

**PSYCHOLOGICAL WELL-BEING, HEALTH AND THE QUALITY OF LIFE
OF FARM WORKERS IN SOUTH AFRICA**

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**Thesis submitted for the degree Philosophiae Doctor
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Potchefstroom Campus**

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“... gloom and despondency have never defeated adversity. Trying times need courage and resilience. Our strength as a people is not tested during the best of times. As we said before, we should never become despondent because the weather is bad nor should we turn triumphalist because the sun shines.”

President Thabo M. Mbeki, 2008

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Summary

Psychological Well-being, Health and the Quality of Life of Farm Workers in South Africa

Keywords: Psychological well-being; physical health; quality of life; needs; farm workers; rural.

While it is a presumably accepted fact that rural and farming communities represent an important sector in the life of every nation due to their contribution to food security and nutrition, there is limited available empirical knowledge on their lives. This study intended to explore the health profile of the rural and farming communities in South Africa, and to explore the relationships between the physical and psychological health, the needs and quality of life facets of a specific group of farm workers and to provide guidelines for intervention in the said areas. This objective was achieved through a literature review, empirical study and suggested guidelines for biopsychosocial health promotion. The end product of this study is presented in three separate, but related manuscripts or articles.

A holistic conceptual framework was adopted in the literature review and is described in manuscript 1. This overview focused on life on farms and in rural areas through both the social and natural sciences lenses in a parallel and integrative manner. The needs domain was conceptualised in its broad and narrow uses, and health was broadly defined in terms of the World Health Organization's (WHO, 1999:6) conceptualisation. The term "rural" was narrowly described for the purposes of the current study, *i.e.* according to the typical descriptive aspects of population dynamics, geographic, economic and other social considerations. Although studies from elsewhere in the world were used to provide a clearer picture of rural contexts, the focus was on available local South African literature. The literature review suggested a situation of serious disparities in the lives of the rural communities in comparison to their counterparts living in urbanised settings in South Africa. They suffer poor socioeconomic status, poor access to services, physical infrastructure problems, food insecurity and

nutritional problems, physical and mental health problems, and violence and violations of their human rights.

Manuscript 2 reports on an empirical, mixed-methods investigation that was conducted on a convenience sample of 52 farm workers (18-60 years) from three farms near Potchefstroom, in the North West Province. All participants completed quantitative measures and interviews were conducted with a random sample of 25 participants. As a conceptual framework, health was defined comprehensively in terms of physical, psychological and social dimensions (World Health Organization, 1999). Psychological well-being was defined on a continuum from symptoms of stress to a focus on strengths, capacities, mental well-being or psychological health (Wissing & Van Eeden, 2002, 1997; Deci & Ryan, 2000; Ryan & Frederick, 1997) and measured with the Sense of Coherence Scale (SOC) Scale (Antonovsky, 1987), the Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larsen & Griffin, 1985), the Affectometer 2 (AFM) (Kammann & Flett, 1983), the General Health Questionnaire (GHQ) (Goldberg & Hiller, 1979) the Need Satisfaction Scale (NSC) (La Guardia et al., 2000), and the Subjective Vitality Scale (SVS) (Ryan & Frederick, 1997). Quality of life was operationalised in terms of the Quality of Life Inventory (QOLI) (Frisch, 1994). Physical health was operationalised in terms of standardised measures of blood pressure, heart rate, body mass index, waist-hip ratio and a nutritional intake measure, the Quantitative Food Frequency Questionnaire (QFFQ) (Vorster et al., 2000). Participants reported relatively poor states of physical health, nutritional deficiencies, poor mental health and poor quality of life.

In manuscript 3 specific guidelines for the promotion of the biopsychosocial health of farm workers were suggested to address the specific and identified problems in an integrated manner. The guidelines were grouped into operational and administrative/bureaucratic interventions. Recommendations were also made for further exploration of the relationship between the farm workers' context and the biopsychosocial health indicators.

Farm workers suffer problems of physical and psychological distress as well as shortages of health care providers, lack of the necessary health infrastructure and other social and physical infrastructure amenities. For successful and sustainable interventions

health professionals and health workers, policy makers and bureaucrats, human rights activists and rural/farm employee organisations as well as the broader social movement and other interested/affected parties need to jointly contribute to health programmes aimed at addressing the challenges facing rural communities in general, and farm workers in particular.

Opsomming

Psigologiese Welstand, Gesondheid en die Lewenskwaliteit van Plaaswerkers in Suid-Afrika

Sleutelwoorde: psigologiese welstand; fisiese gesondheid; lewenskwaliteit; behoeftes; plaaswerkers; platteland

Plattelandse gemeenskappe kan as 'n belangrike sektor van enige samelewing beskou word, veral ook aangesien daar in hierdie sektor deur boerderye aan voedselvoorsiening aandag bestee word. Ten spyte van hierdie aanvaarde feit is daar weinig empiriese inligting oor plaasgemeenskappe se lewenswyse beskikbaar. Met hierdie studie is gepoog om meer inligting oor die gesondheidsprofiel van plattelandse gemeenskappe en plaaswerkers in 'n geselekteerde gebied in Suid-Afrika te verkry. Die navorsing het fisiese en psigiese gesondheid, behoeftes en lewenskwaliteit ingesluit en daar is veral ook gekyk na die moontlike verbande tussen hierdie aspekte. Die doel was om riglyne vir hulpverlenende intervensies saam te stel ter wille van bio-psigososiale gesondheidsbevordering. Die bevindings, afleidings en aanbevelings word in drie aparte, maar nogtans samehangende, manuskripte of artikels vervat.

In manuskrip 1 word 'n evaluering en integrasie van bestaande literatuur binne 'n holisties-konsepsionele raamwerk weergegee. Die fokus was op 'n geïntegreerde beeld van die lewensomstandighede van plattelandse en plaasgemeenskappe soos vanuit 'n tweeledige sosiaal-natuurwetenskaplike perspektief beskou. Behoeftes is op 'n breër en enger vlak verken en welstand of gesondheid is volgens World Health Organization se algemene definisie benader (WHO, 1999:6). Die konsep "platteland" is beskryf in terme van tipiese beskrywende aspekte van bevolkingsdinamika, geografiese aspekte, ekonomiese status en ander sosiale omstandighede. Alhoewel studies van elders in die wêreld gebruik is om 'n duideliker prentjie van die plattelandse konteks te verkry, was die fokus op beskikbare Suid-Afrikaanse bronne. Volgens die literatuurstudie toon die algemene leeftoestande van plattelandse plaaswerkers ernstige tekortkominge, veral in

vergelyking met beter omstandighede in stede. Hulle sosio-ekonomiese status vertoon nie goed nie, toegang tot noodsaaklike dienste is beperk, die fisieke infrastruktuur is gebrekkig, hulle ervaar probleme met voedsel sekuriteit en voedingstatus, hulle moontlikhede vir goeie fisiese en verstandelike ontwikkeling is nie na wense nie, hulle is onderworpe aan geweld en hulle menseregte ly skade.

Manuskrip 2 bied die bevindinge van 'n empiriese multimetode ondersoek wat op 'n beskikbaarheidsgroep van 52 plaaswerkers (ouderdom 18-60 jaar) vanaf drie plase in die Potchefstroom omgewing, Noordwes Provinsie uitgevoer is. Al die deelnemers het kwantitatiewe vraelyste voltooi en onderhoude is met 'n ewekansig-geselekteerde groep van 25 deelnemers gevoer. As konsepsuele raamwerk is gesondheid/welstand holisties gedefinieer in terme van fisiese, psigologiese en sosiale dimensies (WHO, 1999). Psigologiese welstand is volgens 'n kontinuum van stressimptome tot fokus op sterktes en kapasiteit benader (Wissing & Van Eeden, 2002, 1997; Deci & Ryan, 2000; Ryan & Frederick, 1997) en gemeet met die "Sense of Coherence" skaal (Antonovsky, 1987), die "Satisfaction With Life Scale" (SWLS) (Diener, Emmons, Larsen & Griffin, 1985), die "Affectometer 2" (AFM) (Kammann & Flett, 1983), die "General Health Questionnaire" (GHQ) (Goldberg & Hiller, 1979) die "Need of Satisfaction Scale" (La Guardia et al., 2000), en die "Subjective Vitality Scale" (SVS) (Ryan & Frederick, 1997). Lewenskwaliteit is bepaal met behulp vandie "Quality of Life Inventory" (QOLI) (Frisch, 1994). Fisieke welstand is bepaal deur gestandaardiseerde metings van bloeddruk, harttempo, liggaamsmassa indeks, middellyf-heup ratio en die "Quantitative Food Frequency Questionnaire" (QFFQ) (Vorster et al., 2000). Psigologiese welstand en lewenskwaliteit was laag, en die deelnemers se fisieke welstand het getoon dat daar groot ruimte vir verbetering is, veral as inname van voedingstowwe in ag geneem word.

In manuskrip 3 word 'n aantal riglyne gebied vir die bevordering van bio-psigososiale welstand om plaaswerkers se spesifieke en geïdentifiseerde probleme op 'n geïntegreerde wyse aan te spreek. Riglyne word in operasionele- en administratiewe/burokratiese intervensie riglyne verdeel. Aanbevelings is ook gedoen met die oog op verdere verkenning van die verband tussen die plaaswerkers se konteks en die bio-psigososiale gesondheidsmerkers.

Plaaswerkers gaan gebuk onder fisieke en psigologiese probleme en ervaar ook 'n gebrek of tekort aan gesondheidsorg-voorsieners, doeltreffende gesondheidsorg infrastruktuur asook ander sosiale en fisiese infrastrukture. Dit blyk dat gesamentlike insette van professionele hulpverleners en ander gesondheidswerkers, beleidmakers en burokrate, menseregte aktiviste, unies of organisasies vir plaaswerkers en hulle indienseneming, asook die breër sosiale of maatskaplike sektor en ander betrokke liggame, nodig sal wees om die probleme op suksesvolle en standhoudende wyse te verlig of op te los. Sodoende kan programme in werking tree wat daarop gerig is om die uitdagings waarmee plattelandse gemeenskappe in die algemeen en plaaswerkers in die besonder gekonfronteer word, aan te spreek.

Preface

- This thesis is presented in article format in terms of the North-West University's rule A.14.4.2 in tandem with rules A.13.7.3, A.13.7.4 and A.13.7.5.
- The three articles comprising this thesis are intended for submission for review to the following journals in their order: Manuscript 1 (*Health SA Gesondheid*), Manuscript 2 (*South African Journal of Psychology*), and Manuscript 3 (*Health SA Gesondheid*).
- The referencing and editorial style were implemented as prescribed by the *Publication Manual (5th edition)* of the American Psychological Association (APA), except in the instances where the journal guidelines indicated otherwise as in the use of the conjunction in the reference list as preferred by the *South African Journal of Psychology* or the use of the Harvard method of reference as preferred by *Health SA Gesondheid*.
- For ease of reference, the page numbering is consecutive from the introduction to the end of the thesis. However, each individual article will be numbered from 1 on submission to the journal.
- The study supervisors and co-authors of these articles, Prof. K.F.H. Botha and M.P. Wissing had submitted a letter consenting that the articles may be submitted for examination purposes of this PhD.

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CONSENT:

**PERMISSION TO SUBMIT THIS MANUSCRIPT FOR EXAMINATION
PURPOSES**

We, the promoter and co-promoter, hereby declare that the input and effort of M.S. Thekiso, in writing this manuscript, reflects the research done by him on this topic:
Psychological Well-Being, Health and Quality of Life of Farm Workers in South Africa.

We hereby grant permission that he may submit this manuscript for examination purposes in fulfilment of the requirements for the degree Philosophiae Doctor in Psychology.

Signed on this day of December 2008 in Potchefstroom.

.....
Prof. K.F.H. Botha
Promoter

.....
Prof. M.P. Wissing
Co-promoter

Introduction

The current study explores the psychological well-being, physical health and quality of life of farm workers in South Africa. The empirical section of this study forms part of the multidisciplinary FLAGH (Farm Labour, Agriculture and General Health) study (Kruger, 2001) in which the objective is to develop an intersectoral, interdisciplinary intervention programme to improve, on a sustainable basis, the nutritional, physical and psychosocial status of farm dwellers in the North West Province of South Africa. This investigation follows on the findings in the THUSA (Transition and Health during Urbanization of South Africans) study (Vorster *et al.*, 2000).

The THUSA study determined that farm workers, in comparison with people from the deep rural areas, informal housing areas, urban townships, and “upper” urban communities, reported the highest scores for psychological symptomatology, the lowest scores for psychological well-being and poor physical health (Vorster *et al.*, 2000). According to Vorster *et al.* (2000), information on the reasons and factors contributing to the poor health of the farm workers is not yet clear. Furthermore, there is a lack of adequate baseline data on the psychological well-being, physical health and quality of life of farm workers in South Africa due to a lack of studies on the lives of farm workers from a health promotion perspective. On the basis of these observations, it is argued that there is a need for more information on farm workers’ well-being and quality of life and those interventions may be necessary to ease the “double burden” of physical and psychological problems.

