions of their health status in comparison with others. More than half of the responses (67.03%, or n=122) were "I don't know," whereas 22.53% (n=41) said that they get sick easily, and about 10% (n=19) said that they do not easily get sick.

The third question required participants to predict if their health was going to get worse or not. The majority in this study (n=106, or 58.24%) said they did not know, whereas a total of 41 (22.53%) indicated that it was definitely true or mostly true that their health status would get worse. On the contrary, a total of 47 (25.93%) stated that it was mostly false or definitely false that their health condition would get worse.

The last question relates to whether the participants perceived their health to be excellent; slightly more than half of the participants (52.20%, or n=95) said they did not know if their health is excellent or not. It is notable that a similar number of participants (23.89% or n=42, and 24.73% or n=45) responses fell on the true and false side.

4.3.2.9 Aspects that could influence HRQoL

Table 4.13 shows responses to open-ended questions asked in Section A, Q18, where respondents were asked to state what they thought could influence their HRQoL.

Table 4.13 Aspects that could influence HRQoL

	Responses	n=183 (%)
Basic amenities	“Proper housing”	100 (54.6%)
	“Clean water and electricity”	90 (49.2%)
	“Transportation for those staying far”	60 (32.8%)
	“Health care services like mobile clinics”	150 (82.6%)
Occupational	“Salary increases”	160 (87.4%)
	“Be provided with protective equipment”	40 (21.9%)
	Enough resting days/less hours	70 (38.3%)

Table 4.13 shows that the responses fit into two categories, namely basic amenities and occupational health. With regards to occupation-related recommendations, salary increase seems to be a priority for 160 participants (87.4%), followed by the need for rest by 70 (38.3%). The results are congruent with the farm work setting, as literature has shown that only 9% of the farm workers are part of the salary bargaining process and some work 46 to 50 hours per week (Visser and Ferrer, 2015).

Accessibility to health care services is one of the priority needs in this area, as indicated by 150 (82.6%) of the sample. In this setting, there is no fixed primary health care clinic. Services are rendered from a mobile health care clinic only. The challenge is that the mobile health care service is available only on specific days of the month, at limited times, and at specific points. This has been true over a number of years while the researcher was working in the mobile clinic servicing this area.

4.3.3 SECTION C: Relationship between demographic factors and HRQoL

In this section demographic characteristics will be described. This will be followed by the discussion of the relationship between socio demographic characteristics and HRQoL.

4.3.3.1 Test for normality and QoL

The test for normality was conducted on the continuous variables as shown in Table 4.14.

Table 4.14 Test for normality and QoL

Tests of normality	Shapiro-Wilk			QoL			
	Statistic	df	Sig.	Median	25%	75%	Median
F-36 questionnaire							
Physical functioning	0.684	182	0.00	95	90	100	95
Role limitations due to physical health	0.473	182	0.00	10	100	100	100
Role limitations due to emotional problems	0.355	182	0.00	100	100	100	100
Energy/fatigue	0.972	182	0.00	50	40	56.25	50
Emotional well-being	0.982	182	0.02	52	40	60	52
Social functioning	0.895	182	0.00	75	62.5	100	75
Pain	0.931	182	0.00	67.5	45	87.5	67.5
General health	0.926	182	0.00	40.8	35.8	50.2	40.8

The results shown in Table 4.14 indicate that all the variables were skewed and had a p-value <0.05, indicating significant results. Therefore, descriptive statistics of the median and interquartile range were used to summarize the results. In addition, non-parametric inferential statistics of Spearman's correlation coefficient, Kruskal-Wallis and the Mann-Whitney U test were used where appropriate.

4.3.3.2 Relationship between QoL domains and gender

Table 4.15 below shows that there was a statistically significant association between gender and physical functioning (Chi-square test, $p=0.039$). Females had a lower median of 95% compared to 100% for males.

The results further show significant results ($p=0.031$) in general health. Noted are low median scores (45%) for female participants in contrast to 50% for male participants.

Table 4.15 Relationship between QoL domains and gender

Items	Gender	Median	25%	75%	Mann-Whitney U	p-value
Physical functioning	Male	100	90	100	3454.5	0.039*
	Female	95	80	100		
Role limitations due to physical health	Male	100	100	100	4024.5	0.628
	Female	100	100	100		
Role limitations due to emotional problems	Male	100	100	100	4133.5	0.973
	Female	100	100	100		
Energy/fatigue	Male	50	40	65	3630	0.148
	Female	50	40	55		
Emotional well-being	Male	52	40	60	3721.5	0.237
	Female	52	40	64		
Social functioning	Male	87.5	62.5	100	3777.5	0.297

	Female	75	62.5	96.88		
Pain	Male	77.5	45	90	3741	0.258
	Female	67.5	45	80		
General health	Male	45	40	55	3375	0.031*
	Female	40	35	48.2		

4.3.3.3 Relationship between QoL domains and age

With respect to age, Table 4.16 shows a statistically significant association only in the physical functioning domain ($p=0.03$). However, a lower median (85%) was noted in the age range 51–70 years indicating a lower perception of QoL compared to other ages.

Table 4.16 Relationship between QoL domains and age

Variables	Age in category in years	Median	25%	75%	Kruskal-Wallis test	p-value
Physical functioning	16–20	100	90	100	9.168	0.03*
	21–35	95	90	100		
	36–50	100	88.75	100		
	51–70	85	65	100		
Role limitations due to physical health	16–20	100	81.25	100	3.467	0.33
	21–35	100	100	100		
	36–50	100	100	100		
	51–70	100	50	100		
Role limitations due to emotional problems	16–20	100	100	100	1.399	0.71
	21–35	100	100	100		
	36–50	100	100	100		
	51–70	100	100	100		
Energy/fatigue	16–20	42.5	37.5	75	0.586	0.90
	21–35	45	40	55		
	36–50	50	43.75	60		
	51–70	50	40	55		
Emotional well-being	16–20	54	46	69	1.653	0.65
	21–35	52	40	56		
	36–50	52	43	64		
	51–70	50	35	66		
Social functioning	16–20	87.5	50	100	2.718	0.44
	21–35	81.25	65.63	100		
	36–50	75	62.5	87.5		
	51–70	75	50	90.63		
Pain	16–20	71.25	41.25	92.5	1.408	0.70
	21–35	77.5	46.88	89.34		
	36–50	40	35.8	50		

	51–70	50	32.5	100		
General health	16–20	45	38.1	55.5	2.067	0.56
	21–35	45	35.2	54		
	36–50	40	35.8	50		
	51–70	40.8	35.6	52.5		

Also noted, although not statistically significant, is the low median scores of 42.5% and 45% for age groups between 16 and 20 and between age 21 to 35 in the energy/fatigue domains respectively. Similar low median scores were noted in the general health domain as in the energy/fatigue domain. In addition, 40% was noted for ages of 36 to 50 years.

4.3.3.4 Relationship between QoL domains and marital status

Data shown in Table 4.17 illustrates statistical significance results of ($p=0.02$) in physical functioning, the energy/fatigue domain, and the social functioning domain. In addition, statistically significant results were noted in the pain domain ($p=0.03$), with ($p=0.00$) in the general health domain.

On further analysis, the results reflect that widowed participants seem to have low median scores compared to the other marital status categories. This is reflected in the physical functioning domain median (68.75%); energy/fatigue (30.00%); social functioning (80%), and the pain and general health domains, with median scores of 32.50% and 30% respectively.

Table 4.17 Relationship between QoL domains and marital status

Items	Marital status	Median	25%	75%	Kruskal-Wallis test	p-value
Physical functioning	Married	100.00	90.00	100.00	12.25	0.02*
	Single	80.00	95.00	100.00		
	Divorced	95.00	100.00	.		
	Widowed	68.75	90.00	96.25		
	Cohabitation	92.50	100.00	100.00		
Role limitations due to physical health	Married	100.00	100.00	100.00	4.23	0.38
	Single	100.00	100.00	100.00		
	Divorced	100.00	100.00	100.00		
	Widowed	100.00	100.00	100.00		
	Cohabitation	100.00	100.00	100.00		
Role limitations due to emotional problems	Married	100.00	100.00	100.00	1.09	0.90
	Single	100.00	100.00	100.00		
	Divorced	100.00	100.00	100.00		
	Widowed	100.00	100.00	100.00		
	Cohabitation	100.00	100.00	100.00		

Energy/fatigue	Married	50.00	40.00	60.00	12.40	0.02*
	Single	40.00	50.00	55.00		
	Divorced	35.00	45.00	.		
	Widowed	30.00	40.00	50.00		
	Cohabitation	47.50	55.00	70.00		
Emotional well-being	Married	52.00	40.00	60.00	3.22	0.52
	Single	40.00	52.00	64.00		
	Divorced	44.00	60.00	.		
	Widowed	39.00	54.00	65.00		
	Cohabitation	40.00	44.00	52.00		
Social functioning	Married	87.50	62.50	100.00	11.85	0.02*
	Single	62.50	75.00	96.88		
	Divorced	75.00	75.00	.		
	Widowed	50.00	62.50	75.00		
	Cohabitation	75.00	87.50	100.00		
Pain	Married	75.00	45.00	100.00	10.66	0.03*
	Single	52.50	77.50	89.38		
	Divorced	45.00	67.50	.		
	Widowed	32.50	45.00	67.50		
	Cohabitation	45.00	70.00	93.75		
General health	Married	45.00	35.80	54.00	15.61	0.00*
	Single	40.00	40.80	53.20		
	Divorced	35.00	35.00	.		
	Widowed	30.00	37.90	40.00		
	Cohabitation	32.90	40.00	54.50		

4.3.3.5 Relationship between QoL domains and education

As depicted in Table 4.18, there was no statistically significant association between QoL domains and education. Notably, the lowest median score (25) was noted in the role limitations dimension among participants who had education up to the level of vocational training. In relation to the general health domain, low median scores below fifty ranging between 35 and 40.8 were noted in almost all the categories, except for participants who had achieved vocational training as well as those who had achieved a graduate degree.

Table 4.18 Relationship between QoL domains and education

Items	Education	Median	25%	75%	Kruskal-Wallis test	p-value
Physical functioning	Basic (reading and writing)	75	90	100	7.654	0.18
	Primary school	90	95	100		
	High school	90	100	100		

	Vocational training	80	90	.		
	Undergraduate	65	82.5	.		
	Graduate degree	100	100	100		
Role limitations due to physical health	Basic (reading and writing)	56.25	100	100	9.116	0.11
	Primary school	100	100	100		
	High school	100	100	100		
	Vocational training	25	62.5	.		
	Undergraduate	100	100	100		
	Graduate degree	100	100	100		
Role limitations due to emotional problems	Basic (reading and writing)	100	100	100	3.634	0.60
	Primary school	100	100	100		
	High school	100	100	100		
	Vocational training	66.67	33.33	.		
	Undergraduate	100	100	100		
	Graduate degree	100	100	100		
Energy/fatigue	Basic (reading and writing)	45	40	55	1.186	0.95
	Primary school	50	40	62.5		
	High school	50	40	55		
	Vocational training	70	68	.		
	Undergraduate	55	50	.		
	Graduate degree	50	30	.		
Emotional well-being	Basic (reading and writing)	42	56	64	10.562	0.06
	Primary school	44	36	58		
	High school	52	44	60		
	Vocational training	70	68	.		
	Undergraduate	62	52	.		
	Graduate degree	52	44	.		
Social functioning	Basic (reading and writing)	50	75	87.5	3.609	0.61
	Primary school	75	62.5	87.5		
	High school	75	62.5	100		
	Vocational training	68.75	37.5	.		
	Undergraduate	87.5	75	.		
	Graduate degree	87.5	75	.		
Pain	Basic (reading and writing)	32.5	45	79.375	5.08	0.41
	Primary school	67.5	45	95		
	High school	77.5	55	87.5		
	Vocational training	71.25	42.5	.		
	Undergraduate	65	52.5	.		
	Graduate degree	67.5	55	.		

General health	Basic (reading and writing)	35	40	45	6.485	0.26
	Primary school	40.8	35.8	52		
	High school	40.8	35.8	54		
	Vocational training	60	45			
	Undergraduate	40.8	40.8	40.8		
	Graduate degree	55	25	.		

4.3.3.6 Relationship between QoL domains and job description

Table 4.19 shows that there was a statistically significant association between job description and the emotional well-being domain ($p=0.00$). Notably, there were low median scores among almost all categories in general health, except the tractor drivers and office and administration workers.

Table 4.19 Relationship between QoL domains and job description

	Job	Median	25%	75%	Kruskal Wallis	p-value
Physical functioning	Tractor driver	100	87.5	100	2.906	0.72
	Field worker	100	90	100		
	Office and administration	90	85	100		
	Packaging	95	90	100		
	Chemicals	100	95	100		
	General worker	95	85	100		
Role limitations due to physical health	Tractor driver	100	100	100	8.675	0.12
	Field worker	100	87.875	100		
	Office and administration	100	62.5	100		
	Packaging	100	100	100		
	Chemicals	100	100	100		
	General worker	100	100	100		
Role limitations due to emotional problems	Tractor driver	100	100	100	8.926	0.11
	Field worker	100	100	100		
	Office and administration	100	50	100		
	Packaging	100	100	100		
	Chemicals	100	100	100		
	General worker	100	100	100		
Energy/fatigue	Tractor driver	45	40	62.5	8.876	0.11
	Field worker	50	40	52.5		

	Office and administration	50	40	67.5		
	Packaging	50	40	68.75		
	Chemicals	65	50	70		
	General worker	50	40	55		
Emotional well-being	Tractor driver	52	34	56	18.531	0.00*
	Field worker	48	40	54		
	Office and administration	68	64	72		
	Packaging	42	36	59		
	Chemicals	48	44	52		
	General worker	52	44	64		
Social functioning	Tractor driver	87.5	43.75	100	2.894	0.72
	Field worker	75	62.5	87.5		
	Office and administration	87.5	56.25	100		
	Packaging	75	53.125	96.875		
	Chemicals	87.5	87.5	100		
	General worker	75	62.5	100		
Pain	Tractor driver	80	67.5	100	7.126	0.21
	Field worker	65	45	87.5		
	Office and administration	67.5	53.75	88.75		
	Packaging	62.5	32.5	95		
	Chemicals	77.5	45	90		
	General worker	67.5	45	87.5		
General health	Tractor driver	55	42.9	60	7.626	0.18
	Field worker	40	35	47.9		
	Office and administration	40.8	25.4	60		
	Packaging	40.4	35.8	45		
	Chemicals	35.8	35.8	60		
	General worker	40.8	35	50		

4.3.3.7 Relationship between QoL domains and employment duration

With respect to employment duration, Table 4.20 shows that there was no statistically significant association between duration of employment and all the QoL domains. However, low median scores of below 45 in the general health domain were noted.

Table 4.20 Relationship between QoL domains and employment duration

Items	Employment duration	Median	25%	75%	Kruskal-Wallis	p-value
Physical functioning	1–5 years	100	90	100	7.736	0.1
	5–10 years	100	90	100		
	10–15 years	90	75	100		
	15–20 years	100	85	100		
	≥ 20 years	100	90	100		
Role limitations due to physical health	1–5 years	100	100	100	1.17	0.88
	5–10 years	100	100	100		
	10–15 years	100	93.75	100		
	15–20 years	100	100	100		
	≥ 20 years	100	75	100		
Role limitations due to emotional problems	1–5 years	100	100	100	3.162	0.53
	5–10 years	100	100	100		
	10–15 years	100	100	100		
	15–20 years	100	100	100		
	≥ 20 years	100	50	100		
Energy/fatigue	1–5 years	50	40	55	2.057	0.73
	5–10 years	50	40	60		
	10–15 years	50	43.75	61.25		
	15–20 years	50	45	60		
	≥ 20 years	45	40	60		
Emotional well-being	1–5 years	52	44	60	1.922	0.75
	5–10 years	48	36	64		
	10–15 years	52	36	64		
	15–20 years	40	40	72		
	≥ 20 years	44	38	58		
Social functioning	1–5 years	75	62.5	93.75	3.294	0.51
	5–10 years	87.5	75	100		
	10–15 years	81.25	50	100		
	15–20 years	75	50	100		
	≥ 20 years	62.5	43.75	87.5		
Pain	1–5 years	67.5	45	80	7.124	0.13
	5–10 years	77.5	57.5	100		
	10–15 years	67.5	40.625	81.875		
	15–20 years	100	45	100		
	≥ 20 years	100	42.5	100		
General health	1–5 years	40.8	35	50	1.173	0.88
	5–10 years	40.8	35.8	55.8		
	10–15 years	40	35.8	51		
	15–20 years	40.8	40	40.8		
	≥ 20 years	45	40.4	52.5		

4.3.3.8 Relationship between QoL domains and income

As shown in Table 4.21, the results indicate statistical significant association between QoL and income ($p=0.00$) with a mean score of above 80 in all income groups.

Significantly low median scores ranging in the 40s were noted in all income categories in the general health domain.

Table 4.21 Relationship between QoL and income

	Income	Median	25%	75%	Kruskal-Wallis	p-value
Physical functioning	R500–R1500	100	95	100	23.776	0.00*
	R1500–R2500	95	90	100		
	R2500–R3500	95	80	100		
	R3500–R4500	90	85	98.75		
	R4500–5500	80	62.5	95		
	Above	100	95	100		
Role limitations due to physical health	R500–R1500	100	100	100	9.75	0.08
	R1500–R2500	100	100	100		
	R2500–R3500	100	75	100		
	R3500–R4500	100	100	100		
	R4500–5500	100	37.5	100		
	Above	100	100	100		
Role limitations due to emotional problems	R500–R1500	100	100	100	7.645	0.18
	R1500–R2500	100	100	100		
	R2500–R3500	100	100	100		
	R3500–R4500	100	100	100		
	R4500–5500	100	100	100		
	Above	100	100	100		
Energy/fatigue	R500–R1500	50	40	60	11.371	0.05
	R1500–R2500	50	42.5	60		
	R2500–R3500	45	40	55		
	R3500–R4500	50	45	70		
	R4500–5500	70	42.5	75		
	Above	40	40	55		
Emotional well-being	R500–R1500	52	43	60	10.416	0.06
	R1500–R2500	48	40	56		
	R2500–R3500	52	44	64		
	R3500–R4500	48	36	52		
	R4500–5500	64	56	72		
	Above	44	32	64		
Social functioning	R500–R1500	75	62.5	100	1.64	0.9
	R1500–R2500	75	62.5	100		
	R2500–R3500	75	62.5	87.5		
	R3500–R4500	75	53.125	100		
	R4500–5500	87.5	56.25	100		
	Above	100	50	100		

Pain	R500–R1500	65	32.5	77.5	5.352	0.37
	R1500–R2500	67.5	47.5	80		
	R2500–R3500	77.5	52.5	90		
	R3500–R4500	77.5	48.75	97.5		
	R4500–5500	77.5	38.75	100		
	Above	77.5	30	90		
General health	R500–R1500	40.4	35	50	7.5	0.19
	R1500–R2500	40.8	33.3	45		
	R2500–R3500	40.8	35	55		
	R3500–R4500	40.4	35.8	45		
	R4500–5500	55	27.9	75		
	Above	55	40	60		

4.3.3.9 Relationship between QoL, smoking and alcohol

Table 4.22 summarises factors that had a relationship with smoking and alcohol. Factors that were found to have a significant relationship with smoking were energy/fatigue ($p=0.00$), pain ($p=0.03$) and general health ($p=0.01$). On the other hand, role limitations due to physical health ($p=0.03$) is the only domain that was found to be associated with alcohol.