The conceptualisation of health in this study is informed by the WHO definition whereby health is “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1999). This definition includes both the pathogenic and salutogenic paradigms, and has added the concept of biopsychosocial well-being to the concept of physical health. Viewed from this perspective, health is fundamental to the well-being of individuals as well as to the attainment of their goals. The definition thereby touches on the personal, economic, social, and spiritual aspects of people’s lives.

Over the past two decades psychology as a discipline has broadened its focus to include not only mental illness, dysfunctions and vulnerabilities (pathogenic orientation) but also strengths, mental well-being or psychological health (fortigenic orientation) (Cowen, 1983; Brooks & McKinlay, 1992; Wissing & Van Eeden, 1997). Notable, in this regard, are the contributions by Antonovsky's (1979, 1987) "Health, Stress and Coping", Strumpfer's (1990, 1995) "The origins of health and strength: From salutogenesis to fortigenesis", Wissing and Van Eeden's (1997, 2002) "Psychological well-being: A fortigenic conceptualization and empirical clarification", and Ryff and Singer's (1996) multidimensional model of positive psychological functioning. From a fortigenic / salutogenic perspective the focus is on how people remain relatively psychologically healthy despite the presence of life stressors. Efforts to conceptualise psychological well-being resulted in numerous related but distinct constructs such as "self-actualisation" (Knapp, 1976), "self-efficacy" (Bandura, 1977), "resilience" (Barnard, 1994; Beardslee, 1989), "dispositional optimism" (Scheier & Carver, 1987), "learned resourcefulness" (Rosenbaum, 1990), "affect-balance" (Kammann & Flett, 1983), "satisfaction with life" (Diener, 1984; Schlosser, 1990), "emotional intelligence" (Goleman, 1995), and "general psychological well-being factor" (Wissing & Van Eeden, 2002). Despite these efforts, no single definition could be arrived at (Wissing, Wissing, du Toit & Temane, 2006). For the purposes of this study, psychological well-being was conceptualised in line with the general psychological factor (Wissing & Van Eeden, 2002) as operationalised by the sense of coherence, satisfaction with life, and affect balance, as well as in terms of the psychological needs (Deci & Ryan, 2000) and feelings of vitality (Ryan & Frederick, 1997).

The physical health dimension is, for purposes of this study, conceptualised in terms of the relative absence of symptomatology as measured by Goldberg and Hiller's (1979) General Health Questionnaire, and the use of biological indicators. In the current study, the blood pressure readings were taken with a sphygmomanometer (Van Rooyen, Kruger, Huisman, et al., 2000), fitness with polar S-series heart rate monitors and a step respiratory function spirometer (Van Rooyen et al., 2000), and nutritional intake with the Quantitative Food Frequency Questionnaire (Vorster et al., 2000).

Frisch (1994) notes that reduced quality of life is considered a key symptom of most psychological and physical disturbances, and that biological measures of health must be supplemented with quality of life measures to adequately represent the health of an individual or a group. This concept is described as indicating the global well-being of a group of individuals in various life domains (McCoy & Filson, 1996). Frisch (1994) defines the quality of life as the degree to which the person enjoys the important possibilities (needs, goals, wishes) of his or her life.

The current study thus explores the health profile of the rural and farming communities in South Africa, the relationships between the physical and psychological health, the needs and quality of life facets and provides guidelines for intervention in the said areas. The study findings are reported in a format of three manuscripts, each addressing a specific integral topic.

The first manuscript, *A review of health and needs in rural South Africa*, aims to review the literature on the state of the rural communities as reported in the studies conducted in South Africa. This manuscript has been arranged and prepared for publication in line with the guidelines of the journal of *Health SA Gesondheid*. The second manuscript, *Psychological well-being, physical health and the quality of life in a group of farm workers in South Africa – the FLAGH-study*, aims to describe psychological well-being, physical health status and quality of life in a group of farm workers in the North West Province, and to explore the relationships among these variables in this specific group. This manuscript has been arranged and prepared for publication in line with the guidelines of the *South African Journal of Psychology*. The third manuscript, *Guidelines for the promotion of the biopsychosocial health of farm workers*, aims to provide guidelines for the promotion of biopsychosocial health of farm workers. This manuscript has been arranged and prepared for publication in line with the guidelines of the journal of *Health SA Gesondheid*.

Given that there is little known about life on the farms and the lives of farm workers in particular, as well as factors contributing to their well-being, this study seeks to contribute information on the biopsychosocial variables associated with the psychological well-being, physical health and quality of life of farm workers in the North West Province of South Africa, and to develop guidelines for biopsychosocial health

promoting intervention programmes to enhance the strengths and well-being in farm workers.

Section 2: Manuscript 1

A review of health and needs in rural South Africa

Prepared for submission to

Health SA Gesondheid

2.1 Guidelines for authors:

Health SA Gesondheid

- Body text paragraphs should be in double spacing, **not** indented, left aligned (not justified) and an open (empty) paragraph after each text paragraph.
- Body text font type and size should be Arial size 10.
- Article must be submitted in MS Word format or recent compatible software format.
- Abstracts in English and Afrikaans of no more than 200 words must be included in the article. The abstract must accurately reflect the content of the article.
- Five keywords describing the contents of the article should be submitted.
- The article itself may not compromise more than 20 pages (including abstract and reference list; excluding figures and tables) and authors must supply a word count. In exceptional cases longer articles may be accepted.
- The journal has a policy of anonymous peer review. Authors' names are withheld from the referees, but it is the authors' responsibility to ensure that any identifying material is removed from the article.
- The article must be ready for the press, in other words, it must have been revised for grammar and style. The author must provide a letter from a language editor confirming this.
- The article must be written in clear English (South African/UK style) or in Afrikaans.
- All abbreviations should be written out when first used in the text and thereafter used consistently.
- All references to source books must be acknowledged according to the revised Harvard method.
- It is the author's responsibility to verify references from the original sources.
- All illustrations, figures and tables must be numbered and provided with titles. Each illustration, figure and table must, in addition, appear on a separate page and must be graphically prepared (be press ready). Illustrations, figures and tables

must be black and white - **NOT in colour**. The author is responsible for obtaining written permission from the author(s) and publisher for the use of any material (tables, figures, forms or photographs) previously published or printed elsewhere. Original letters granting this permission must be forwarded with the final article.

- Headings are **not** numbered. Their order of importance is indicated as follows:
Main Headings in **CAPITALS** and bold print; sub-headings in UPPER and lower case and bold letters; sub-sub headings in upper and lower case, bold and italic letters.

A REVIEW OF HEALTH AND NEEDS IN RURAL SOUTH AFRICA

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ABSTRACT

This study comprises a literature review of the psychosocial needs and general health of people living in farming and rural communities in South Africa. It was found that empirical knowledge on the lives of people in these communities is limited. A holistic conceptual framework that focuses on life in the rural areas from both social and natural science perspectives was adopted. Findings are reported in terms of the socioeconomic-, the physical-, and the psychosocial health profile. Life in the rural areas represents situations of serious socioeconomic disparities, devastating psychosocial well-being, poor general health, and dire needs. People in these contexts experience a lack of access to adequate major services, food insecurity with poor physical and mental health, and human rights violations. The review paints a picture of a rural community that experiences situations of serious disparities in comparison to their counterparts living in more urbanised settings in South Africa. On the basis of the reported vulnerabilities in the rural communities and the lack of empirical studies on their specific needs it is concluded that further research in this regard is necessary and that guidelines for interventions where applicable be developed and policies reviewed.

Keywords: health, physical, psychosocial, rural, needs

Available empirical knowledge on factors that are pivotal in the lives of rural communities suggests that a healthy and educated rural workforce is essential for food security and sustainable productivity (Lutz-Tveite, 2007:1). The agricultural activities of the world, responsible for food production, take place in the rural and farming communities, which implies that this population is particularly significant in terms of continued food and nutrition security. The importance of the agricultural sector is highlighted by the current worldwide crisis of food shortages (Berliant, 2008:1; Sunday Herald, 2008:1). However, these in many parts of the world represent situations of being under-resourced, of suffering from extreme poverty and dietary inadequacies (Mazoyer, 2001:2-3). Although 72% of South Africa's population lives in urban areas (Eastwood, Kirsten & Lipton, 2006), about 75% of South Africa's poor live in rural areas where they experience difficulties of access to properly arable land (Food and Agriculture Organisation (FAO), 2005:1) and other problems regarding services delivery by the state. Limited knowledge is available on rural communities and problems of poor rural health and education infrastructure still persist. Poverty and inequalities remain on the rise with devastating consequences on the health of the deprived communities, and there's a dearth of clear solutions. The current study provides a literature review on the health and needs of rural and farming communities in South Africa with specific reference to psychosocial needs and health.

The current review adopts a broad approach as outlined in the American Psychologists Association (APA) Committee on Rural Health's Report (Mulder *et al.*, 2000:2, 3) on the analysis of health needs. This review extends beyond investigation of mental health needs, but addresses a large area of factors that contribute to health, well-being and treatment outcomes. It also includes broad socio-cultural factors that typify rural life and are likely to affect both physical and mental health, for example, "geographic barriers, distance, lack of transportation, and inadequate funding that affects access to both medical and mental health services" (Mulder *et al.*, 2000:2, 3). Finally, it encapsulates approaches to intervention and the public health model used for addressing physical and mental health problems in rural areas.

This paper reviews the literature to shed light on the state of health and needs of the rural communities as reported in studies conducted in South Africa. Firstly, the terminology used will be defined; secondly the South African context will be explicated; and finally, the state of health, needs and human rights of rural South Africans, especially farm workers, will be reviewed.

TERMINOLOGY

In this section, definitions of the concepts “rural”, “farm”, “needs”, and “health status”, will be reviewed and explained as used in the current review.

Rural

A part of the reason why the needs and aspirations of the rural communities seem to disappear from the focus of politicians’ policy decisions and bureaucrats’ strategies may be the lack of a clear definition of what “rural” constitutes. The definition of rural is often based on demographic, infrastructural and socio-economic criteria that vary across nations and therefore make generalisations difficult (Tacoli, 2007:2). As there has been no agreed upon definition in South Africa regarding the meaning of the word “rural”, it has been used loosely for different purposes and has caused confusion (Department of Health, 2006:4). The definition of rural supplied by Statistics South-Africa (Brits, 2008:2-3) entails ‘rural formal’ and ‘tribal areas’ which included vacant lands, tribal villages, tribal areas, farms, small holdings, industrial areas, institutions and hostels. Despite the many definitions of what “rural” refers to, common elements include the following: low population density, geographical distance from large metropolitan areas, isolation from dense social networks and fewer economic and manpower resources (Tacoli, 2007:1-2). In the current review, the definition of rural and urban is prescribed by the aim of the investigation as in a study by Yach, Mathews and Buch (1990:508). That is, in terms of the aim of the current study, “rural” is defined by population density, geographical distance from large metropolitans, social networks, economic resources, and would include people living in tribal areas under a traditional authority, and people living on farms. These indicators seem to play an important role

in the determination of the balance of possibilities and limitations as experienced by the people in this community, e.g. whether goals can be attained or not, whether needs can be met or not and so on.

Farm

A farm constitutes part of the general definition of 'rural', however, it is more specifically defined as a land used for agricultural purposes for crop and livestock farming (Agricultural Land Act 70 of 1970; Sterling Knight, 2008:1). In South Africa a commercial farm refers to a farm registered for Value Added Tax (Kirsten & Moldenhauer, 2008:1). A farmer is described as "the person, enterprise or establishment conducting farming operations for his/its own account, irrespective of the ownership of the land farmed, which farming operations were carried out, or whether establishments were operating as partnerships" (StatsSA, 2002b:4). In terms of the Basic Conditions of Employment Act 75 of 1997 (BCEA), a farm worker is defined as "an employee who is employed mainly or in connection with farming activities, and includes an employee who wholly or mainly performs domestic work in a home on a farm". A farm dweller or labour tenant is defined as a person who resides, has the right to reside in the farm or has some specific rights in relation to the farm as defined in the Land Reform (Labour Tenants) Act 3 of 1996.

Needs

The concept of needs is explained comprehensively in the literature with reference to Maslow's hierarchy of needs (1943:372-377). In their self-determination theory (SDT), Deci and Ryan (2000:68) identify three basic psychological needs as essential, namely, needs for autonomy, competence and relatedness. Satisfaction of these needs is viewed as necessary for psychological health and therefore effective functioning. Thwarting or negligence of any of these needs goes with marked negative outcomes. They argue that a full understanding of psychological development and well-being requires addressing the satisfaction of people's needs. In the context of this study, it is assumed that the application of the need theories is also applicable at the community level. For the purposes of this study, needs are broadly defined as

encompassing the three components of quality of life, *i.e.*, physical being, psychological being and social belonging, as well as the basic psychological needs. According to Rossi, Freeman and Lipsey (1999) the evaluation of the needs of a community should seek to address issues pertaining to the social condition, the diagnosing of the nature, magnitude and distribution of the problem, as well as evaluation of the necessity and design of intervention implementation.