Table 4.22 Relationship between QoL, smoking and alcohol

		Smoking, Median (IQR)	p-value	Alcohol, Median (IQR)	p-value
Physical functioning	Yes	95 (90–100)	0.82	100 (90–100)	0.38
	No	95 (87.5–100)		95 (82.5–100)	
Role limitations due to physical health	Yes	100 (100–100)	0.26	100 (100–100)	0.03*
	No	100 (100–100)		100 (75.38–100)	
Role limitations due to emotional problems	Yes	100 (100–100)	0.57	100 (100–100)	0.38
	No	100 (100–100)		100 (100–100)	
Energy/fatigue	Yes	45 (40–55)	0.00*	50 (40–60)	0.39
	No	55 (45–70)		45 (40–55)	
Emotional well-being	Yes	52 (40–60)	0.64	52 (40–60)	0.38
	No	52 (40–58)		52 (40–64)	
Social functioning	Yes	75 (62.5–100)	0.34	78.5 (62.5–100)	0.35
	No	87.5 (62.5–100)		75 (50–100)	
Pain	Yes	67.5 (45–87.5)	0.03*	77.5 (45–100)	0.2
	No	77.5 (65–90)		67.5 (45–80)	
General health	Yes	40.8 (35–50)	0.01*	40.8 (40–52)	0.12
	No	45 (40–57.5)		40.8 (35–50.4)	

4.3.3.10 Relationship between QoL and access to basic amenities

Table 4.23 is a summary of factors that had a relationship with access to electricity, water and health care services.

Factors that were found to have a significant relationship with access to electricity were physical functioning ($p=0.03$). Role limitations due to emotional problems, pain and general health were also found to have a significant relationship ($p=0.02$).

On the other hand, role limitations due to physical health ($p=0.02$) and role limitations due to emotional problems ($p=0.00$) were found to have a significant association with access to pure running water.

Table 4.23 Relationship between QoL and access to basic amenities

		Electricity, Median (IQR)	p- value	Water, Median (IQR)	p- value	Health services, Median (IQR)	p- value
Physical functioning	Yes	100 (90–100)	0.03*	95 (90–100)	0.84	95 (85–100)	0.01*
	No	90 (80–100)		97.5 (80–100)		100 (90–100)	
Role limitations due to physical health	Yes	100 (100–100)	0.25	100 (100–100)	0.02*	100 (100–100)	0.23
	No	100 (81.25–100)		100 (68.75–100)		100 (100–100)	
Role limitations due to emotional problems	Yes	100 (100–100)	0.02*	100 (100–100)	0.00*	100 (100–100)	0.9
	No	100 (100–100)		100 (58.33–100)		100 (100–100)	
Energy/fatigue	Yes	50 (40–60)	0.84	50 (40–55)	0.59	50 (40–55)	0.23
	No	50 (40–55)		50 (43.75–60)		50 (40–60)	
Emotional well-being	Yes	52 (40–64)	0.76	52 (40–60)	0.47	52 (40–64)	0.51
	No	52 (41–60)		52 (43–65)		50 (40–60)	
Social functioning	Yes	75 (62.5–100)	0.42	75 (62.5–100)	0.3	75 (53.13–100)	0.53
	No	75 (50–96.88)		87.5 (71.88–100)		75 (62.5–100)	
Pain	Yes	77.5 (45–90)	0.02*	67.5 (45–89.34)	0.78	77.5 (45–90)	0.34
	No	57.5 (33.13–76.88)		67.5 (63.13–81.88)		67.5 (45–81.88)	
General health	Yes	40.8 (40–54)	0.02*	40.8 (35.8–50)	0.75	45 (40–53.2)	0.07
	No	40 (30.2–45)		42.5 (33.95–60)		40 (35–50)	

4.3.3.11 Relationship between QoL and general health

In the context of this study, assessment of general health consists of diagnosed chronic disease and history of injury. In the current study, only one QoL domain, role limitations due to physical health ($p=0.04$), was found to have a significant relationship with diagnosed chronic disease. On the other hand, history of injury was found to be significantly associated with physical functioning, energy/fatigue and general health.

Table 4.24 Relationship between QoL and general health

		Chronic disease, Median (IQR)	p-value	History of injury, Median (IQR)	p-value
Physical functioning	Yes	95 (85–100)	0.19	90 (85–100)	0.06
	No	90 (85–100)		100 (90–100)	
Role limitations due to physical health	Yes	100 (75.57–100)	0.04*	100 (75–100)	0.21
	No	100 (100–100)		100 (100–100)	
Role limitations due to emotional problems	Yes	100 (100–100)	0.4	100 (100–100)	0.40
	No	100 (100–100)		100 (100–100)	
Energy/fatigue	Yes	50 (40–55)	0.58	40 (30–45)	0.00*
	No	50 (40–60)		50 (40–60)	
Emotional well-being	Yes	52 (40–68)	0.25	48 (40–60)	0.20
	No	52 (41–56)		52 (40–64)	
Social functioning	Yes	75 (62.5–100)	0.66	75 (50–87.5)	0.18
	No	75 (62.5–100)		75 (62.5–100)	
Pain	Yes	67.5 (45–92.5)	0.96	65 (57.5–90)	0.65
	No	68.75 (45–87.5)		67.5 (45–87.5)	
General health	Yes	40.8 (35.6–50.2)	0.76	35 (30–40.8)	0.00*
	No	40.8 (35.8–53)		40.8 (38.95–54)	

4.4 DISCUSSION OF THE ASSOCIATION BETWEEN QOL AND SOCIO-DEMOGRAPHIC CHARACTERISTICS

4.4.1 Introduction

In the previous section, the results were presented in three sections aligned with the objectives of the study. However, in this section, to avoid repetition, the discussion will be given in the context of the association between demographic factors and HRQoL, incorporated with the demographic results and the description of HRQoL.

4.4.2 Relationship between QoL and socio-demographic characteristics

4.4.2.1 Relationship between QoL and gender, age and marital status

A number of studies have shown that age, gender and marital status are some of the key factors among socio-demographic factors that influence QoL (Vaish, and Shekhawat, 2013; Mhaka-Mutepfa, 2018).

- **Gender**

In the current study, the results showed a balanced gender distribution with slightly more females than males by 1.6%. The results showed a statistically significant association between gender and physical functioning and general health ($p=0.039$ and $p=0.031$). Noted were significant low median scores in physical functioning and general health indicating poor HRQoL among females. Similar to our findings, poor QoL was reported in women in a study investigating HRQoL among patients with chronic headaches, and in a study designed to measure HRQoL among veterans of different genders with serious mental illness (Vaish and Shekhawat, 2013; Thompson et al., 2012). In contrast, significantly increased HRQoL scores in physical and mental health were reported in women in agriculture compared to those in a mining setting in a study in India (D'Souza, Karkad and Somayaji, 2013).

The researcher's assumption is that the poor HRQoL mean scores among women in physical functioning and general health in the current study could be due to women being given the same types and amount of work as men, coupled with other challenges that women face in general and in the work area.

- **Age**

Age is identified as one of the determinants of QoL (Vaish, and Shekhawat, 2013).

In the current study, the results indicate a significant association between age and physical functioning ($p=0.03$). Although not significantly related, low median scores of less than 50% were recorded for energy and fatigue as well as general health domains. With regards to age, 86% of the participants were between the ages of 21 and 50 years, and a minority of less than ten percent were between the ages of 51 and 70 years.

The age category 51 to 70 years had a median score of 85%. Although it is high, notably, it is below that of the other categories, depicting a low perception of QoL compared to other age groups. This finding, although not statistically significant, is congruent with Hoi,

Chuc and Lindholm (2010) where higher age was identified as one of the primary influences of deterioration of HRQoL.

- **Marital status**

Marital status is also one of the factors that impact QoL. In the current study, physical functioning, energy/fatigue and social functioning were all found to have a significant association with marital status ($p=0.02$) as well as pain and general health, which had ($p=0.03$) and ($p=0.00$) respectively.

A significant association between marital status and QoL was reported in study conducted on marital satisfaction of married psychiatric patients (Huang and Wang, 2013) and in a study answering the question: Is marital status associated with quality of life" (Han et al., 2014).

In Huang and Wang (2013), among all aspects of the QoL, the social relationship was found to be significantly associated with marital satisfaction of married patients ($p < 0.05$).

Findings in the current study might suggest that married farm workers have good HRQoL as the highest median score (87%) was among married farm workers ($p=0.02$).

On further analysis, the results show that widowed and divorced participants seemed to have low median scores compared to the other marital status categories in energy/fatigue and pain. Han et al. (2014) had congruent findings with the current study as divorced, single or separated women had worse scores than married women. The findings in this study and from literature show that there is a significant association between marital status and QoL.

4.4.2.2 Relationship between QoL and educational level

Studies have shown the association of higher levels of education with awareness of health and self, leading to positive health-seeking behavior and thus attainment of good health and wellbeing (Zhu, Geng and Yang, et al. 2013; Gil-Lacruz, Gil-Lacruz, and Gracia-Pérez, 2020; Matute, Burgos and Alfaro, 2017). In Matute, Soledad and Alfaro (2017), the likelihood of perception of poor QoL was higher in persons who achieved education up to primary school level.

Gil-Lacruz, Gil-Lacruz, and Gracia-Pérez (2020) conducted a study on HRQoL and importance of education in young people. The results showed the impact of education

on all dimensions of the WHOQOL-BREF instrument. Statistical significance was noted in Physical ($p < 0.01$), Mental ($p < 0.05$), Relations ($p < 0.05$), and Environment ($p < 0.01$).

Some studies have demonstrated the role of gender in education. The findings in Ma and McGhee (2013) demonstrates a correlation between male individuals in the highest education with better HRQoL. Correlation of gender in education was reported again in Liu et al. (2017). However, contrary to Ma and McGhee (2013), there was a greater correlation of education with better HRQoL among female farmers who had high levels of education and income.

In Zhu, Geng and Yang, et al. (2013), the study demonstrated improved HRQoL in general health, vitality and mental health after implementation of HRQoL improvement education programmes. An interesting observation in Liu et al. (2017) is that worse HRQoL scores were reported among workers having higher levels of education. This could be possibly due to low salaries paid in farm areas.

The results in our study unexpectedly indicate that there was no statistically significant association between QoL and education. This is despite the fact that the results showed that more than half (54%) had received a high school education and a small percentage (13%) had basic reading and writing.

Access to education in the farm in South Africa areas remains a challenge. The results in a study conducted on black South African farms showed that grade four seemed to be the highest achievable level of education for the majority of farm workers (Lemke and Janse van Rensburg, 2014). This could be related to the fact that in most farm schools, the highest level of education previously achieved was grade seven. Secondly, most rural schools were not accessible on foot. The introduction of the Rural Transport Strategy was one of the efforts introduced in South Africa to make school accessible (Department of Transport, 2016).