Health status

In defining the concept of health, the World Health Organization (WHO, 1999: 6) explains it as "a state of complete physical, mental, and social well-being and not merely the absence of infirmity". This definition includes both the pathogenic and salutogenic perspectives, and has added the concept of biopsychosocial well-being to the concept of physical health. Thus, people reaching a state of complete physical, psychological and social well-being, according to the WHO (1986:6), would refer to an individual or group being able to identify and realise aspirations, to satisfy needs, and to change or cope with the environment. This is how "health status" is defined for purposes of the current review. The possibilities and realities of satisfying people's needs, the degree of frustration they experience, the balance of possibilities and limitations in their lives, and attainment of goals, the social reality within which they operate and their ability to manipulate their environment cannot but demonstrably influence their health status. This point is illustrated by a view that the a farm owner/manager may have an own perception of health status wherein good health is defined as being able to work, not having pain and the absence of major disease (Vermont Department of Health, 2006:2).

HISTORICAL CONTEXT OF RURAL AREAS IN SOUTH AFRICA

A significant part of the South African landscape is characterised by large rural areas which were declared "homelands" in the apartheid era, and were subjected to systematic degradation and underdevelopment (Du Plessis & Conley, 2007:50). It is in these areas where women and children still live in large numbers (Du Plessis & Conley, 2007:50-52) and where infrastructure and services are lacking (London, 2003:60; Temane & Wissing, 2006:564-5). Living in the rural

areas and on farms in South Africa represents an undesirable situation of various forms of deprivation. Despite progressive government legislations (e.g., ESTA, 1997; LTA, 1996) and a range of 'watchdog' support institutions (Constitution of RSA, 1996:99), people living in the rural areas and on farms often assume second class citizen status. It is only those who can afford to change their lives, who are able to leave their homes on the farms in search of a better life in the urbanised areas.

The RDP (Reconstruction and Development Programme, 1994:1) was a post-apartheid government master-plan for addressing the racial inequalities brought about by the apartheid system of government. According to the RDP (1994: 2.1.2) "...It is not merely the lack of income which determines poverty. An enormous proportion of basic needs are presently unmet. In attacking poverty and deprivation, the RDP aims to set South Africa firmly on the road to eliminating hunger, providing land and housing to all our people, providing access to safe water and sanitation for all, ensuring the availability of affordable and sustainable energy sources, eliminating illiteracy, raising the quality of education and training for children and adults, protecting the environment, and improving our health services and making them accessible to all". Although much has been done to improve the lives of many people in the various areas of life as stated in the RDP document, much still remains to be done especially for the rural communities in South Africa. For example, according to findings of the THUSA (Transition, Health and Urbanization in South Africa) study (Vorster *et al.*, 2000:512-3), farm workers were, in comparison to people living in various strata of urbanisation, the most vulnerable group, suffering dietary, physical and mental health problems.

These historical and prevailing experiences may have an impact on the lives, health and well-being of the rural communities as suggested by Barnabus *et al.* (2005:18) and may therefore require in-depth review in order to develop comprehensive understanding of the possible implications to policy formulation, prompt better service delivery plans and implementation by the state.

CURRENT STATUS OF HEALTH AND NEEDS IN RURAL SOUTH AFRICA

Ramsey, Stewart, Troughton and Smit (2003:73, 89) employed a holistic conceptual framework that sought to provide networking opportunities and information exchange, facilitate new opportunities for collaborative research, to advocate for and promote health promotion research in the Ontario tobacco production. A similar conceptual framework was adopted for a study in the South African rural context by researchers in the THUSA project (Vorster *et al.*, 2000:505) with programmes that ensued from its findings. The THUSA study and FLAGH (Farm Labourer and General Health) programme (Kruger, 2001:2) are some good examples of the holistic approaches to the study of rural and farm life by both social and natural sciences in a parallel and integrative manner in South Africa. THUSA is a baseline, cross-sectional study conducted among 1854 adult volunteers from randomly selected sites in the North West Province of South Africa from 1996 to 1998. Participants were classified according to the levels of urbanisation across the various strata in the targeted area. The FLAGH programme was an immediate multidisciplinary, transdisciplinary and multi-sectoral follow-up aimed at improving the quality of life of farm dwellers.

Using the conceptual framework outlined above, particular focus in the further literature review will be on the socio-economic, physical and psychological health profile of the rural community. It is pre-acknowledged that there may be notable overlapping of concepts in the discussions that follow due to the connectedness and mutual relatedness of concepts under review.

Socio-economic profile

The Social Development Indicators Survey (StatsSA, 2002a:60) on the 13 rural areas in four of the nine provinces, with an estimated population of about 7.9 million people and also identified as the most needy in South Africa paints a bleak picture of household disparities where amongst other factors the unemployment rate stands respectively at 33.9% and 52.2% (higher than the 26.4% and 37.0% national average) of the official and expanded definition. According to

StatsSA's (2005:1) official (or narrow) definition, the unemployed are "those people in the economically active population who did not work during the seven days prior to the interview, want to work and are available to start work within two weeks of the interview, and have taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview." In the expanded definition, the third criterion (some sort of work-seeking activity) is dropped. The expanded definition therefore includes, as unemployed, those who might be termed "discouraged job seekers". The Social Indicators Survey (StatsSA, 2002a:26-59) shows that about 18% of the population has access to hygienic sanitation, only 15.5 % has refuse removed by the local authority and only 22.3% has access to a telephone. About 20.8%, 26%, 5.8% and 40.1% of the people are within 14 minutes of the nearest primary health care clinic, hospital, high school and food market respectively. According to the results obtained from the population under the study, only 23.5% depended on remittance, 32.2% on grants and pensions, 1.5% on the selling of agricultural produce as the main source of income, and 2.0% presented with no income.

Just less than a third of people from the rural communities surveyed in the 13 nodal areas in rural South Africa had more than 8 years of schooling, about a third had median levels of schooling and another third had no schooling (StatsSA, 2002a:26-30). In other related studies many of the rural households still reported various vulnerabilities such as very low to low incomes in comparison to people from other strata (Vorster *et al.*, 2005:1; 487). The household size of farm dwellers has been reported to be growing smaller probably because children are sent away for schooling purposes or to families with more limited food security concerns (Vorster *et al.*, 2005:482). Food security is a matter for concern in the South African context as about half of the children have inadequate and poor diet and nutrition, and experience stunting and underweight problems, with more problems in rural areas (Green, Botha & Schonfeldt, 2004:46).

Studies in four of the nine provinces of South Africa show a commercial farming sector that is increasingly less able to support the rural population with no replacement adequate to the challenge, shedding of employment opportunities which the farmers attribute to current

agriculture-related legal and policy reforms (e.g., the minimum wage, labour re-regulation, land reform measures, international regulations) (StatsSA, 1999:iv). The labour force survey (Department of Trade and Industry (DTI), 2002:3), supported by the Rural Survey of 1997 (StatsSA, 1999:7) suggests that commercial farms and subsistence agriculture contribute about 6% and 7%, respectively, of the total South African employment, and that about four million people belonging to two million households engage in agricultural activities mainly for subsistence.

Over the recent past years, rural areas have also undergone changes such as depopulation, agricultural adjustment, transportation changes, information technology (Everitt, 2003:4), Western influences by migrant workers coming and leaving home, and improvements of rural infrastructure such as roads, health services, and water provisions, the development of markets and other modern developments. These changes could be affecting communities in several ways and communities could also be responding in some ways which will be explained hereafter.

Physical health profile

Rural areas in various developing parts of the world experience severe lack of health care infrastructure with serious negative implications on access to the basic health services and farm owners reportedly often prevent non-governmental organisations from providing critical services to the farm dwellers (Giampaoli, 2007:1), thus exacerbating the situation of need in the already over-burdened community. In the subsections that follow, a brief synoptic report is given on the various physical health challenges that confront rural communities in South Africa.

Urbanisation, lifestyle and diseases

The traditional rural way of living has evidently been influenced by westernised values 'imported' by development trends. Differences in nutrition and health status between rural and urban communities probably reflect the influences of urbanisation (Vorster *et al.*, 2005:487). Although the rural people have lowest mean micronutrient intake (Vorster *et al.*, 2005:483), adults in rural

areas have been found to subscribe to an internationally recommendable diet that is also traditionally found in African countries, as far as low fat intake and richness in carbohydrates are concerned (MacIntyre, Kruger, Venter, Vorster, 2002:251 & Steyn, 2005:38). Vorster *et al.* (2005:488) identified farm dwellers and women in particular as most affected by challenges of coping with changes during urbanisation and the development of lifestyle diseases such as hypertension.

According to Bradshaw *et al.* (2003: ii; iii), non-communicable diseases account for nearly 40% of adult deaths in South Africa. It seems that development of hypertension is largely associated with lifestyle factors, which include dietary and other variables causing a predisposition to be overweight, as well as other cultural factors and acculturation processes due to urbanisation (Van Rooyen *et al.*, 2000:785). In studies elsewhere, hypertension is considered a major risk factor for heart, kidney, and cerebrovascular diseases, and it is reportedly a major contributor to the burden of disease, disability, and death in the population (Morenhof *et al.*, 2007:1854). In the South African context, it is considered a major public health concern in the urbanised black population (Seedat, 1999:97).

The reported measures of blood pressure were shown to increase from people living in the tribal areas, followed by farm workers to more urbanised people (Huisman *et al.*, 2002:832; Van Rooyen *et al.*, 2000:781), thereby indicating increase in hypertension with urbanisation. African people, however, across the various strata had shown increases in high blood pressure over time (Van Rooyen *et al.*, 2000:781; Vorster *et al.*, 2005:487). It was further established that blood pressure was associated with coping strategies, perceived social support from family and friends, aspects of acculturation, individualism versus collectivism, and prevalence of negative or positive affect. Although there is an association between hypertension and obesity, the relationship is not very clear (Van Rooyen *et al.*, 2000:785). As hypertension is critically associated with lifestyle factors such as dietary factors and cultural factors related to urbanisation and westernisation (Rupp, 1996:3; Van Rooyen *et al.*, 2000:758), it can be assumed to be an emerging problem

among the rural communities. Even though rural subjects had the second highest pulse rate in their study, Van Rooyen *et al* (2000:783) explained it as the result of unfamiliarity with experimental situations rather than necessarily a cardiovascular condition..

Physical activity

Lambert and Kolbe-Alexander (2005:23) observe that physical activity has come to be widely recognised as an important aspect of health behaviour and has further been associated with reduced all-cause morbidity and mortality, and chronic diseases of lifestyle. Physical activity has been associated with “prevention or amelioration” of chronic non-communicable diseases affecting rural communities the most (Weidinger *et al.*, 2008:305). Conversely, the reduction of physical activity among people has been associated with chronic diseases of lifestyle such as diabetes, heart disease and some types of cancer, as well as risks for development of obesity and hypertension (Kruger, Venter, Vorster & Margetts, 2002: 422). The reports on the relationship between physical activity and body weight, body mass index and obesity are widely recorded in both urban and rural parts of the world (Liebman *et al.*, 2003:690-1). Most of the women, in a study that included both rural and urban populations, were classified as inactive whereas most of the men were classified as very active (Van Rooyen *et al.*, 2000:781). Urban dwellers were also found to be more physically active than people living in rural areas (Lambert & Kolbe-Alexander, 2005:25).

Food Security, Dietary Patterns and Nutritional Status

The Ministry of Agriculture (2006:1) reports that although South Africa is regarded as self-sufficient in food production and it even exports agricultural products, there are, however, about 2.2 million households who are already food insecure, and a further 14 million households vulnerable to food insecurity as indicated by Machelo (2004:1). Rural communities are the ones most vulnerable to hunger and food insecurity (Steyn, 2005:44), and they also have limited access to supermarkets and lack access to affordable and nutritious foods. In an attempt to address this, the South African government has major hunger relief and nutrition programmes,

which include the Integrated Nutrition Programme and indigence food parcels offered by the National Departments of Education, Health and Social Welfare, respectively (Hunter, May & Padayachee, 2003:33). The current hike in food prices and worldwide crises in food security are projected to continue for a longer period (The Market Oracle, 2008:1) with more devastating results for the developing world and its rural communities (Spiegel Online International, 2008:1).

National health care expenditures are constantly increasing and the current generation of children is predicted to be less healthy with shorter lifespan due to diet-related diseases – which include obesity, type 2 diabetes, heart disease, and certain forms of cancer (Farm & Food Policy Project, 2007:1,6). Studies on South African children show prevalence of the problem of obesity, especially among the african children in urban areas (Schutte *et al.*, 2003:101). However, African children living in the rural areas mainly experience problems such as stunting due to inadequate dietary intakes (Monyeki, van Lenthe & Steyn, 1999:291).

It is notable from the THUSA study that rural communities rely mainly on maize staple eaten with ingredients of stew (cabbage, onion, tomatoes and oil) and that they have very little fruit for energy contribution in their diet, which could probably be explained by harsh environmental conditions, lack of water and poor soil conditions (Vorster *et al.*, 2005:482, 487). Also notable from the THUSA study is the gradual decrease in percentage of energy obtained from carbohydrates and gradual increase in percentage of energy obtained from animal protein across various strata with urbanisation as well as slight increases in dietary fibre intakes from rural to urban. Studies (MacIntyre *et al.*, 2002:251-252; Vorster *et al.*, 2005:483) generally demonstrate that rural participants have the lowest mean micronutrient intake and that there is improved micronutrient intake and status with urbanisation. The biochemical indicators of nutritional status also indicate a higher micronutrient intake in the urban participants in comparison to the rural (Vorster *et al.*, 2005:483).

The THUSA- findings (Vorster, 2002:241) demonstrate high fibrinogen levels in 15-25 year-old males from rural areas, which according to James *et al.* (2000:392), correlates with low nutritional status and is associated with cardiovascular disease risk. Although the total cholesterol of urban Africans is lower than reported levels of other population groups, professional urban Africans had significantly higher levels than their rural counterparts.

In 1998, the prevalence of overweight was recorded at 29% and 56.1%, and obesity at 9.3% and 30.1% for males and females respectively in the general South African population (Department of Health, 2000:244). Overweight and obesity rates were higher among both urban and rural women as well as urban men, and it was influenced by household income, total energy intake, fat intake, and low physical activity, and was also associated with cardiovascular risk factors (James *et al.*, 2000:392; Vorster *et al.*, 2005:488; Goedecke, Jennings & Lambert, 2005:68). In the case of rural Africans, however, no links could be made between obesity and cardiovascular disease (Kruger, Venter & Vorster, 2001: 738).

Non-significant changes were observed in the diet of participants after urbanisation (Vorster, 2002:242) except for some increases in energy and fat among the urban professionals. However, in an epidemiological study on chronic diseases of lifestyle conducted in South Africa during 1995 – 2005 (Steyn, 2005:33) it was observed that there were changes in diet and eating patterns among the newly-arrived urban dwellers in adapting their lifestyle to the changes in their surroundings. In the same study, rural participants were observed to consume more cereals and vegetables while the urban participants by far consumed more in the other food groups such as “sugar, meat, vegetable oil, dairy, fruit, roots, tubers and alcohol consumption” (Steyn, 2005: 34).

HIV/AIDS prevalence

The Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) pandemic remains high in the rural areas of the world especially the sub-Saharan Africa region with serious challenges to the health of hundreds of thousands of people, health care services

and economies (UNAIDS 2004:32). The HIV prevalence in South Africa escalated from about 1% in 1990 to 20% in 2001, 26 % in 2004 and 29% in 2006 (DOH, 2007:10, UNAIDS, 2002:1), thereby putting the country among the most affected (UNAIDS, 2004:31). The rate of increase of the disease incidence is higher in rural than urbanised areas (FAO, 2002:4, 2, 6). Part of the reason for this increase is due to the fact that HIV/AIDS education is reportedly most difficult in the rural areas, mainly because of the low levels of literacy, limited access to mass media and insufficient health and education services (UNAIDS Inter-Agency Task Team, 2004:17). Furthermore, opportunity for early diagnosis and prompt treatment is often delayed by matters such as false beliefs that the disease affects mainly the urban dwellers, stigma associated with infection, the conservative character of the rural communities and other such related factors (Greef *et al.*, 2008:322-323; National Commission on AIDS, 1992). In addition, women are 30% more likely to be affected (UNAIDS, 2004:31). Globally rural women suffer specific vulnerabilities due to migrant labour, effects of bridal dowry and gendered economic inequality (Tolan, 2005:72).

In order to demonstrate the problems with regard to HIV/AIDS public education and awareness messages, studies on knowledge and attitudes about the disease highlight large gaps of information to negative attitudes (UNAIDS, 2004:95-96). The impact of the pandemic includes the dropping life expectancy and the rise in infant and child mortality (HSRC, 2004:6). These have devastating emotional and socioeconomic consequences for the lives of people in rural communities, which involves the trauma often associated with suffering the infection of the disease, caring for the sick, loss of productive time, losing and burial of loved ones, loss of resources for continued and successful agricultural activities (Loewenson & Whiteside, 2001:2-3).

The rural areas in South Africa, as well as sub-Saharan Africa can least afford the costs associated with the pandemic given the high levels of illiteracy, poverty, lack of housing, health care and nutrition. There is need for further, diverse and extensive research in this area, for example, research to understand other mechanisms of the disease (Lodewyk & Kock, 2006: 666-667). The World Bank also notes the negative impact of the pandemic on the life expectancy and

economies of the poor and expresses hope mainly on the making of proper policies to deal with the effects of the disease (World Bank, 2007:1).

Psychosocial health profile

There is a dearth of information in the literature on the quality of life of the rural community and its influence on psychological well-being and vice versa. It was found in the THUSA study that the farm workers had a higher level of physical and psychological symptoms, and lowest levels of psychological well-being (Vorster *et al.*, 2005:488). Farm workers expressed the lowest sense of coherence (which implies perceiving life as less meaningful, understandable and manageable); with more reports of negative than positive affect (Vorster *et al.*, 2000:512). According to Vorster *et al.* (2000:513) people in rural areas are most vulnerable, especially the women.

Farm workers reportedly experience poor labour conditions, violence among themselves and violence by farmers or farm managers, as well as alcohol-related violence with women being the most affected (HRCSA, 2003:1; Steenkamp, Botha & Kruger, 2005:696). Most of the violence could have its roots in the farm workers' poor quality of life related to poverty and dependence with serious adverse effects on their health and that of their families (London, Nell, Thompson & Myers, 1998:60).

The health problems experienced by farm workers are also related to human rights problems (Mann *et al.*, 1994:17; London, 2003:59). According to the Human Rights Commission of South Africa (HRCSA, 2003:1) members of the farming community experience various violations that vary from "farm attacks, unlawful evictions, racism, gender discrimination, child abuse, denial of access to socio-economic rights such as access to education, health, and water, social security and many other abuses that have an impact on the right to human dignity of the members of these communities". Thus, from the human rights perspective, concern with the health issues of the farm workers needs to broadly cover areas that also involve their human rights.

In addition, a report released by the Human Rights Commission inquiry (HRCSA, 2003:2) to lawyers, human rights activists and health professionals highlights disparities in a range of issues regarding farm workers. These include factors such as: land right violations, which entail disregard for legislations (ESTA, 1997; LTA, 1996) that protect farm workers' security of tenure and slowness of land reform, and labour issues, where the farm workplace remains hostile, inaccessible, discriminatory, and non-compliant with labour legislations (Murray & Van Walbeek, 2007:13, Department of Labour, 2006,2002). High levels of violence, farm attacks and a criminal justice system perceived as biased against farm workers, create an unsafe and unstable community.

Despite the efforts to explicably detail these violations, patterns of complaints continue to be received by the HRCSA and media, indicating that the problems still persist and that conditions on farms and relations in and among farming communities have not changed since the inquiry (HRCSA, 2007:4). In response to the government's attempts to improve the situation of farm workers through, for example, introduction of minimum wages, their employers often react with cutting of previous benefits and job shedding (Lemke, 2005:846). The children of farm workers are also vulnerable such as those infected/affected by HIV/AIDS, street children and others whose realisation of their children's rights is threatened by poverty (Du Plessis & Conley, 2007:50). According to the triadic model of Mann *et al.* (1994:12) it is illustrated that first, the various state health policies, programmes and practices would have a positive or negative impact on the human rights; secondly, people's health and general well-being will be affected by violations of their human rights; and finally, the promotion and protection of human rights and promotion and protection of health are fundamentally linked.

SUMMARY AND CONCLUSIONS

Rural communities experience poor socioeconomic status (low income, unemployment, illiteracy, etc.) and access to services (health, education, welfare, etc.), poor or no infrastructure (social and physical), food insecurity, inadequate dietary intake and nutritional deficiencies, poor physical

health and mental health, higher levels of distress and symptomatology, violence and violations of their human rights. This literature review suggests a situation of serious disparities in the lives of the rural communities in comparison to their counterparts living in more urbanised settings. The spatial context wherein these communities exist seems an important integral factor contributing to their negative health outcomes. Furthermore, violence and violations of human rights seem integral components of life within these communities. Racial disparities also exercise an impact on the quality of life in rural communities. The racial factor is often least mentioned in academic studies as it is presumably such a common factor or accepted fact, in the South African context. However, South Africa's historical context of racial discrimination stands out as a salient factor in the understanding of problems that beseech the various spheres of societal life, including the farm workers' health concerns.

The problems of food security in the developing countries threaten world peace, stability, and human rights (FAO, 2008:1). It is argued that by pursuing programmes focused on the nutritional needs of the rural communities, may help to address numerous social, educational and health problems and improve the general well-being in communities affected the most (FAO, 2008:1; ASSAf, 2007:151).

This review suggests that in dealing with the HIV/AIDS pandemic in the South African context, particular attention may need to be focused on both the immediate impact of the disease (physically, psychologically, emotionally, socially) as well as other contextual factors such as gender inequalities, children vulnerabilities, stigmatisation, rural poverty and hunger, availability of resources, illiteracy, and knowledge and information about the disease. Therefore, in dealing with the health and needs of the South African rural communities, a holistic and integrated approach that is informed by the prevalent situational factors, may be the approach of choice.

It is concluded that there is a need for more research on the specific effects of the rural social context on the health of people in the rural communities, taking into account both the inherent risk

and protective factors. That is, a more integrated assessment of the psychosocial variables associated with facets of physical health and the quality of life of the rural communities. Such an assessment may also explore the role of psychosocial strengths in more depth as suggested by Vorster *et al.* (2005:488). Implementation of interventions to improve coping ability is also important (Dageid & Duckett, 2008:192-193).

It is assumed from the literature review that part of the risk factors associated with the circumstances of rural communities could be prevented or treated. However, the public health budget seems heavily challenged by issues of undernutrition and infectious diseases (Vorster, 2002:243) and difficulties of early detection due to social and economic reasons. Therefore, preventive and promotive interventions may be especially important as they are cost-effective (WHO, 2005:133).

On the basis of the preceding review of the available literature, it could be argued that the deficiencies in rural public health policies and their impact on the health of the rural communities could also have some contributory effect on the productivity, profitability and sustainability in the sector. It is therefore stated that it is required that interventions be made that are aimed at policy formulation and enforcement, health promotion and empowerment, and improvement of service delivery.

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Section 3: Manuscript 2

**Psychological well-being, physical health and the quality of life of a group
of farm workers in South Africa: The FLAGH-study**

Prepared for submission to the

South African Journal of Psychology

3.1 Guidelines for authors

South African Journal of Psychology

- The manuscript should be no longer than 20 pages (5 000 words).
- **First page:** The full title of the manuscript, the name(s) of the author(s) together with their affiliations, and the name, address, and e-mail address of the author to whom correspondence should be sent.
- **Second page:** The abstract, formatted as a single paragraph, and no longer than 300 words. A list of at least six key words should be provided below the abstract, with semi-colons between words.
- **Subsequent pages:** The text of the article should be started on a new page. The introduction to the article does not require a heading.
- **Concluding pages:** A reference list, followed by tables and figures (if any). Each table or figure should be on a separate page. Tables and figures should be numbered consecutively and their appropriate positions in the text indicated. Each table or figure should be provided with a title (e.g. Figure 1: Frequency distribution of critical incidents). The title should be placed at the top for tables and at the bottom for figures. The appropriate positions in the text should be indicated.
- Authors are requested to pay attention to the proportions of illustrations, tables, and figures, so that they can be accommodated in single (82mm) or double (179mm) columns after reduction, without wasting space.

Manuscript format

- The manuscript should be an MS Word document in 12-point Times Roman font with 1.5 line spacing. There should be no font changes, margin changes, hanging indents, or other unnecessarily complex formatting codes.
- The SAJP referencing style should be adhered to. The referencing style of the SAJP is similar to those used by the British Psychological Society and the

American Psychological Association. The American Psychological Association (APA, ver. 5) style guidelines and referencing format should be adhered to.

- Headings should start at the left margin, and should not be numbered. All headings should be in **bold**. Main headings should be in **CAPITAL LETTERS**.
- The beginning of paragraphs is indicated by indenting the paragraph's first line using the tab key on your keyboard, except when the paragraph follows a main or secondary heading.
- Indents are only used for block quotes.
- In the reference list, the first line of each reference starts at the margin; and subsequent lines for each reference are indented.
- Manuscripts should be written in English. As the SAJP does not employ a full-time or dedicated language editor, it is compulsory that manuscripts should be accompanied by a declaration that the language has been properly edited, together with a letter by a certified language specialist, stating the name and address of the person who undertook the language editing. Failure to do so will result in the manuscript being returned to the author. Should the editor not be satisfied with the quality of language usage, in spite of the evidence that the language has been edited, she or he reserves the right to send the article to the a language editor of the Journal's choice and invoice the author(-s).
- Authors should take great care to spell out the steps taken to facilitate ethical clearance, id est, how they went about to comply with all the ethical issues alluded to in their study (or studies), either directly or indirectly, including informed consent and permission to report the findings. If, for example, permission was not obtained from all respondents or participants, the authors should carefully explain why this was not done.