4.4.2.3 Relationship between QoL and job description, duration of employment and income

Most of the farm workers in South Africa are seasonal workers or employed as permanent workers on an off-farm basis. This kind of employment could result in poor HRQoL since employment is on a short term basis. Other factors that could impact QoL is the current economic status in South Africa as well as the impact of the COVID-19 pandemic (Visser and Ferrer, 2015; Farmer's Weekly Magazine, 2021).

In the current study, about 50% of the participants were general workers. Although not statistically significant, the results seem to suggest low QoL perceptions in general health, since low mean scores ranging between 35.8 and 40.8 were observed, except in tractor drivers, office general workers and administrative staff. This might be attributed to the fact that farming is a physical job that demands constant physical strength for a long duration of time.

Findings in Kim et al. (2012) seem to confirm the association of HRQoL with types of employment. Female employees who engaged in non-manual labour had superior QoL than those who were engaged in manual labour (OR, 1.40; $P=0.027$). In addition, lower QoL was associated with work engagement of less than 30 hours per week in comparison to working 30 hours or more in male employees in Korea.

Otherwise, in this current study, emotional well-being was found to be the only domain that showed a significant relationship with the type of job ($p=0.00$). A significant correlation of type of job and HRQoL was reported in Gil-Lacruz, Gil-Lacruz, and Gracia-Pérez (2020). However, unlike in our current study, correlation with HRQoL was in Physical, Mental, Relations and Environment domains.

The observed low median scores in the current study in emotional well-being ranging between (42 and 48) could be associated with stress related to uncertainty regarding employment since most jobs are the seasonal type, whereas office administrators were more likely to be permanently employed.

Regarding duration of employment and income, the results in the current study showed that 60% of the participants had been employed for between 1 and 5 years, and 6.56% were employed for 10 to 20 years or more. The highest paid participants, earning above R5500, accounted for just 6.01% ($n=11$); the lowest, earning between R500 and R1500 per month, accounted for 27.32% ($n=50$). It should be noted that the current study did not accommodate quantification of the hours and thus no comment in salaries paid in relation to the National Minimum Wage Act, no 9 of 2018 (Department of Labour, 2018). The challenge in the farm setting is that the salary and conditions of employment negotiation benefits between labour unions employees mainly favours permanent employees. This resulted in salary discrepancies and some workers not getting their salary increments.

Regarding correlation between duration of employment and HRQoL in the current study, there was no significant association with all the QoL domains. However, physical functioning was found to be significantly associated with income ($p=0.00$).

Notable low median scores below 45 suggestive of perceived poor QoL were noted in all age groups in the general health domain. Similar results were observed on establishing association between income and HRQoL. Low mean scores in general health domain below 40 were observed in all income categories except those that earned above R4500.

Findings in Carlier, Schuring, Lotters et al. (2013), in a study conducted to explore the influence of re-employment on QoL and self-rated health, confirmed the association between income and HRQoL. Receiving payment contributed towards improved QoL. Findings from Zhang, Ou, Gao et al. (2013) in a population study in northeast China further confirmed the association of income and HRQoL as the results showed worse HRQoL due to unemployment. The results in this section showed the association between job description, duration of employment and income.

4.4.2.4 Relationship between QoL, smoking and alcohol

Studies have shown the impact of smoking and alcohol on QoL (Mclave et al., 2009; Thompson et al., 2012). Sagtani, Thapa and Sagtani (2019) stated that in some studies, the relationship between smoking and alcohol is unclear and cannot be confirmed since this is mostly self-reported QoL.

In the current study, about 3% of farm workers admitted to being smokers, while 4% admitted to consumption of alcohol every day, and almost 50% consumed alcohol occasionally. Energy/fatigue ($p=0.00$), pain ($p=0.03$) and general health ($p=0.01$) were found to have a significant association with smoking, whereas alcohol consumption was found to have a significant relationship with role limitations due to physical health ($p=0.03$).

The study showed low median scores of 40.8 in both the smoking group and the alcohol consumption group, indicating poor HRQoL. Mclave et al. (2009) conducted a population-based study in the USA to describe the correlation between HRQoL and smoking status, and confirmed that smokers' physical health was likely to be affected by smoking.

Lemke and Janse van Rensburg (2014) conducted a study on poverty and household food security of black South African farm workers. Alcohol abuse and smoking were reported to be major problems for the farming communities. Some community members who used

alcohol stated that it helps with socialization, relaxation, as well as being used to energize and relieve them or help them forget about their problems. However, in Thekiso et al. (2013), some communities described alcohol as contributing to aggression and violence as well as financial problems.

4.4.2.5 Relationship between QoL and access to electricity, water and health services

Lemke and Janse van Rensburg (2014) found that access to running water and electricity continues to be a challenge in most rural areas. Most participants in the current study reported access to running water (91%) and electricity (83%), likely because these amenities are available to those workers living on the farms where they work.

In the current study, electricity was found to be associated with the HRQoL domains of physical functioning, role limitations due to emotional problems and physical health, as well as pain in general. Rosso-Ceron and Kafarov's findings in rural areas of Colombia (2018) confirmed the positive impact of electricity on income, education, and agricultural productivity, and therefore on QoL.

Literature has shown that access to health care services has a positive impact on individual's health and wellbeing, as well as QoL (Healthypeople, 2020). Yet, in most rural areas, services are still not within accessible distance, and access to health is mostly via mobile health care (Morris-Paxton, Reid and Ewing, 2020).

In the current study, 64% participants reported having access to health care services. The results showed a strong association between health care services and the HRQoL domain of physical functioning. In Lu, Wang and Lei (2014), lower scores in physical function were associated with more frequent use of health services. HRQoL physical functions in the current study were high, which seem to suggest better HRQoL.

4.4.2.6 Relationship between QoL and general health

Seventy five percent of responses on general health ranged between excellent and good, while 2% rated their health as poor. Noted is that 151 respondents, or 83.42%, stated that their health had improved compared to a year ago. However, 67 (36.61%) had a confirmed chronic disease, and 20 (10.9%) had been exposed to injury or traumatic experience at work and within their communities.

In the current study, only one QoL domain, role limitation due to physical health ($p=0.04$), was found to have a significant relationship with diagnosed chronic disease, whereas history of injury was found to be significantly associated with energy/fatigue and general health.

Low scores (below 40) in the HRQoL general health domain were associated with chronic diseases. This is suggestive of perceived poor QoL in participants with chronic diseases. In Cao et al. (2012), the results showed a significant association between lower HRQoL and chronic diseases. Similar results were reported in Bao et al. (2019), wherein a significant association was reported between a lower HRQoL and increasing numbers of chronic conditions ($P < 0.001$).

4.5 SUMMARY

In this chapter, a summary of data analysis, the findings of the study and the discussion was presented. In Chapter Five a brief summary of the study, as well as limitations and recommendations for practice, education and future research are presented.

CHAPTER FIVE: SUMMARY OF MAIN FINDINGS, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

5.1 INTRODUCTION

This final chapter presents the summary of the research process, the main findings of the study, and the limitations of the study.

The nursing education, clinical research and nursing practice recommendations were formulated and presented to contribute towards the body of knowledge aimed at improving HRQoL of farm workers. The conclusion aspect is also presented.

5.2 SUMMARY OF THE RESEARCH PROCESS

The overall purpose of the study was to describe the HRQoL among farm workers in the Victor Khanye Municipality in Mpumalanga. The following objectives were formulated to achieve the purpose of the study:

- To describe the socio-demographic features of the farm workers studied.
- To describe HRQoL among these farm workers.
- To inspect the relationship between the socio-demographic factors and HRQoL.

A literature review was conducted to explore the findings of other studies conducted in the same area of interest, as well as to identify the significance of the study in relation to existing literature.

A cross-sectional, descriptive, correlational design was found to be most appropriate for the current study and for investigating the relationship of HRQoL with socio-demographic features.

A non-probability convenience sampling method was used for selecting farm workers who met the criterion to participate in the study.

Data was collected using the 36-Item Short Form Health Survey (SF-36), a respondent-administered questionnaire developed by Ware and Sherbourne (1992) (see Appendix

Descriptive statistical analysis and inferential statistical analysis were conducted and the results were presented in means, variances and ranges of scores.

5.3 SUMMARY OF THE FINDINGS

5.3.1 Gender

The results showed a balanced gender distribution, with the number of females (50.8%) one percent higher than the males (49.2%). Gender was found to be significantly associated with measures of physical functioning and general health. For example, female median scores were lower than their male counterparts' median scores. This suggests poorer QoL among the female participants. In addition, women reported more body pain that interfered significantly with their work and daily activities.

5.3.2 Age

Eighty percent of the participants were between 21 and 50 years old. Fewer than ten percent were between the ages of 51 and 70. Age was found to be significantly associated with physical functioning. Low median scores of less than 50% were recorded for energy and fatigue. Low median scores for health, ranging between 40 and 45, were observed in all the age groups. Notably, there was a low median score of 45 suggesting a perceived poor QoL for those below 20 years in age.

5.3.3 Marital status

The results in the current study showed that 63% of the farm workers were married, 18% had been divorced and 3% had been widowed. Marital status was significantly associated with five of the eight domains of QoL, that is physical functioning, energy/fatigue, social functioning, pain, and general health domains.

The results also showed low mean scores among the widowed, suggestive of poor QoL in the physical functioning, energy/fatigue, social functioning, pain, and general health domains.

5.3.4 Employment duration, job description and income

The results for employment duration indicated that the majority (60%) of the farm workers surveyed had had the least number of employment years ranging between 1 and 5 years.

Emotional well-being scores showed a significant relationship with job description. Notably, there were low median scores suggestive of poor QoL among almost all categories in general health, except for the tractor drivers (n=18) as well as office and administration workers (n=5).

With regards to income, the findings in this study showed that the highest paid farm workers earned only R5500, while the lowest earned between just R500 and R1500 per month. Physical functioning was found to be significantly associated with income ($p=0.00$).

5.3.5 Smoking and alcohol

The results in this section indicated that 3% of the farm workers were smokers, while 4% consumed alcohol every day, and almost 50% consumed alcohol occasionally. Factors significantly associated with smoking were energy/fatigue, pain and general health. On other hand, alcohol was only found to be significantly associated with role limitations due to physical health.