3.2 Manuscript

Psychological well-being, physical health and the quality of life of a group of farm workers in South Africa: The FLAGH-study

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ABSTRACT

This study explored the psychological well-being, physical health and quality of life of a group of farm workers (N = 52) from three commercial farms in the North West Province of South Africa as well as the relationships among these facets. A mixed methods sequential explanatory design was followed. Quantitative data were obtained from all the participants whereas qualitative data were obtained from a randomly selected group of participants (N= 25). Standardised instruments were used to collect physiological and nutritional information that represented the physical health variable in this study. Psychological well-being and quality of life were measured by means of scales validated for use in a Setswana-speaking group. Semi-structured interviews were conducted to collect quantitative data. Participants reported relatively poor states of physical health as well as nutritional deficiencies, poor mental health outcomes, poor quality of life, and lack of primary health education and supportive health infrastructure. Women revealed the highest heart rate and negative mental health outcomes while men revealed higher alcohol intakes. There are observable relationships between indicators of physical health and the general psychological well-being factor as well as other psychosocial variables. The reported findings suggest that the farm workers in this study experience life on the farms as difficult. Specific conclusions are made on the basis of the empirical findings as well as suggestions for future policy directions, further research and possible programme interventions.

Keywords: physical health, psychological well-being, quality of life, farm workers

This study focuses on the health profile of a group of farm workers in the North West Province of South Africa and the relationship between psychological well-being, physical health and quality of life. This study was motivated by findings of the THUSA (Transition and Health during Urbanisation of South Africans) study in which farm workers were identified as the most vulnerable group regarding psychological well-being, physical health and inadequate diets in comparison to people living in the different strata of urbanisation, (Vorster et al., 2000). In South Africa, farm workers have historically experienced poor living conditions, received low wages, inadequate housing, poor sanitation, inadequate water supplies and unfair labour practices. They are observed to be generally in a situation where they are locked into a cycle of poverty and dependence with serious adverse effects on their health and that of their families (Moseley, 2006; London, Nell, Thompson, & Myers, 1998).

Information on the reasons and factors contributing to the poor health of the farm workers is not yet clear (Vorster et al., 2000). Furthermore, at present there is a lack of adequate baseline data on the physical and psychological well-being, and quality of life of farm workers in South Africa due to a lack of studies on their lives from a health promotion perspective. The present study forms part of the multidisciplinary FLAGH (Farm Labour, And General Health) study (Kruger, 2001) in which the objective is to develop an inter-sectoral, interdisciplinary intervention programme to improve, on a sustainable basis, the nutritional, physical and psychosocial status of farm dwellers in the North West Province. Health status is perceived to be influenced by people's needs, balance of possibilities and limitations in their lives, goals, social reality within which they operate and their ability to manipulate their environment.

In the current study health is conceptualised in terms of the World Health Organization's definition, as "a state of complete physical, mental, and social well-being and not merely the absence of infirmity" (WHO, 1999). This definition includes both the pathogenic and salutogenic paradigms, and has added the concept of psychosocial well-being to the concept of physical health. People reaching a state of complete physical, mental and social well-being, according to the WHO (1986), will be able to identify and realise aspirations, satisfy needs, and change or cope with the environment. Psychological well-being is conceptualised in line with the findings of Wissing and Van Eeden (2002;

1997); Deci and Ryan (2000); and Ryan and Frederick (1997). Physical health is defined in terms of the relative absence of symptomatology (Goldberg & Hiller, 1979) and the use of biological markers of ill-health. Finally, Quality of Life is conceptualised according to Frisch (1994).

In this study psychological well-being is primarily conceptualised from a positive psychology perspective where the focus is on strengths, capacities, mental well-being or psychological health, with positive contributions towards prevention and enhancement of quality of life (Wissing & Van Eeden, 1997). Research in this area is focused on how people survive and even grow despite all the stressors and traumas of life. That is, the focus is on the origins of psychological well-being, the enhancement of psychological wellness, and capacity building. According to Wissing and Van Eeden (2002, 1994), general psychological well-being is well operationalised in terms of the degree of sense of coherence (SOC) as measured by the SOC Scale (Antonovsky, 1987); satisfaction with life, as measured by the Satisfaction With Life Scale (Diener, Emmons, Larsen & Griffin, 1985); and affect-balance, as measured by the Affectometer (Kammann & Flett, 1983). Findings by Wissing et al. (1999) indicate that general psychological well-being, as operationalised above, correlates negatively with indices of ill-health in an African group.

Deci and Ryan (2000) argue that a full understanding of psychological development and well-being requires addressing the satisfaction of people's needs. It is postulated that happiness will follow from the fulfilment of needs (Diener, 1984), be they in-born or learned needs. Deci and Ryan (2000) describe needs as necessary for continued psychological growth, integrity and well-being. In their Self-Determination Theory (SDT), Deci and Ryan (2000) identify three basic psychological needs as essential, namely, needs for autonomy, competence and relatedness. They describe autonomy as explaining people's feelings of volition, agency, and initiative; competence explains people's feelings of curiosity, challenge and efficacy; and relatedness explains feeling connected to and cared for by another. The satisfaction of these needs is viewed as necessary for psychological health and therefore effective functioning. To disregard, thwart or neglect any of the needs would result in negative outcomes. According to the SDT, there is a proportional relationship between need satisfaction and well-being. Psychological well-being is therefore a direct function of the satisfaction of basic

psychological needs. Therefore an exploration of fulfilment of these needs in farm workers is included in this study.

The feeling of vitality as operationalised in the Subjective Vitality Scale (Ryan & Frederick, 1997) is also important for organismic perceived well-being. Ryan and Frederick (1997) describe vitality as a positive sense of aliveness and energy referring to more than merely being active, aroused, or even having stored caloric reserves. They posit that vitality concerns a specific psychological experience of possessing enthusiasm and spirit. Furthermore, individuals are perceived to vary in their experience of vitality as a function of physical influences (e.g., states of illness and fatigue) and psychological factors (e.g., being in love, having a mission, being effective). It is noteworthy that subjective vitality related independently to positive and negative affect (Ryan & Frederick, 1997). Well-being is, therefore, not simply a subjective experience of affect positivity but it is described by Ryan and Frederick (1997) as an organismic function in which the person detects the presence or absence of vitality, psychological flexibility, and a deep inner sense of wellness. Drawing from observed covariance with physical and psychological circumstances, according to Ryff (1995) subjective vitality could be viewed as a reflection of organismic and psychological well-being, and therefore a significant indicator of psychological well-being. The possible role of vitality in the well-being of farm workers is investigated in this study.

Finally, quality of life is a concept that indicates the global well-being of a group of individuals in various life domains (McCoy & Filson, 1996). Best, Cummins and Lo (2000) identify material welfare, health, productivity, intimacy, security, status in society and emotional well-being as indices of quality of life, while Westaway and Gumede (2001) include health status, well-being, ratings of personal quality of life, satisfaction with life, and satisfaction with environmental quality of life (which includes housing, schools, health services, safety and security, roads and transport). Quality of life is also defined as the degree to which the person enjoys the important possibilities (needs, goals, wishes) of his or her life and is operationalised by the Quality of Life Inventory (Frisch, 1994). Frisch (1994) notes that reduced quality of life is considered a key symptom of most psychological and physical disturbances, and that biological measures of health must be supplemented with quality of life measures to adequately represent the health of

an individual or a group.

The aim of the present study is to describe psychological well-being, physical health status and quality of life in a group of farm dwellers in the North West Province, and to explore the relationships among these variables in this group. The satisfaction of the psychological needs and relations with their feelings of vitality, quality of life, physical health and well-being, will also be assessed. The obtained information may be used to assist in the design of immediate and future intervention plans, the implementation and evaluation thereof.

METHOD

Design

A mixed methods sequential explanatory design (Ivankova, Creswell & Stick, 2006) was used with triangulation of quantitative and qualitative data gathering and analysis methods. An analysis of the quantitative data provided a general understanding whereas an analysis of the qualitative data refined and explained the quantitative results by exploring participants' views in more depth.

Participants

Participants were 52 men and women between the ages of 18 and 60 years who live and/or work on three commercial farms in the Potchefstroom municipal area in the North West Province of South Africa. They were all Setswana speaking and their education level ranged from illiterate (especially among the elderly participants) to secondary school education (especially among the younger participants). All participants completed quantitative measures. Interviews were conducted with a random sample of 25 participants.

Procedure

Three commercial farms were selected and approval from farm owners was obtained to do the research. Third-year and honours degree students in psychology were trained as fieldworkers to assist with data gathering. All participants were fully informed, verbally and in writing, about the objectives and procedures of the study in their home language.

Confidentiality and anonymity were ensured, and informed consent was obtained.

Illiterate participants gave consent with an "X". The Ethics Committee of the North-West University has approved the study without constraints (ethics no.00m21). The questionnaires were administered during structured individual interviews conducted by the researchers and fieldworkers in the language of the participants' choice.

Questionnaires were adapted by translating them from English and Afrikaans into Setswana by accredited translation and Setswana-speaking co-researchers, using Brislin's (1970) translation-backtranslation principles. Brislin's method was further adapted with a view to cultural differences in the use of idiomatic language noticing that literal translation of idioms could yield inappropriate and incomprehensible items. The backtranslated phrases were again studied by a group of psychologists to determine whether the basic meaning had remained intact, i.e., using the implementation of the committee-approach (cf. Van de Vijver & Leung, 1997). The questionnaires were then administered on a pilot group from the target population to verify comprehensibility.

Data gathering

Quantitative measures

A structured self-compiled Biographical Questionnaire on socio-economic and socio-demographic status was administered in face-to-face interviews, covering amongst others variables such as age, education, income, housing, sanitation and electricity. Most of the psychosocial measures selected in this study have already been validated for a Setswana speaking group, as would be indicated with each scale. In the case of the new measures, they were adapted for this study population and their psychometric properties will be determined in the current study and their findings interpreted if they are shown to be valid. The Sense of Coherence (SOC) Scale was developed by Antonovsky (1987) to evaluate the core components of SOC, namely comprehensibility, manageability, and meaningfulness on a quantitative level. For the purposes of this study only a 29-item version of the scale was used. Antonovsky (1993) states that the SOC is a universally valid construct for various social groups, cultures and genders. Very good reliability and validity indices for the SOC scale have been reported extensively, among others in a Setswana speaking group (Thekiso, 1999; Wissing et al., 1999; Wissing & Van Eeden,

2002, 1994; Wissing & Du Toit, 1994).

The Satisfaction With Life Scale (SWLS) (Diener et al., 1985) is a 5-item self-report measure developed to determine global satisfaction with life. Good psychometric properties of the scale have been recorded also in a Setswana group, among others (Thekiso, 1999; Wissing et al., 1999; Wissing & Van Eeden, 1994; Wissing, 1996; Wissing & Du Toit, 1994). The Affectometer 2 (AFM) (Kammann & Flett, 1983) indicates an individual's general feelings of happiness or a sense of well-being. It is an indication of quality of life as experienced on an affective or emotional level and is based on the balance of positive and negative emotions. In this research, the 20-item version was used. Ten items measure Positive Affect (PA), and 10 items measure Negative Affect, and Positive-Negative-Affect-Balance (PNB) is calculated by $PA - NA = PNB$ (Kammann & Flett, 1983). The AFM has been found to be a very reliable and valid measure, also in a Setswana group, among others (Thekiso, 1999; Wissing et al., 1999; Wissing & Van Eeden, 1994; Wissing & Van Eeden, 1994).

The Need Satisfaction Scale (NSC) is a 9-item scale which includes three items each for Autonomy, Competence and Relatedness (La Guardia, Ryan, Couchman & Deci, 2000). Individuals' psychological needs are assessed regarding how well their basic needs are met when they are with specific target figures. At the time of this study, no South African data on the usage of the scale locally could be traced. For the purpose of practical use in the South African context, an adapted 7-item version of the Subjective Vitality Scale (SVS) which assesses individuals' vitality (Ryan & Frederick, 1997) was used. The SVS's validity testing has been done in numerous studies with very good reliability indices (La Guardia et al., 2000; Nix, Ryan, Manly & Deci, 1999; Kasser & Ryan, 1999).