Notably, there were low median scores of 40.8 and 45 for physical health in both smokers and non-smokers respectively. The results are suggestive of poor HRQoL in general health in both smokers and non-smokers.

5.3.6 Access to electricity, water and health services

Findings in the current study showed that the farm workers had access to running water and electricity. This was important as the literature has shown that role limitations due to physical health and emotional problems, pain, and general health were all found to be significantly associated with access to electricity.

5.3.7 General health

In the context of this study, perceptions regarding general health were asked in the context of having diagnosed chronic disease or a history of injury. The majority of the respondents rated their health as good, with only 2% rating their health as poor. Less than 40% reported having a diagnosed chronic illness, and only 11% reported exposure to injury or traumatic experiences.

Role limitations due to physical health were significantly associated with chronic illnesses. Notably, a history of injuries had a significant association with physical functioning, levels of energy and fatigue, as well as general health. Based on these results, it can be

concluded that the majority of the participants had good overall health since only 2% rated their health as poor. However, results based on the association of socio-demographic features with HRQoL domains showed poor HRQoL in the General Health domain of all the sociodemographic features. Females also had low scores, suggestive of poor HRQoL in comparison with males.

5.4 LIMITATIONS OF THE STUDY

Limitations identified in the study were as follows:

- Data was only collected from a sample of farm workers that were present during the data collection period. Therefore, the results cannot be generalised to all the farm workers.
- The study design was cross-sectional; in addition, data were collected through a self-administered questionnaire. The researcher did not have the opportunity to explore further, especially with regards to the open-ended questions related to suggestions for improvement of QoL.
- Data collection occurred within the employment (farming) area. Although measures were taken to ensure privacy, some participants may have been unwilling to give certain information due to fear of their employers.
- Some participants requested assistance with filling in the questionnaires. This may have created unintended bias when responding to certain questions.

5.5 RECOMMENDATIONS

5.5.1 Recommendations for nursing education

The researcher would like to recommend that training programmes of nurses include:

- Education of the nursing fraternity regarding the health of farm workers related to encouraging a healthy lifestyle, safer occupational practices and social responsibility.
- Implementation of regular training sessions on topics such as safety in the workplace, ergonomics, and proper use of PPE for farm workers.

- How to plan intervention programmes for farm workers based on the needs identified.

5.5.2 Recommendations for research

To the researcher's knowledge, this is one of only a few studies conducted in southern Africa assessing HRQoL among farm workers. Therefore, the following recommendations are suggested:

- A broader research study should be carried out in the same farming district to include all the farm workers in the area for better representation.
- A survey should be conducted to ascertain whether farm workers are fully aware of all occupational hazards.
- A qualitative study is needed to explore the needs of the farm workers further, with a rationale as well as suggestions as to what could be done to improve their HRQoL.

5.5.3 Recommendations for nursing practice and public health

The researcher strongly recommends the following:

- The Department of Agriculture, Department of Labour, Occupational Inspectorate division and the Department of Health should support and train farm owners on how to effectively implement policies and regulations.
- Farm owners should be encouraged to note the importance—for the sake of their workers—of following worker-oriented health and safety regulations.
- Occupational health care services should be incorporated into the mobile clinic units that are currently stationed at Victor Khanye Municipality for these to facilitate outreach and wellness programs that will focus on the health of both farm workers and farm owners.
- The relationships between mobile clinic nurses, farm owners, and workers should be strengthened to improve and maintain good employee and employer relationships, which will impact positively on the health of workers.

5.6 CONCLUSION

This study has looked at the relationship between socio-demographic features and the HRQoL of farm workers, specifically in the Victor Khanye Municipality in South Africa.

Based on the results, it can be concluded that the majority of the participants perceived their own health status to be good. However, low median scores in the General Health domain were noted for all the sociodemographic features examined in this study. This is of concern as it is suggestive of poor HRQoL in general health. Notable also are the low median scores in females, suggestive of poor HRQoL in comparison with males. Therefore, the results suggest poor HRQoL in females as well as in the General Health domain.

The study contributes to the body of knowledge regarding HRQoL among South African farm workers, as there has been a paucity of studies in this context. The scope of the current study did not include farm workers' knowledge of occupational hazards or awareness of factors affecting QoL. Further studies and educational programmes should aim to enhance health, wellbeing and QoL of farm workers to benefit this important and under-appreciated community.

6. REFERENCES

- Anjara, S.G., Nellums, L.B., Bonetto, C. & Van Bortel, T. (2017). Stress, health and quality of life of female migrant workers in Singapore: a cross-sectional study. *BMC women's health*, 17(98)
- Bao, XY., Xie, YX., Zhang, XX., Peng, X., Huang, J.X., Du, Q.F. & Wang, P.X. (2019) The association between multimorbidity and health-related quality of life: a cross-sectional survey among community middle-aged and elderly residents in southern China. *Health Qual Life Outcomes* **17**, 107. Available at: <https://doi.org/10.1186/s12955-019-1175-0> Accessed: 20 March 2021
- Benos, L., Tsaopoulos, D. & Bochtis, D. (2020). A Review on Ergonomics in Agriculture. Part II: Mechanized Operations. *Applied Sciences*. 10. 10.3390/app10103484.
- Bjornsdottir, S.V., Triebel, J., Arnljotsdottir, M., Tomasson, G. & Valdimarsdottir, U.A. (2018). Long-lasting improvements in health-related quality of life among women with chronic pain, following multidisciplinary rehabilitation. *Journal of Disability and Rehabilitation*, 40(15): 1764-1772
- Brink, H., van de Walt, C. & van Rensburg, G. (2018). *Fundamentals of research methodology for healthcare professionals*, 4th edition. Cape Town: Juta
- Cao, Y., Tang, X., Yang, Li, N., Wu, Y.Q., Fan, W.Y., Lui, J.J., Yu, L.P., Xu, H.T., Lui, W.J., Wen, S.S. & Hu, Y.H. (2012). Influence of chronic diseases on health-related quality of life in middle aged and elderly people from rural communities: Application of EQ-5D scale on a health survey in Fangshan, *Beijing. Europe PMC*, 33(1): 17-22
- Carlier, B.E., Schuring, M., Lötters, F.J. Bekker. B., Borgers, N. & Burdorf, A. (2013). The influence of re-employment on quality of life and self-rated health, a longitudinal study among unemployed persons in the Netherlands. *BMC Public Health*, 13, 503
- Centers for Disease Control and Prevention. (2011). Agricultural safety. Available at: <http://www.cdc.gov/niosh/topics/aginjury> Accessed: 23 August 2019
- Check, J. & SchuttR.K. (2012). *Research methods in education*. Thousand oaks, CA: SAGE

Daghagh Yazd, S., Wheeler, S. A., & Zuo, A. (2019). Key Risk Factors Affecting Farmers' Mental Health: A Systematic Review. *International journal of environmental research and public health*, 16(23), 4849. Available at: <https://doi.org/10.3390/ijerph16234849> Accessed: 20 April 2021.

Department of Justice. (1993). The South African Constitution, Section 27 of the Bill of Rights, Republic of South Africa. Available at: www.justice.gov.za Accessed 15 February 2020

Department of Labour. (2018). National Minimum Wage Act, Republic of South Africa. Available at: www.labour.gov.za Accessed: 15 February 2020.

Department of Labour. (2018). Basic working conditions Act No. 75 of 1997. Available at: www.labour.gov.za Accessed: 16 February.

Department of Transport, Pretoria. (2016). Rural Transport Strategy for South Africa. Available at: www.transport.gov.za Accessed: 15 February 2020

Devereux, S., Hall, R. & Solomon, C. (2019). The farm workers who produce our food are the most vulnerable to hunger. Mail & Guardian.

De Vos, A. Straydom, H. Fouche, C. & Delport, C. (2011) Research at grass roots: for social sciences and human services professionals. Van Schaik publishers, Pretoria

Dias, J.M. (2014). Physical functioning (PF). In Michalos, A.C. (eds) *Encyclopaedia of Quality of Life and Well-Being Research*. Springer, Dordrecht. Available at: https://doi.org/10.1007/978-94-007-0753-5_2162 Accessed: 14 April 2021.

Donham, K.J. & Thelin, A. (2016). Agricultural Medicine: Rural Occupational and Environmental Health, Safety and Prevention, 2nd Ed. USA: John & Sons Inc.

D'Souza, M. S., Karkada, S. N., & Somayaji, G. (2013). Factors associated with health-related quality of life among Indian women in mining and agriculture. *Health qual life outcomes*, 11(9).

Erasmus, D. & Coleman, A. (2020). Agriculture sheds 66000 jobs in the second quarter. *Retail brief Africa*. Available at: www.famersweekly.co.za Accessed: 17 April 2021.

Garnaes, K.K., Mørkved, S., Salvesen, Ø., Tønne, T., Furan, L., Grønhaug, G., Vasseljen, O. & Johannessen, H.H. (2021). What factors are associated with health-related quality of life among patients with chronic musculoskeletal pain? A cross-sectional study in primary health care. *BMC Musculoskeletal Disorder*, **22**, 102. Available at: <https://doi.org/10.1186/s12891-020-03914-x> Accessed: 17 April 2021.

Gil-Lacruz, M., Gil-Lacruz, A. I. & Gracia-Perez, M.L. (2020). Health related quality of life in young people: the importance of education. *Health life Outcomes*, 18:187.

Gonzales AM, Ambong RMA, Bais LS, Macaspac LP. (2020). Health-related quality of life and work ability of smallholder rice farm workers in San Jose, Occidental Mindoro, Philippines. *Makara J Health Res*, 24.

Grove, S, Gray, N. & Burns, J. (2015). *Understanding Nursing Research*, 6th edition. Saunders: Elsevier.

Hajian-Tilaki, K., Heidari, B., & Hajian-Tilaki, A. (2017). Are gender differences in health-related quality of life attributable to sociodemographic characteristics and chronic disease conditions in elderly people? *International Journal of Preventive Medicine*, 8, 95. https://doi.org/10.4103/ijpvm.IJPVM_197_16

Han, K.T., Park, E.C., Kim, J.H., Kim, S.J. & Park, S. (2014). Is marital status associated with quality of life? *Health Quality Life Outcomes*, 12(1): 109. Available at: <https://doi.org/10.1186/s12955-014-0109-0> Accessed 13 January 2020.