The Quality of Life Inventory (QOLI) (Frisch, 1994) is a 32-item questionnaire developed to provide a more comprehensive picture of psychological and physical well-being. The items measure the quality of life according to the sixteen life domains: health, self-esteem, goals and values, money, work, play, learning, creativity, helping, love, friends, children, relatives, home, neighbourhood, and community and general quality of life. Satisfactory psychometric properties of the instrument were reported by Frisch (1994) and Steenkamp (2002). The General Health Questionnaire (GHQ) (Goldberg &

Hiller, 1979) is a screening questionnaire aimed at detecting individuals with diagnosable psychiatric disorders. It detects common symptoms, which are encountered in the various syndromes of mental disorders and differentiates individuals with psychopathology from those who are considered to be normal. The GHQ is also used by the WHO for studies on general health and psychopathology (WHO, 1999). The GHQ has 28 items with four subscales and seven items each. Subscales are: Somatic Symptoms (SS), Anxiety and Insomnia (AI), Social Dysfunction (SD), and Severe Depression (DS). The GHQ has good reliability and validity indices also in a Setswana group, among others (Thekiso, 1999; Wissing et al., 1999).

Physical indices included a Sphygmomanometer, Model ALPK 2, Tycos USA (Van Rooyen et al., 2000) used to measure blood pressure (BP) in terms of systolic (BP Syst) and diastolic (BP Diast) pressure. Two readings were taken with the device after a period of five minutes' rest and in between. A Polar S-series heart rate monitor and step test respiratory function with a spirometer (Van Rooyen et al., 2000) were used to measure fitness in terms of heart rate (HR). Body mass index (BMI) was calculated with being overweight represented by $BMI > 25$ and obesity by $BMI > 30$ according to the guidelines of the Obesity Task Force of the WHO (2005). As age was recorded in years only, months were calculated by multiplying the age in years by 12 and adding 6. Levels of underweight, stunting and wasting were calculated with Epi Info 2002, using the National Center for Health Statistics reference data (World Health Organization, 2005). Waist-to-hip-ratio (WHR) was calculated from waist and hip circumferences (Kruger, Venter, Vorster & Margetts, 2002). Weight of all participants was measured to the nearest 0.1 kg on a portable electronic scale (Precision; A&D Company, Japan) in light clothing by trained biokineticists.

A validated Quantitative Food Frequency Questionnaire (QFFQ) (Vorster et al., 2000) was used for measuring nutritional intake. Nutrient intakes were analysed by means of a programme based on the South African Food Composition Tables (Langenhoven, Kruger, Gouws & Faber, 1991). The ratio of total energy intake to basal metabolic rate was calculated to assess accuracy of dietary reporting. A ratio below 1.2 was regarded as representing an energy intake too low for the maintenance of body weight. The method of Willet, Howe and Kushi (1997) was used to adjust for under-

reported energy intake.

Qualitative data gathering

Semi-structured, in-depth interviews were used as stipulated by Miller and Crabtree (1999) to obtain information on the subjective experiences of participants, of the meaning and value of their lives on the farm. The standard question took the form of the following invitation: "Tell us about your life here on the farm." Facilitation then took place to clarify the participants' responses to the questions. The interviews were recorded on audio-tape, and subsequently transcribed as text data.

Data Analysis

The Statistica statistical programme was used in consultation with the North-West University statistical consultation services. The SPSS 2.0 for windows (SPSS, Inc., Chicago, IL, USA) was used for statistical analysis. Descriptive statistics were calculated for all the scales. These included the means, variances, ranges of scores, Cronbach alpha coefficients and differences between men and women. The sample size was too small to do confirmatory principal components factor analysis for each scale in order to test construct validity. Exploratory factor analysis was then conducted with the extraction of principal components for the psychological, nutrition, and physiological measures, after which correlations were calculated for the factors to indicate the relations between psycho-social measures of well-being, physical health markers and quality of life

Qualitative Analysis

The interview data were analysed qualitatively from a content analysis approach. A method using both inductive and deductive approaches was used as proposed by Berg (1998) and Neuman (1997). A thorough reading of data was done for purposes of identifying themes that seemed meaningful to the participants. Themes that emerged were categorised into broad categories (first order interpretation) and narrower sub-categories (second order interpretation) in respect of the broad categories. Trustworthiness was ensured by applying the following of Guba's guidelines (Krefting, 1991): Triangulation of data sources, including interviews, participant observation and literature control was

done in order to check on all aspects of the farm workers' experiences. Member checking was applied by doing follow-up interviews with the participants to verify themes and sub-themes that emerge from the data. The researcher and one supervisor, who is an experienced qualitative researcher, independently followed a code-recode procedure with consensus discussions afterwards. Finally, an audit trial was done based on fieldnotes and continuous reflection on the research process.

RESULTS

Quantitative Results

Descriptive Statistics

Table 1 shows the descriptive statistics and reliability indices of the measuring instruments used in the study. The obtained Cronbach alpha reliability indices for the psychosocial variables vary between scales, with some reliabilities slightly lower than those reported elsewhere. On the basis that a small convenience sample was tested, a Cronbach alpha coefficient of larger than 0.5 was considered to be acceptable since it showed a correlation and can be viewed as important in practice (Field, 2005). Although the alphas may be statistically acceptable, the results of the variables with notably lower values may require careful interpretation.

[Table 1]

The obtained mean SOC scores of 113.8 and 111.6 for both gender groups are relatively lower than the 117 to 152 reported elsewhere (Antonovsky, 1993; Wissing & Van Eeden, 1994; Wissing & Du Toit, 1994; Wissing et al., 1999). The obtained mean SWL scores of 13.7 and 14.9 are notably low in comparison to the range of 22.27 to 23.94 in other South African studies (Wissing & Van Eeden, 1994; Wissing, 1996; Wissing et al., 1999; Thekiso, 1999). The PNB score is also significantly lower than that reported in other groups (Vorster et al., 2000; Kammann & Flett, 1983; Wissing & Van Eeden, 1994; Wissing & Van Eeden, 1994). The difference between the reported PA and PNB between men and women is also significant, with women reporting practically lower scores. The NSC mean score is lower than that obtained in a study reported by La

Guardia et al. (2000), thereby indicating possible problems in relatedness, autonomy and competency in the group. The reported SVS is lower than that reported in the aforementioned studies (Nix et al., 1999; Ryan & Frederick, 1997). In interpreting the findings of the NSC and the SVS, it is worth noting that the data used for comparison were data obtained from western population groups as no comparative data were obtainable locally. The reported mean QOLI score was found to be in the very low range (Frisch, 1994), thereby indicating disparities in the various life domains for the group under investigation. The obtained total mean GHQ-score of 6.5 and 7.9 is clearly much higher than the range of 3.75 and 5.25 reported by Wissing and Van Eeden (1994) and Nienaber, De Jager, Oosthuizen and Wissing (1999), but it is less than the 9.32 reported by Wissing et al. (1999) in another study on Setswana-speaking farm workers in the same province. There is also a notable difference between men and women in the SD subscale, with women reporting relatively higher scores.

The obtained mean score for BP is observed to be within the average ranges and the acceptable standards (WHO, 1999) and lower than results obtained with urbanised participants (Vorster et al., 2000). The reported mean HR among males is comparable to that reported in similar studies although that reported for women is much higher (Vorster et al., 2000; M'Buyamba-Kabungu, Fagard, Staessen, Lijnen, & Amery, 1987). The obtained WHR score for both women and men did not exceed the respective cut-off points of 0.80 and 0.95, which is comparable to that found in similar studies (Van Rooyen et al., 2000; Vorster et al., 2000). The respective mean age-adjusted BMI of 20.7 and 23.7 for men and women show that obesity, as defined in the WHO criteria (WHO, 2005), is not a problem in this community. There are no marked differences on the nutritional intakes between men and women, except for some milder variation in the relatively higher alcohol consumption by men. The mean self-reported fat intake was observed to be notably higher in this group in comparison to findings in other similar studies (Van Rooyen et al., 2000). The mean daily reported alcohol intakes, calculated for all alcoholic beverages were notably higher than reported by Langenhoven et al. (1991) in the group under investigation, especially in the group of men.

Exploratory factor analysis (table not included) of the psychological measures yielded four factors explaining 85.5% of the variance (at an eigenvalue of 0.80), namely,

factor 1 (termed general psychological well-being by Wissing & Van Eeden, 1997, 2002) which included general health, sense of coherence and affect-balance whilst the remaining three factors consisted only of satisfaction with life, subjective vitality and need satisfaction, respectively. The nutrition measures yielded two factors explaining 89.9% of the variance (at an eigenvalue of 0.94), that is, factor 1 included total energy, fat, protein and carbohydrate intakes whereas factor two only represented alcohol intake. Physiological measures yielded three factors explaining 78 % of variance at an eigenvalue of 0.90 where factor 1 represented BP and BMI, factor 2 represented age and WHR and factor 3 represented HR.

On the correlations among factors (table not included), correlations larger than 0.3, indicate visible associations and those larger than 0.5, practical significant associations (Thompson, 2001; Wilkinson & the Task Force on Statistical Inference, 1999). QOL shows visible positive associations with the HR factor and factor 2 and relatively less positive association with the general psychological well-being factor and it shows visible negative associations with the BP factor. HR shows visible positive associations with instances of severe depression (SD) and severe anxiety (AS). NS shows positive practical associations with the general psychological well-being factor and visible positive associations with the SWL, and it correlates negatively with the alcohol, physiological and nutritional health factors. BP shows negative visible associations with the alcohol factor and to some extent with QOL, general psychological well-being factor, SWL, subjective vitality as well as factor2.

Using the regression analysis (table not included), with need satisfaction as the dependent variable at $p > 0.005$, the general psychological well-being factor seems the best predictor of need satisfaction, followed by satisfaction with life and subjective vitality. Using the stepwise regression with quality of life as the dependent variable, HR and age/WHR seem the best predictors of QOL.

Qualitative Results

The results are reported here in order of identified themes which are indicated in terms of first and second order categories.

Physical Health

Firstly, participants indicated a general sense of vulnerability, in that they feel exposed to, and concerned about a number of disease/illness risks. The majority of these included high blood pressure and tuberculosis, whereas HIV, bronchitis, cardiac failure, liver toxification, diabetes and cervical cancer were mentioned to a lesser extent.

Limited knowledge about these different disease types did not prevent them from identifying specific factors they felt put them at risk. These included, firstly, unprotected working environment which is perceived to cause “*skin irritation, feelings of unhealthy heart and general feelings of ill-health*”; and secondly, poor quality of food which is associated with limited food choices, eating the meat of “*...animals possibly killed by unknown diseases...*”, and “*drinking contaminated water*”. Escalating food prices, inaccessibility of supermarkets and transport infrastructure difficulties are perceived to exacerbate the situation. Poor dietary tendencies, high alcohol intake and usage of marijuana are also linked to the disease risk, as reported in: “*... I think it increases his blood pressure, ... when he drinks a lot, and eats too much salt.*”

Secondly, infrastructure linked to health care was perceived to be “*non-existent*” as there is no primary health care clinic, hospital or transport means to access health care facilities or health care personnel, except for a mobile clinic that occasionally visits the farms. Emergency response services reportedly rarely respond and if so they arrive very late, and very often too late to save lives when so required. Similarly, there is a general lack of primary health education. As compared to the older, the younger members of the community seem better informed through related educational programmes at school and by watching TV. There seems to be a lack of awareness on the role of physical fitness to stress management, constructive free-time and other such factors related to physical health. Younger men, however, occasionally jog or play soccer with employees from the neighbouring farms, but this seems highly inconsistent, unstructured, uncoordinated and an act of “*winding time*” rather than a target of fitness. Transportation difficulties are experienced regarding accessing various sporting destinations.

It seems that the participants experience their environment as a limiting factor to their realisation of better physical health. They have a general sense of disease vulnerability especially related to working conditions and poor diet.

Psychological Well-being

Perceptions of mental health emerged as an important factor in the psychological well-being of the participants. They focused much more on psychological ill-health than on psychological well-being, and tend to have a concrete-simplistic perception of both. They explained psychological ill-health for example only in terms of individuals' display of strange behaviour. One participant indicated that "... *problems that get too much? I think it's them that make them get mad. On our farm there are no mad people. But there are other people ... - sometimes they do things that you don't understand, but they are sometimes just fine*". It seems that there is little comprehension and sensitivity for, and support to individuals with subtle behavioural problems such as anxiety, depression, and a poor self-image.

In terms of optimal psychological functioning they believe that good or poor well-being comes from God, and have difficulty to find words to express positive emotions, as well as lack of activities, habits or behaviours aimed at promoting psychological well-being, and they are generally living without planning for the future. There also seems to be confusion regarding what is and what ought to be, a conflict between own values and the values of the employer. This is associated with lack of autonomy and competency, feelings of unhappiness, anxiety, hopelessness about the future and self-degradation. One farm worker summed it up when he stated: "... *you may not talk back, ...the boss is your father, ...the madam is your mother. We black people do not have good ideas.*"

Difficulties pertaining to effective problem-solving strategies came across as the second factor influencing psychological well-being of the participants. When confronted with stressful situations participants report crying, sleeping, "*to die inside*", talk with someone and/or use of humour. Talking about problems seems the least preferred way due to perceived lack of confidentiality, lack of practical solutions, and feelings of being ashamed. One participant indicated that: "... *whatever bothers me, I just tell, because the Madam said I must tell everything, ... I mustn't be afraid to tell her ... But I don't come as much - I'm ashamed <laughs>*". Religion also seems to be used as a way to cope with problems of daily living by some members of the community through going to church to

pray and to sing, and feeling better afterwards.