Heale, R. & Twycross, A. (2015). Evidence based nursing. Validity and reliability in quantitative studies, 18(3). Sudbury. Ontario, Canada.

Healthy People. (2020). Healthy People 2020 Framework. The Vision, Mission, and Goals of Healthy People 2020. Overarching Goals. Available at <http://healthypeople.gov/2020/Consortium/HP2020Framework.pdf> [PDF - 254KB]

Herrera, B., Gerster-Bentaya, M. & Knierim, A. (2018). Farm-level factors influencing farmers satisfaction with their work. International Association of Agricultural Economics, *Econ Papers*. Available at: <https://econpapers.repec.org/paper/agsiaae18/277024.htm> Accessed: 17 April 2021.

Hoi, L.V., Chuc, N.T. & Lindholm, L. (2010). Health related quality of life, and it's determinants, among older people in rural Vietnam. *BMC Public Health*, 10: 549. Available at: <https://doi.org/10.1186/1471-2458-10-549> Accessed: 30 March 2020.

Huang, Y.M. & Wang, C.S. (2013). The Relationship between Quality of Life and Marital Status in Patients with Schizophrenia Taiwanese. *Journal of Psychiatry (Taipei)*, 27(2): 121.

Human Rights Watch (HRW). (2011). Ripe with abuse: Human rights conditions in South Africa's fruit and wine industries. Available at: <http://www.hrw.org/sites/default/files/reports/safarm0811webwcover.pdf> Accessed: 22 August 2020.

Jalali-Farahani, S., Amiri, P., Bakht, S., Shayeghian, Z., Cheraghi, L., & Azizi, F. (2017). Socio-Demographic Determinants of Health-Related Quality of Life in Tehran Lipid and Glucose Study (TLGS). *International journal of endocrinology and metabolism*, 15(4). Available at: <https://doi.org/10.5812/ijem.14548> Accessed: 17 April 2021.

Jun, H. J., Kim, K. J., Chun, I. A., & Moon, O. K. (2015). The relationship between stroke patients' socio-economic conditions and their quality of life: the 2010 Korean community health survey. *Journal of physical therapy science*, 27(3), 781–784. <https://doi.org/10.1589/jpts.27.781>

Karimi, M. & Brazier, J. (2016). Health Related Quality of Life and Quality of Life: What is the difference? *Pharmacoeconomics*, 34: 645-649.

Kearney, G., Allen, D. L., Balanay, J. & Barry, P. (2016). A Descriptive Study of Body Pain and Work-related Musculoskeletal Disorders among Latino Farmworkers Working on Sweet Potato Farms in Eastern NC. *Journal of Agromedicine*. 21. Available at: 10.1080/1059924X.2016.1178613 Accessed: 16 April 2021.

Khachadourian, V. & Arah, O.A. (2020). Place of residence, working conditions and the burden of back pain among hired farmworkers in the United States. *J Agromedicine*, 25(3):302-311.

Kim, M. 2014, "Farming related Symptoms among Korean Farmers and their Quality of Life", International Information Institute (Tokyo). Information, vol. 17, no. 12, pp. 6279-6284.

Kim, B., Kim, W., Choi, H., Won, C. & Kim. Y. (2012). Health related quality of life and related factors in fulltime and part-time workers. *Korean Journal of Family Medicine*, 33(4): 197-204.

Kleinbooi, K. (2013). Farmworkers living and working conditions. Workshop Report, 19 September 2013, School of Government, UWC. PLAAS, UWC: Bellville.

Komarek, A.M., De Pinto, A. & Smith, V.H. (2020). A review of types of risks in agriculture: What we know and what we need to know.

Agricultural Systems, 178. Available at: <https://doi.org/10.1016/j.agsy.2019.102738>
Accessed: 17 April 2021

Kwak, Y., & Kim, Y. (2017). Health-related Quality of Life and Mental Health of Elderly by Occupational Status. *Iranian journal of public health*, 46(8), 1028–1037.

Lee, J.J. (2004). A study on farmer's syndrome and its risk factors of vinyl house workers and evaluation of risk factors of vinyl house works. *Korean J Rural Med.* 2004, 29(1):101–119

Lemke, s. & Janse van Rensburg, N.S. (2014). Remaining at the margins: case study of farm works in the North West Province, South Africa. University of Pretoria Space Institutional Repository. Available at: <http://handle.net/2263/47979> Accessed: 25 February 2020

Lin, X. J., Lin, I. M. & Fan, S. Y. (2012). Methodological issues in measuring health related quality of life. *Tzu Chi Medical Journal*, 25(1) 8-12

Liu, X., Gu, S., Duan, S., Wu, Y., Ye, C., Wang, J. & Dong, H. (2017). Comprehensive study on Health related quality of life of farmer and workers. *Value Health Regional Issues*, 12(3): 123-129

Lu, L., Zou, G., Zeng, Z., Han, L., Guo, Y. & Ling, L. (2014) (b). Health related quality of life and its correlation among Chinese migrants in small and medium sized enterprises in two cities of Guangdong. *PLoS ONE*, 9(1): 83315

Ma, X. & McGee, S. M. (2013). A cross-sectional study on socioeconomic status and health related quality of life among elderly Chinese. *BMJ open*, 3(2)

Manuti, B., Rizza, P., Pileggi, C., Bianco, A., & Pavia, M. (2013). Assessment of perceived health status among primary care patients in Southern Italy: findings from a cross-sectional survey. *Health and quality of life outcomes*, 11, 93. Available at: <https://doi.org/10.1186/1477-7525-11-937> Accessed: 17 April 2021

Marcel, P. (2014). Definition of quality of life: What has happened and how to move on. Topics on spinal cord injury rehabilitation. *Centres of Excellence in Rehabilitation Medicine*, 20(3): 167-180

Matute, I., Burgos, S. & Alfaro, T. (2017). Socioeconomic status and perceived health related quality of life in Chile. Institute repository UDD. Available at: <http://hdl.handle.net/11447/1914> Accessed: 18 April 2021

Mc Clave, A.K., Dube, S.R, Strine T.W, Kroenke, K., Caraballo, R.S. & Mokda, A.H. 2009. Associations between health related quality of life and smoking status among a large sample of U.S adults. *Prev Med*, 48(2): 173-179. Available at: <https://doi:10.1016/j.ypmed.2008.11.0122> Accessed: 3 March 2020

McCullagh, M.C., Sanon, M.A. & Foley, J.G. (2015). Cultural health practices of migrant seasonal farm works. *Journal of Cultural Diversity*, 22(2): 64

Merriam-Webster's Collegiate dictionary. (2020). Available at: <https://www.merriam-webster.com/dictionarydictionary/cite>. Accessed: 19 February 2020.

Mhaka-Mutepfa M. (2018). Sociodemographic Factors and Health-Related Characteristics That Influence the Quality of Life of Grandparent Caregivers in Zimbabwe. *Gerontol Geriatr*. Available at: <https://doi10.1177/2333721418756995> Accessed: 21 April 2020.

Moda, H. M., Nwadike, C. Danjin, M., Fatoye, F., Mbada, C. E., Smail, L. & Doka, P.J. S. (2021). Quality of work life (QoWL) and perceived workplace commitment among seasonal farmers in Nigeria. *Agriculture*, 11(2):103. Available at: <https://doi.org/10.3390/agriculture11020103>, Accessed: 17April 2021.

Morris-Paxton AA, Reid S, Ewing R-MG. Primary healthcare services in the rural Eastern Cape, South Africa: Evaluating a service-support project. *Afr J Prm Health Care Fam Med*. 2020;12(1). Available at: <https://doi.org/10.4102/phcfm.v12i1.2207>

Nguyen, T.H.Y., Bertin, M., Bodin, J., Fouquet, N., Bonvallot, N. & Roquelaure, Y. (2018). Multiple Exposures and Exposures to Occupational Hazards Among Agricultural Workers: A Systematic Review of Observational Studies. *Safety and Health at Work*, 9(3), 239-248. Available at: <https://doi.org/10.1016/j.shaw.2018.04.002> Accessed: 17 April 2021.

P K Safety. (2018). Health Hazards in Agriculture and Methods of Protection. Available at: <https://pksafety.com/blog/health-hazards-in-agriculture-and-method> Accessed: 21 April 2021.

Polit, D.F. & Beck, C.T. (2018). *Essentials of nursing research: appraising evidence for nursing practice*, 9th edition. Philadelphia: Lippincott Williams and Wilkins.

Raosoft.Com Computer Software. (2005). Available at: <http://www.raosoft.com/samplesize> Accessed: 15 January 2018.

Rodriguez, R.B., Pita, F.S. & Pertega, D.S. (2015). Impact of musculoskeletal pain on health-related quality of life among finishing sector workers. *Clin Rheumatol*, 34, 1131-1139. Available at: <https://doi.org/10.1007/s10067-014-2550-1> Accessed: 15 April 2021.

Rosso, C.A & Kafarov, V. (2018). Assessment of Access to Electricity and the Health, Education and Agricultural Productivity Effects in Rural Areas of Colombia. *Chemical Engineering Transactions*. 70. 1219. 10.3303/CET1870204.

Rosow, I. (2010). Challenges in an affluent society: trends in alcohol consumption, alcohol related harms and alcohol policy: Norway 1919-2010. *Sage Journals*, 27(5): 449-464.

Sagtani R.A., Thapa S. & Sagtani, A. (2019) Smoking and quality of life - Is there really an association? Evidence from a Nepalese sample. *PLoS ONE* 14(9): e0221799. Available at: <https://doi.org/10.1371/journal.pone.0221799>.

Setia, M.S. (2016). Methodology series module 3: Cross-sectional studies. *Journal of dermatology*, 61(3)261-264.

Simbi, T. & Aliber, M. (2000). Agricultural employment crisis in South Africa. Trade and Industrial Policy Strategies. Available at: <http://www.tips.org.za/files/415.pdf> Accessed: 17 April 2021.

Social functioning. (n.d.) *Medical Dictionary*. (2009). Available at: <https://medical-dictionary.thefreedictionary.com/social+functioning> Accessed: 24 April 2021.