The participants seem to experience their lives as encapsulating. They generally express the desire to “*break free*” emotionally by improving on their lives, and physically by leaving the farm for better possibilities.

Quality of Life

Financial and occupational challenges included too little income for too much work and responsibilities; paying for things earlier obtained for free (e.g., maize meal); having little control over own income spending; and the lack of financial management skills associated with negative implications for future planning. One participant indicated that: “*They (fellow farm workers) don't look into the future, only today, they don't think of tomorrow.*” There were, however, indications despite the stated dissatisfactions, that occupation seems to offer some purpose to life, as one participant said: “*...I feel that when I'm busy, with something that I enjoy, like sewing blankets, then it feels good. It feels peaceful to do that which I'm doing.*”

Quality of interpersonal relationships was the second issue identified to influence the quality of life of the participants. This is especially experienced in terms of poor relations among farm workers, poor relations with the farm owners, and domestic difficulties among family members. The relationships between parents and children are often negative as indicated by “*children don't listen*” and “*parents are weak role-models*”. Poor interpersonal relationships seem exacerbated by themes of alcohol abuse, conflicting expectations, problems of trust, perceptions of prevalent unfair labour practices, as well as insecurities of work, income and shelter.

The third factor that seemed to influence the quality of life of the participants, is physical, transport and leisure infrastructure. Most of the participants lived in brick-wall houses and they often complained that “*houses leak when it rains*” and individuals lack the knowledge and means to control it and that there is at times over-crowding in some houses as adults share a single room with children. Sanitation facilities have been installed but “*they are most of the time in poor working condition*”. They also stated a lack of other social amenities such as churches, recreational facilities and transport. One farm worker reported his feelings upon seeing his family after over 15 years “*... it felt*

like my first birthday, like a prisoner coming out of prison.” The lack of recreational facilities and “*free time*” is associated with feelings of despair and frustration. They express desire for “*skills development projects, society schemes, and Night School for adult literacy*” but lack the required capacity and “*time*” to do so.

DISCUSSIONS AND CONCLUSIONS

In the current study the psychological well-being, physical health and the quality of life of farm workers in the North West Province of South Africa were investigated. By using the empirical theoretical orientations of Wissing and Van Eeden’s (2002; 1994) conceptualisation of psychological well-being, Deci and Ryan’s (2000) Self-Determination Theory, Ryan and Frederick’s (1997) theory of vitality, and Frisch’s (1994) model of quality of life, the farm workers’ poor physical health, nutritional status and mental health profiles could be confirmed. The farm workers seem evidently an underserved population that is caught in a trap of poverty and destitution, with structural problems that cause isolation and hamper development, with compelling psycho-social, health and economic needs.

The lower experiences of sense of coherence can generally be explained in terms of historical circumstances of farm workers in South Africa (South African Department of Agriculture, 2003; Van Onselen, 1996 & Ellis, 2001). In this instance context, as conceptualised in terms of race, socio-economic indices and infrastructural resources (Temane & Wissing, 2006), seems to influence the mean scores. Inaccessibility of clinics, schools and other public services has negative implications for the health and education of the farm dwellers, including insecurity of land tenure.

The comparatively low (compare Wissing et al., 1999; Thekiso, 1999) reported results of life satisfaction suggest that the farm workers in the current study experience the subjective assessment of their global quality of life as very unsatisfactory, with components of poor interpersonal relations on the various relational levels. The expressed resolution to the situation seems to lie in the opportunity to “*break free*” and possibly leave the current place of living for a better one.

The experience of low quality of life at an affective level even though reported more among women suggests that the farm workers seem to have, at a cognitive level, a

negative evaluation of their quality of life. The negative affective evaluation is at an objective level corroborated by the reports of negative physical health indices, poor living standards, and general lack of required health and social infrastructure, and accessibility of important social amenities. These aforementioned living conditions are typically characteristic of the historical circumstances of black South Africa in general and that of farm workers in particular (Ellis, 2001; South African Department of Agriculture, 2003; Van Onselen, 1996), with regard to the poor working and living context as perpetuated by the apartheid legacy. It is noteworthy that these circumstances occur concomitantly with the participants' vulnerability and feelings of exposure to disease or illness risks due to their occupational and home environment, as well as inaccessible health amenities and lack of knowledge about mental health. It is perhaps a cumulative effect of these factors and more that could account for reported experiences of depression, distress, feelings of unhappiness and hopelessness about the future. Results showing women as more vulnerable and suffering more, could serve as a motivation for targeted programmes and policies aimed at alleviating the burden experienced by the female population.

The reported low levels of vitality among the participants correlate with the low levels of the sense of coherence reported in this study. A high level of sense of coherence is associated with high levels of feelings of vitality, as higher psychological and physical symptomatology is associated with decreased vitality (Kasser & Ryan, 1999; Ryan & Frederick, 1997). Given the low levels of sense of coherence of the farm workers, high psychological and physical symptoms as revealed in this study, it is to be expected that the participants will also experience relatively low levels of vitality feelings.

Individuals whose basic psychological needs are better satisfied, experience significantly lower frequencies of somatic and mental symptoms, and conversely in situations where these needs are poorly attended, experiences of physical and mental symptoms strongly surface (Chirkov & Ryan, 2001). The fact that such high levels of symptomatology were found in the community under investigation supports the finding of the low levels of psychological need satisfaction. This finding is further corroborated by experiences of breakdown in both occupational and domestic interpersonal relationships, isolation from significant others and the broader world. More specifically, decreased feelings of competence and autonomy could be linked to the lack of specialised

occupational skills and employers' demands, respectively. That is, according to London et al. (1998), farm workers represent a repository for a controllable working population, low skill and high-morbidity. The situation further calls for the consideration of the role of power relations in dealing with the health and human rights concerns of the farm workers (London, 2003).

Hypertension does not seem to be a disease of immediate concern among the participants in rural areas. Using the South African age-specific coronary heart disease risk level indicators (Rossouw, 1983), more participants in the study fall into the low-risk category. In the current study, blood pressure is observed to relate negatively to quality of life, the general psychological well-being factor, satisfaction with life and need of satisfaction. Since the development of hypertension is associated with lifestyle factors such as dietary factors, physical inactivity and other factors causing predisposition to obesity, the obtained results could possibly highlight minimal external influences on the community's cultural way of life, possible less acculturation or westernisation (Van Rooyen et al., 2000) in the farming community.

Heart rate has been demonstrated to be the best predictor of quality of life. In this study it is practically negatively related to the psychological well-being factor and the satisfaction with life. Since the heart rate has been pre-determined as a negative health indicator in this study, these observations highlight the nature of the relationships between this physical health indicator, blood pressure and the indicators of mental health, as being negative. However, the negative relationship between blood pressure and alcohol as well as the apparently positive relationship between heart rate and quality of life remains inexplicable and requires further investigation.

In their own words, participants experience life as unpredictable, unmanageable, with little meaning and limited choices and opportunities, they tend to perceive themselves as helpless victims of the circumstances characterised by lacking supportive physical and health infrastructure, occupational and financial challenges and poor quality of interpersonal relationships. They report relatively lower psychological well-being, feelings of vitality and need satisfaction as well as relatively higher instances of psychopathology, poor states of physical health, nutritional deficiencies and poor quality

of life. The results seem to indicate that the participants tend to perceive themselves as existing in an environment where primary control of own life has failed, where the sense of self has been diminished, and where the future looks bleak. Amidst the apparent state of deprivation, they provide vital indications of glimpses of resilience through overt expression of desire to change their circumstances, given the chance.

It is hereby submitted that the deficiencies in the rural public health policies and their impact on the health of the rural communities could also have some contributory effect on the productivity, profitability and sustainability in the sector (Thekiso, Botha & Wissing, 2008). These findings may be used as a basis for a follow-up project of an intervention capacity-building programme aimed at addressing the observed problems from a psychological strengths perspective. Interventions could also focus on influencing rural health policies, promotion of the rights (Human Rights Commission of SA, 2007) of farm workers as well as the removal of factors that reinforce their dependence and passivity (London, 2003).

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Table 1: Descriptive statistics, gender differences and reliability indices of the measuring instruments (N = 52)

Variable	Total		Male		Female		d	α
	Ave	SD	Ave	SD	Ave	SD		
<i>Psychosocial health</i>								
SOC	113.5	21.8	113.8	19.4	111.6	25.4	-0.08	0.70
SWL	13.9	7.3	13.7	6.4	14.9	9.25	0.14	0.64
AFM PA	36.4	6.3	38.2	6.2	33.0	5.5	-0.84	0.56
AFM NA	29.0	6.6	28.5	6.6	30.7	7.0	0.31	0.53
AFM PNB	7.4	10.1	9.72	10.0	2.3	9.5	-0.74	*
NSC A	10.1	2.6	10.0	2.60	9.8	2.81	-0.08	-
NSC N	10.2	2.5	11.3	2.4	10.7	2.77	-0.24	-
NSC R	10.4	2.3	10.5	2.1	10.3	2.4	-0.08	-
NSC TOTAL	31.5	5.2	31.8	4.7	30.7	6.3	-0.17	0.63
SV	24.4	3.3	24.5	3.2	23.7	3.8	-0.24	0.51
QOLI	1.7	9.3	87.7	9.7	85.9	7.7	-0.19	0.65
GHQ SS	1.9	1.9	1.7	1.7	2.0	2.4	0.11	-
GHQ AS	1.5	1.7	1.5	1.7	1.6	2.0	0.07	-
GHQ SD	1.2	1.7	1.3	1.5	1.2	1.4	0.09	-
GHQ DS	2.2	2.0	2.0	1.9	3.1	2.3	0.49	-
GHQ TOTAL	6.8	5.2	6.5	4.6	7.9	6.8	0.20	0.86
<i>Physical health</i>								
BP Syst	30.2	16.1	132.0	16.8	125.7	14.2	0.38	**
BP Diast	79.2	9.8	78.9	8.6	80.1	12.7	0.10	**
HR	74.2	0.1	69.4	12.0	85.3	13.0	1.22	**
WHR	0.8	0.1	0.9	0.1	0.8	0.1	-1.85	**
BMI	21.0	3.2	20.7	2.7	23.7	5.1	0.58	**
<i>Nutritional health</i>								
QFFQ Energy	1015.9	4686.9	9968.5	4949.9	1019.6	5081.0	0.04	**
QFFQ Fat	45.1	33.9	44.0	36.2	52.0	38.8	0.21	**
QFFQ Alcohol	17.6	29.9	18.2	27.8	7.2	22.9	-0.39	**
QFFQ Protein	70.7	39.3	69.3	42.1	78.6	49.7	0.19	**
QFFQ Carbohydr	378.9	145.3	371.9	165.7	373.4	166.2	0.01	**

Note: SOC= Sense of Coherence; SWL=Satisfaction With Life; AFM=Affectometer; PA=Positive Affect; NA=Negative Affect; PNB=Positive-Negative-affect Balance; NS=Need Satisfaction; A=Autonomy; N=Relatedness; C= Competence; NSC=Need Satisfaction Scale; SV=Subjective Vitality; QOLI=Quality of Life Inventory; GHQ=General Health Questionnaire; SS=Somatic Symptoms; AS=Anxiety and Insomnia; SD=Social Dysfunction; DS=Severe Depression; BP=Blood Pressure; Syst=Systolic Blood Pressure; Diast= Diastolic Blood Pressure; HR=Heart Rate; WHR=Waist-Hip Ratio; BMI=Body Mass Index; QFFQ=Quantity Food Frequency Questionnaire; Carbohydr=Carbohydrate SD=Standard deviation; d= effect size; α = Cronbach alpha; *=Cronbach alpha for PNB could not be calculated because this value consists of the sum of PA (Positive Affect) and NA (Negative Affect); **standardized and valid

Section 4: Manuscript 3

Guidelines for promotion of the biopsychosocial health of farm workers

Prepared for submission to

Health SA Gesondheid

4.1 Guidelines for authors

Health SA Gesondheid

- Body text paragraphs should be in double spacing, **not** indented, left aligned (not justified) and an open (empty) paragraph after each text paragraph.
- Body text font type and size should be Arial size 10.
- Article must be submitted in MS Word format or recent compatible software format.
- Abstracts in English and Afrikaans of no more than 200 words must be included in the article. The abstract must accurately reflect the content of the article.
- Five keywords describing the contents of the article should be submitted.
- The article itself may not compromise more than 20 pages (including abstract and referenc list; excluding figures and tables) and authors must supply a word count. In exceptional cases longer articles may be accepted.
- The journal has a policy of anonymous peer review. Authors' names are withheld from the referees, but it is the authors' responsibility to ensure that any identifying material is removed from the article.
- The article must be ready for the press, in other words, it must have been revised for grammar and style. The author must provide a letter from a language editor confirming this.
- The article must be written in clear English (South African/UK style) or in Afrikaans.
- All abbreviations should be written out when first used in the text and thereafter used consistently.
- All references to source books must be acknowledged according to the revised Harvard method.
- It is the author's responsibility to verify references from the original sources.
- All illustrations, figures and tables must be numbered and provided with titles. Each illustration, figure and table must, in addition, appear on a separate page and must be graphically prepared (be press ready). Illustrations, figures and tables must be black and white - **NOT in colour**. The author is responsible for obtaining written permission from

the author(s) and publisher for the use of any material (tables, figures, forms or photographs) previously published or printed elsewhere. Original letters granting this permission must be forwarded with the final article.