Southern African Legal Information Institute (SAFLII). (2016). Sectoral Determination 13: Farm Worker Sector, South Africa. South Africa: Consolidated Regulations. Available at: <http://www.saflii.org> Accessed: 25 April 2021.

South African Department of Labour. (2004). Basic conditions of employment. Sectoral determination 8: farm workers. Available at: <http://www.labour.gov.za/Media Statement Archive/2006/farm-workers-sectoral-determination.html> Accessed: 26 January 2020.

Stats SA. (2011). Census of commercial agriculture, 2007: financial and production statistics. Stats SA and Department of Agriculture: Pretoria. Available at: <http://www.statssa.gov.za> Accessed: 18 September 2018.

Su, S. & Wang, D. (2019). Health related quality of life and related factors among elderly persons under different aged care models in Guangzhou, China: A cross sectional study. *Qual Life Res*, 28:1293-1303.

Thekiso, M.S. Botha, K.F., Wassing. M.P. & Kruger A. (2013). Psychological-well-being and Health and Quality of Life of a group of Farm Workers in South Africa: The FLAGH. *Journal of Psychology*, 4.

The South African Human Rights Commission. (2011). Farm workers and human rights. Available at: <https://www.sahrc.org.za/home/21/files/FINAL%20Farm%20Workers%20and%20Human%20Rights%20Educational%20Booklet.pdf> Accessed: 11 April 2020.

Thompson, W.W., Zack, M.M., Krahn, G.L., Andresen, E.M. & Barile, J.P. (2012). Health related quality of life among older adults without functional limitations. *American Journal of Public Health*, 102(3): 496-502.

Torrance, G.W. (1987). Utility approaches to measuring health related quality of life. *Journal of Chronic Diseases*, 40(6): 593-603.

Vaish, S. & Shekhawat, B. S. (2013). Impact of socio-demographic factors on quality of life of primary chronic daily headache patients. *Indian Journal of Pain*, 27: 92

Visser, M. & Ferre, S. (2015). Farm workers' living and working conditions in South Africa: key trends, emergent issues and underlying structural problems. Report for International Labour Organisation. Pretoria, 1-230.

Ware, J.E. & Sherbourne, C.D. (1992) The MOS 36-item short form survey (SF-36), I: conceptual framework and items selection. *Medical Care*, 30(6): 473-483.

Westaway, M.S. & Mosaka, P.N. (2011). Investigating the health-related quality of life (HRQOL) of surface and underground mine workers at a South African platinum mine. *SAMJ, South African medical Journal*, 101(6)

Windon, S. (2014). Assessing Ohio farmers: determining factors that affect their quality of life. The Ohio State University and OhioLINK. Available at: <https://etd.ohiolink.edu/> Accessed: 15 April 2021.

World Health Organisation. (1948). *Constitution of The World Health Organisation*. Available at: <https://www.who.int/about/who-we-are/constitutionn>, Accessed: 17 January 2020.

World Health Organization. (1997). WHOQOL, Measuring quality of life. WHOQOL Group Programme on Mental Health Division of Mental Health and Prevention of Substance Abuse. Geneva: WHO (MNH/PSF/97.4). Available at: https://www.who.int/mental_health/media/68.pdf Accessed: 17 April 2021.

Xiao, H., McCurdy, S. A., Stoecklin-Marois, M. T., Li, C. S., & Schenker, M. B. (2013). Agricultural work and chronic musculoskeletal pain among Latino farm workers: the MICASA study. *American Journal of Industrial Medicine*, 56(2), 216–225. Available at: <https://doi.org/10.1002/ajim.22118> Accessed: 15 April 2021.

Zerbo, A., Castro Delgado, R. & González, P. (2020). Vulnerability and everyday health risks of urban informal settlements in Sub-Saharan Africa. *Global Health Journal*, 4(2): 46-50. Available at: <https://doi.org/10.1016/j.glohj.2020.04.003> Accessed: 17 April 2021.

Zhang, Y. & Diao, X. (2020). The changing role of agriculture with economic structural change – The case of China. *China Economic Review*, 62, 1043-951. Available at: <https://doi.org/10.1016/j.chieco.2020.101504>, Accessed: 11 April 2020.

Zhu, C., Geng, Q., Yang, H. Fu, X. & Jiang, W. (2013). Quality of life in China rural-to-urban female migrant factory workers: a before-and-after study. *Health Qual Life Outcomes* **11**, 123. Available at: <https://doi.org/10.1186/1477-7525-11-123> Accessed: 15 April 2021.

APPENDIX A: ETHICS APPROVAL



R14/49 Ms Zanele Hlophe

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M190351

NAME: Ms Zanele Hlophe
(Principal Investigator)
DEPARTMENT: Nursing Occupational Health
Victor Khanye District, Mpumalanga

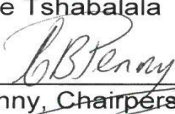
PROJECT TITLE: Health related quality of life among farm workers in
Victor Khanye District, Mpumalanga

DATE CONSIDERED: Ad hoc

DECISION: Approved unconditionally

CONDITIONS:

SUPERVISOR: Dr Amme Tshabalala

APPROVED BY: 
Dr C Penny, Chairperson, HREC (Medical)

DATE OF APPROVAL: 22/05/2019

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 301, Third floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report.** The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed March and will therefore be due in the month of March each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature _____

Date _____

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX C: INSTITUTION APPROVAL (1)

Crystal Fresh Farms

Portion 9

Modderfontein Farms

Delmas -

2210

To Whom It May Concern.

RE: Consent For Study Thesis

I Claudette Borrageiro, Director of Crystal Fresh Farms is giving permission to Zanele Precious Hlophe to conduct her study at my farm.

If there are any queries please feel free to contact me on 0826651616.

Kind Regards

Claudette Borrageiro

Crystal Fresh Farms

A handwritten signature in black ink, appearing to read 'Borrageiro', with a stylized initial 'C'.

APPENDIX C: INSTITUTION APPROVAL (2)

P. O. Box 145

Sundra

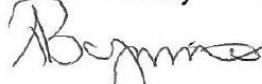
2200

Formal letter giving permission to conduct a research study

To whom it may concern

I general manager of Louwman farms, give Zanele Hlophe permission to conduct her research study. I have read and understood all the information that was given to me on what the study is about.

Yours sincerely


0824153236

LOUMAN FARMS
VAT No: 4450137536
REG No: CK/91/20/202/23
PO Box 11049, Rynfield, Benoni, 1514
082 415 2228 013 667 9110

APPENDIX C: INSTITUTION APPROVAL (3)

3/7/2019

Gmail - Fwd: Request for permission to do a study.



Wasi Syed <computer4allselcourt@gmail.com>

Fwd: Request for permission to do a study.

1 message

Zanele Hlophe <hlophenjp@gmail.com>
To: Wasi Syed <computer4allselcourt@gmail.com>

Wed, Mar 6, 2019 at 7:18 PM

----- Forwarded message -----

From: **Rina Senekal - MHS Farming** <sales.gro@africafarming.co.za>
Date: Fri, Aug 3, 2018 at 8:59 AM
Subject: RE: Request for permission to do a study.
To: Zanele Hlophe <hlophenjp@gmail.com>

Morning Zanele

Thank you for your letter.

I did follow it up with the manager Wayne Swarts and he also give his permission for you to come and do your resurged at the Greenhouse department only

You must just arrange your appointments on the days that we don't harvest and he also asked that we don't take to many people out of the job at once

Looking forward to have you

Baie dankie / Thank you

Rina Senekal

Gro Africa Farming (Pty) Ltd

Delmas

Tel: 076 513 2566

Fax: 0866677959

<https://mail.google.com/mail/u/0?ik=6830cdd63e&view=pt&search=all&permthid=thread-f%3A1627277441439050855&simpl=msg-f%3A1627277...> 1/1

APPENDIX C: INSTITUTION APPROVAL (4)

RIVERSIDE PARK

Riverside Park Trading 277 (PTY) Ltd
Riverside Farm, Modderfontein road, Delmas
REG. NO. 2008/002878/07 BTW / VAT NO.4840245767

TEL MANAGER 0826532519

TO WHOM IT MAY CONCERN

We hereby give permission that our workers can take part in the research study
one by Zanele Hlophe from Wits.

OUR PHYSICAL AND POSTAL ADDRESS IS AS FOLLOW.

WORK ADDRESS: 20 Rietvallei 195 IR, Modderfontein Delmas
POSTAL ADDRESS: P. O. Box 1609, Delmas, 2210

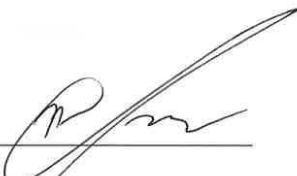
THANK YOU

DATE: 22-Nov-18



APPENDIX C: INSTITUTION APPROVAL (5)

ROSSGRO


rzanne

ROSSGRO

APPENDIX C: INSTITUTION APPROVAL (6)



C.L.E.C. ROSSOUW
POSBUS 828
DELMAS 2210
PLAAS GELUK DELMAS
TEL/FAK: 013 -6659200/9217
E MAIL : jorina@rossgro.com

ROSSOUW BOERDERY DELMAS

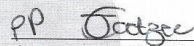
05 April 2019

TO WHOM IT MAY CONCERN

I Christiaan Le Cordeur Rossouw with ID 380921 5033 08 6 hereby give MisS
ZP Hlophe with student number 1442807 permission to do studies on our farm.

Thank you

Regards


CLC ROSSOUW

Sonder benadeling van regte

APPENDIX D: PERMISSION FOR DATA COLLECTION INSTRUMENT



HEALTH CARE

RAND > RAND Health Care > Surveys > RAND Medical Outcomes Study > 36-Item Short Form Survey (SF-36) >

Terms and Conditions for Using the 36-Item Short Form Survey (SF-36)

RAND hereby grants permission to use RAND 36-Item Short Form Health Survey in accordance with the following conditions, which shall be assumed by all to have been agreed to as a consequence of accepting and using this document:

1. Changes to the Health Survey may be made without the written permission of RAND. However, all such changes shall be clearly identified as having been made by the recipient.
2. The user of this Health Survey accepts full responsibility, and agrees to indemnify and hold RAND harmless, for the accuracy of any translations of the Health Survey into another language and for any errors, omissions, misinterpretations, or consequences thereof.
3. The user of this Health Survey accepts full responsibility, and agrees to indemnify and hold RAND harmless, for any consequences resulting from the use of the Health Survey.
4. The user of the 36-Item Health Survey will provide a credit line when printing and distributing this document acknowledging that it was developed at RAND as part of the Medical Outcomes Study.
5. No further written permission is needed for use of this Health Survey.

ABOUT

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.



RAND® is a registered trademark. Copyright © 1994-2019 RAND Corporation.

APPENDIX E: DATA COLLECTION INSTRUMENT

Demographic information

Questionnaire Number -----

Section A: Patient demographic information

1. Age (Please tick appropriate box)

16-20	1
21-35	2
36-50	3
51-70	4

2. Gender of participant (Please tick appropriate box)

Male	1
Female	2

3. What is your citizenship? (Please specify)

4. Marital status (Please tick appropriate box)

Married	1
Single	2
Divorced	3
Widowed	4
Cohabitation	5

5. Education level (Please tick appropriate box)

Basic (reading and writing)	1
Primary school	2
High school	3
Vocational training	4
Undergraduate	5
Graduate degree	6

6. Type of Job/Department (Please tick appropriate box)

Tractor driver	1
Field worker	2

Office and administration	3
Packaging	4
Chemicals	5
General worker	6

7. Duration of employment in the sector? (Please tick appropriate box)

1-5 years	1
5-10 years	2
10-15 years	3
15-20years	4
20 years and more	5

8. What is your estimated personal monthly income pre- tax deduction? (Please tick appropriate box)

R500-R1500	1
R1500-R2500	2
R2500-R3500	3
R3500-R4500	4
R4500-5500	5
Above	6

9. Do you smoke? (Please tick appropriate box)

Yes	1
No	2

10. How often do you consume alcohol? (Please tick the appropriate box)

Everyday	1
Occasionally	2
Never	3

11. How would you rate your overall health? (Please tick appropriate box)

Good	1
Satisfactory	2
Fair	3

Poor	4
------	---

12. Do you have any diagnosed chronic illness? (Please tick appropriate box)

Yes	1
No	2

13. Do you have clean running water where you are staying? (Please tick appropriate box)

Yes	1
No	2

14. Do you have access to electricity? Please tick the appropriate box

Yes	1
No	2

15. Do you have accessible health care services? Please tick appropriate box

Yes	1
No	2

16. Have you ever had an injury or traumatic experience that affected your overall health related quality of life? Please tick appropriate box

Yes	1
No	2

17. If yes, please specify

.....

.....

.....

18. Is there anything that you would like to add that may influence or improve your health-related quality of life?

.....

.....

.....

PART B: RAND 36 ITEM HEALTH SURVEY SHORT FORM SURVEY (SF-36)

Questionnaire Number -----

PLEASE ANSWER THE 36 QUESTIONS OF THE HEALTH SURVEY

(Please tick appropriate box)

1. In general would you say your health is:	Excellent 1	Very good 2	Good 3	Fair 4	Poor 5
2. Compared to a year ago how would you rate your health	So much better than a year ago 1	Somewhat better than a year ago 2	About the same 3	Somewhat worse than a year ago 4	So much worse than a year ago 5

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so how much?

(Please tick appropriate box)

	Yes limited a lot 1	Yes limited a little 2	No not limited at all 3
3. Moderate activities such as moving a table pushing a vacuum cleaner and mopping the floor			
4. Vigorous activities, such as running lifting heavy objects and continues digging			
5. Lifting or carrying groceries			
6. Climbing several flight of stairs			
7. Climbing one flight of stairs			
8. Bending ,kneeling or stooping			
9. Walking more than one kilometre			
10. Walking several blocks			

11.Walking one block			
12.Bathing or dressing			

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(Please tick appropriate block)

	Yes 1	No 2
13. Cut down the amount of time you spent on your work or other activities		
14. Accomplishes less than you would like		
15. Were limited in the kind of work or other activities		
16. Had difficulty performing the work or other activities (for an example it took extra effort)		

During the last 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)

(Please tick appropriate box)

	Yes 1	No 2
17. Cut down on the amount of time you spent on work or other activities		
18. Accomplished less than you would like		
19.Didn't do work or other activities as carefully as usual		

20. During the past few weeks, to what extent has your physical health or emotional: problems interfere with your normal social activities with family, friends, neighbours or groups

(Please tick appropriate box)

	Not at all 1	Slightly 2	Moderately 3	Severe 4	Very severe 5

21. How much body pain have you had during the past 4 weeks

(Please tick appropriate box)

	None 1	Very mild 2	Mild 3	Moderate 4	Severe 5	Very severe 6

--	--	--	--	--	--	--

22. During the last 4 weeks, how much did pain interfere with your normal work (including both work outside the home and house work)

(Please tick appropriate box)

	Not at all 1	Slightly 2	Moderately 3	Quite a bit 4	Extremely 5

These questions are about how you feel and how things have been with you during the last 4 week.

For each question please give the answer that comes closest to the way you have been feeling.

(Please tick appropriate block)

	All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
23. Did you feel full of energy?						
24. Have you been a very nervous person?						
25. Have you felt so down in the dumps that nothing could cheer you up?						
26. Have you felt calm and peaceful?						
27. Did you have a lot of energy?						
28. Have you felt downhearted and sad?						
28. Did you feel worn out?						
29. Have you been a happy person?						
29. Do you feel tired?						

32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives)?

(Please tick appropriate box)

	All of the time 1	Most of the time 2	Some of the time 3	A little bit of the time 4	None of the time 5

How true is each of the following statements for you?
(Please tick appropriate box)

	Definitely true 1	Mostly true 2	Don't know 3	Mostly false 4	Definitely false 5
33. I seem to get sick a little easier than other people					
34. I am as healthy as anybody I know					
35. I expect my health to get worse					
36. My health is excellent					

APPENDIX F: INFORMATION LETTER

HEALTH RELATED QUALITY OF LIFE AMONG FARM WORKERS IN VICTOR KHANYE DISTRICT, SOUTH AFRICA

Title of the study:

Health related quality of life among farm workers in Mpumalanga.

Introduction

My name Zanele Hlophe, I am a second year master's student specializing in Occupational Health Nursing from the University of the Witwatersrand. I would like to request your participation in my study. The study is conducted as part of a master's degree programme.

What is the purpose of the research study and why have you been chosen?

The purpose of the study is to determine health related quality of life among farm workers in Mpumalanga.

What will happen to me if you take part in this study and what will I be asked?

Once you agree to take part in the study. You will be asked to sign an informed consent letter. You will be asked questions on health related quality of life of farm workers using a questionnaire. After completing it you will be asked to anonymously submit.

What are the risks of taking part in the study?

There are no risks involved in participating in this study.

What are the benefits of participating in this study?

The study will raise awareness regarding health related quality of life among farm workers. Furthermore, the outcome may serve as basic data for farm workers health management with the mobile clinic unit through evaluation of health related quality of life among farm workers in Mpumalanga.

Is there reimbursement for taking part in the study?

You will not be paid to take part and for taking part in the study.

Why should take part?

Your participation in the study is entirely up to you. Should you decide to take part in the study, you will be given a study participation form to sign. Should you wish to

discontinue participation you may freely at any point of the study and without giving a reason. Your withdrawal or not participating will not alter any work relationship with the management and colleagues.

Will confidentiality be maintained?

All information obtained in the study will be kept confidential. Your name will not appear on any of the forms that I may be using for the study. A code will be allocated for each form that will be used to respond health related quality of life among farm workers. No one else except the supervisor will access this information. During data collection the information will be kept in sealed boxes. At the end of data collection session the box will be kept safe in a locked cabinet in the supervisor's office

At the end of the study the results will be published in a scientific journal. Information that identifies you as a participant in the study will not be in the journal. Data will be kept for two years if published and six years if not published, after this period it will be destroyed. Permission will be requested from the HREC (Medical) in the event of data sharing with other researchers for academic purposes.

Who is funding the research study?

This is a self-funded study as it is part of a fulfilment of my Master's degree. Therefore the results will not be used for commercial gain.

Who can I call for enquires?

Should you have a concern about the study you can contact me on the following No

Cell: 0722522154 or email hlophenjp@gmail.com

Supervisor: Dr A.M Tshabalala Tell: 0114884269 or email Amme.Tshabalala@wits.ac.za

The study has been approved by the Human Research Ethics Committee (medical) of the University of the Witwatersrand, Johannesburg "committee". The principal function of this committee is to safeguard the rights and dignity of all human subjects who agree to take part in the research project.

If you have any concerns over the way the study is being conducted, the Chairperson of the committee is: Professor Clement Penny Tell: 0117172301 or email Clement.Penny@wits.ac.za

Secretary: Zanele Ndlovu Tell: 117172700/1234 or email Zanele.Ndlovu@wits.ac.za

And Rhulani.Munkansi@wits.ac.za

Thank you for taking time to go through this information sheet.

Zanele Hlophe

Supervisor: Dr A.M Tshabalala

APPENDIX G: CONSENT FORM FOR PARTICIPANTS

HEALTH RELATED QUALITY OF LIFE AMONG FARM WORKERS VICTOR KHANYE DISTRICT, SOUTH AFRICA

I confirm that I have been informed by the researcher about the nature of the study. I have read/it was read to me and I understood the information sheet and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care and legal rights being affected.

I understand that section of my work history may be looked at by the researcher and their supervisor. I am aware that questions on health related quality of life will be asked. The findings will be anonymously processed into a computerised system. Data will be reserved for two years if published or six years if not published, after this period the data will be destroyed.

Should you wish to contact me at any stage regarding consent you can contact me at Cell: 0722522154 email: hlophenjp@gmail.com

I agree to take part in the above mentioned study. I hereby give consent for my work history to be used as per above mentioned conditions and for the purpose of research and also to provide information required to determine health related quality of life among farm workers.

-----	-----	-----
Name and Surname	Signature/ Mark or Thumb	Date

Translator/Person explaining Consent

-----	-----	-----
Name and Surname	Signature	Date