- Headings are **not** numbered. Their order of importance is indicated as follows: Main Headings in **CAPITALS** and bold print; sub-headings in **UPPER** and lower case and bold letters; sub-sub headings in upper and lower case, bold and italic letters.

4.1 Manuscript

Guidelines for promotion of the biopsychosocial health of farm workers

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ABSTRACT

The primary purpose of this study was to provide guidelines for interventions for health promotion and fulfilment of needs of farm workers in the South African context. These guidelines are informed by empirical findings on psychosocial needs and general health of farm workers and people living in rural areas. An evaluation of the status quo in the specific areas of physical health needs (food security and nutritional concerns, HIV/AIDS pandemic and physical inactivity), mental health and other psychosocial needs are presented. Specific guidelines are proposed to address the identified problems as well as possible integrated interventions to promote health and well-being. The guidelines are broadly grouped into operational intervention guidelines and administrative/bureaucratic guidelines. These range from the suggestions for optimal use of the existing physical infrastructure to capacity building programmes aimed at biopsychosocial health promotion. Recommendations for further empirical investigations are also presented.

Keywords: psychological well-being, health promotion, intervention, farm workers.

The aim of this article is to provide guidelines for intervention on the health and needs of farm workers in South Africa based on empirical findings of previous studies. This is done in the understanding of an attempt that would contribute to addressing the health and other needs of the rural community whereby poverty is understood *"in a broader perspective than merely the extent of low income or low expenditure in the country. It is seen here as the denial of opportunities and choices most basic to human development to lead a long, healthy, creative life and to enjoy a decent standard of living, freedom, dignity, self-esteem and respect from others"* (StatsSA, 2000:54). The farming and rural communities represent a significant population group in the life of each nation by virtue of the role they play in the provision of food and care for the environment through agricultural activities. In 2006 the formal agricultural sector in South Africa contributed 2.7% to the national GDP and the large-scale agriculture employed about 489 700 employees (StatsSA, 2007:1). These figures show sharp declines in this sector, compared to the 20% in 1930s, 11% in 1960 and 5% GDP contributions in 1999 (National Economies Encyclopedia, 2008:1) and employment of about 914 000 in 1996 (StatsSA and National Department of Agriculture, 2000:vi). In the United States between 2000 and 2005, about 80% of predominantly farming areas experienced population losses as a result of problems of employment, education and health care services, as well as difficulties to retain young people (Farm & Food Policy Project, 2007:1).

The decline of the workforce on farms inevitably exercises a negative impact on the food security of countries in the world (Corporate Watch, 2008:1). Furthermore, these undesired outcomes could reflect the role of globalisation with increased mechanisation, externalisation of labour as well as other cost-cutting measures. The shortcomings in the government's policies on public health and the impact of these on the health of the farming communities could also have some negative contributory effect on the productivity, profitability and sustainability in the sector (Thekiso, Botha & Wissing, 2008a:26-27). According to Lutz-Tveite (2007:2) the state of health as it presents among farm workers largely remains compromised, and their reaction to ill-health is

often a trade-off with the productivity of the farm in the wake of which would follow manifestations such as decreased lifespan and lifetime productivity.

The interest in the health and well-being of farm workers should be deemed a priority to policy makers, in order to ensure that the communities manage to continue performing their primary functions with fewer interruptions. The opposite, however, seems to be happening as evidenced in the reports on farm workers which show communities suffering extreme poverty, mental and physical health problems (Thekiso, Botha, Wissing & Kruger, 2008a:53-62; Vorster, Venter, Wissing & Margetts, 2005:488), food insecurity (FAO, 2007:7), dietary and nutritional deficiencies (Lemke, 2005:854), inadequate or lack of access to health and education infrastructure, lack of services and infrastructure backlogs (StatsSA, 2002:26-59), violence and other violations of their human rights (HRCSA, 2007:4; 2003:2). This current dire situation of the farm workers in South Africa can largely be explained by the inherited apartheid legacy whereby the majority of the people of non-European descent were dispossessed of land and means of livelihood, and were displaced to the arid homelands, some were forced into farm labour, and others were used as migrant labour in the mines and urbanising areas during the gold rush period (Alexander, 2004:120; Van Onselen, 1990:106-107) with no provision of the necessary services or infrastructure.

With the advent of democracy in 1994, the government representative of all the people of South Africa set forth ambitious plans to correct the misdoings of the past and bring about an egalitarian society. State intervention through the democratic government plans has made a difference in the lives of many South Africans in many areas of life as in access to clean tap water, proper ablution facility, and use of electricity and household electronic goods in working order, thereby 'showing progress in living standards' (StatsSA, 2007:1). The government spending on health and education still remains the largest part of the budget which is oriented towards social spending and welfare initiatives thereby also projecting the government's intention to proceed in this direction for the coming financial years (Medium Term Budget Policy Statement, 2007:1). Social

and economic inequalities, however, still persist and numerous challenges remain to be overcome, some of which refer to the physical and mental health needs of farm workers (Thekiso, *et al.*, 2008a:17-25).

Governments often overlook the health care needs of the farm workers in the face of often competing urban health care needs (Lutz-Tveite, 2007:1-3; Farm and Food Policy Project, 2007:4). The rural population's characteristics of being transient with language diversity, limited literacy and its setting (Sandhu, Hey, Newman & Angogino, 2007:2) also make information transmission and service delivery difficult. In addressing these needs, the democratic South African government introduced among others, the incorporation of Cuban medical practitioners, nurses from India, additional incentives for professional health staff in rural areas, compulsory community service for recently qualified health care practitioners and further outlined a set of goals to be attained by 2009, in the draft Rural Health Strategy (Department of Health, 2007:2-4). The state also increased the 'social wage' contribution whereby the total number of people benefiting from social assistance grants increased from about 2.6 million people in 1999 to about 12 million people in 2007, with the per capita real income of the poorest 10 and 20 per cent of the population having risen to R758 and R1 051, respectively (Development Indicators, 2008:24). The introduction of public health initiatives that are aimed at reaching all citizens equally, in every part of the country, may prove beneficial in the well-being of the nation through having a healthy rural workforce (Lutz-Tveite, 2007:1).

The global health situation review of these communities revealed praxis (Thekiso *et al.*, 2008a:17-25) whereby the government's interventions on the situation, however meaningful, seem to fall short. The ever-increasing public health budget still remains under strain, and also increasingly so; socioeconomic deprivation and lack of access to services are an order of the day; the burden of physical and mental health is unevenly skewed against the rural communities; food insecurity and nutritional deficiencies are rampant; and human rights violations are out of control. In a more specific transdisciplinary assessment of the farm workers' health and needs situation,

there emerged a picture (Thekiso *et al.*, 2008b: 54-60) detailing a farm worker community with lower than required nutritional intakes, excessive alcohol consumption, experiences of life as unpredictable, unmanageable and meaningless, unsatisfactory and decreased vitality; low positive-negative affect balance; low levels of satisfaction of the needs for autonomy, competency and relatedness; and general poor quality of life. Notable, in the same study, were the differences between men and women as women would seem to suffer higher levels and frequency of physical and psychological distress. Other reported structural impediments hardly conducive to the desired progress and development of improved conditions included, *inter alia*, actual physical distance, poor road and transport infrastructure and inaccessibility of other critical services which literally isolate and disconnect the rural community from the broader society.

The physical health status of the farm worker communities in South Africa as compared to that of their counterparts in the other strata of society has been a picture of poor health, with reasons unclear for the state of affairs (Vorster *et al.* 2005:488). It appears that the food security and the nutritional concerns, the problems accompanying the HIV/AIDS pandemic and the lack of rural people's physical activity pose additional physical health challenges in these already overburdened rural communities, thereby requiring supplementary interventions over and above that which is already being done in order to address the identified problems. Barnabus, Biyela, Cavanagh *et al.* (2005:26), in response to the physical health problems that affect farm workers, recommended approaches that include policy and strategic interventions.

The following were also generally identified (Thekiso *et al.*, 2008a: 16-17, 22-23 & Thekiso *et al.*, 2008b: 57-60) as problem areas in the effective service delivery of mental health in the rural areas, confirming other rural studies (McDonald, Harris & LeMesurier, 2005:1; Mulder, Kenkel, Schellenberger, Constantine & Streiegel, 2000:24-7): *stigma and cultural issues* which include the social stigma of mental illness, lack of knowledge about mental health, lack of rural-specific technical assistance, focus on illness care rather than on adequate early intervention and prevention; *structural and organisational issues* which include lack of public transportation,

distances and difficulties of reaching health care even when private transportation is available, lack of comprehensive needs assessment data specific to rural areas, and excessive times of waiting before services are available.

PREVIOUS AND EXISTING INTERVENTIONS IN SOUTH AFRICA

In the South African context, very little could be found on specific interventions aimed at promoting the biopsychosocial health and addressing related needs of the farm and rural communities. In addressing problems of physical inactivity and chronic diseases of lifestyle, the Department of Health initiated programmes such as Vuka South Africa – Move for your health (Department of Health, 2005:1; WHO, 2005:75-8) and Healthy Lifestyle Campaigns (Ministry of Health, 2008:1). The Department of Sports and Recreation responded by promoting “Indigenous Games”, building multi-purpose sporting facilities in rural and needy areas (Burnett & Hollander, 2006: iv) and the Youth Fitness and Wellness Charter (2006:1).

Following the multidisciplinary THUSA and FLAGH studies, several studies and intervention programmes were undertaken. The THUSA BANA (THUSA = Transition, Health and Urbanisation in South Africa, also means “help” and BANA, means “Children”) study (Mukuddem-Petersen & Kruger, 2004:842) was an empirical investigation among the children of 10 – 15 years, and it gave rise to the PLAY (Physical Activity in the Young) study (Kruger, De Ridder & Underhay, 2004:1) wherein the physical activity effects among the stunted children were investigated.

In terms of the WHO Constitution (1986:1), it is considered one of the fundamental human rights for every people, wherever they may exist, to enjoy the highest standard of health attainable. And according to the supreme law of the land, the Constitution of the Republic of South Africa (1996), it is stated that all the citizens shall enjoy the inalienable basic human rights as captured in the Bill of Rights, as well as all the other rights and human necessities that are mentioned in the constitution and/or otherwise considered reasonable. Other additional laws were also passed in favour of the farm worker communities, namely, ESTA (1997) and LTA (1996). These legislations

were passed in an attempt to regulate the relationship between land owners and farm dwellers on privately owned land, to prevent illegal evictions and make provision for the acquisition of land by farm dwellers. Another key legislative attempt to address problems in the agricultural sector was through the regulation of minimum wages and minimum conditions of employment (Department of Labour, 2002:1). Even though these legislations are considered to be progressive, the situation on the ground remains barely unchanged for the majority of the farm workers as reported in failures in the land reform programmes (Giampaoli, 2007:2,3), as well as their physical health and psychosocial well-being, quality of life and other needs (Thekiso, *et al.*, 2008a:17-25; & Thekiso *et al.*, 2008b:54-60). These situations of life on the farms have multiple health implications as reported in earlier above-stated research findings.

As it has been stated in the previous discussions, the South African government has introduced several other measures to alleviate the burdens on the shoulders of these farm workers but various challenges still persist. Lutz-Tveite (2007:1) argues that having proper health programmes in rural areas would improve governments' awareness of rural needs and relations with the communities whereby the governments will obtain trust, which may prove essential in governments' later introduction of environmentally sustainable farming campaigns. On the basis of the observed farm worker health challenges, the various intended health care intervention initiatives need to be primarily targeted for educational and preventative care as well as immediate illness care. Such interventions may furthermore prove beneficial when done in an integrated manner, whereby aspects of health promotion are constructed to also address the identified needs of the communities and they are articulated along with the concerns over the rights of the farm workers.

On the basis of previous observations (Thekiso *et al.*, 2008b: 54-60) it seems plausible to assume that the relationship between physical health, psychological well-being and quality of life is a very important component to the comprehensive understanding of the general health of the farm workers. In this regard, the role of heart rate as predictor of quality of life and the negative

relationships between blood pressure and the mental health indicators are worth noting. Other observations suggest that subjective perceptions of physical health have been demonstrated to appear important as predictors of psychological well-being and general quality of life (Temane & Wissing, 2006:572-573). On the basis of the preceding observed relationships, planned interventions may need to also integrate the role of the above-mentioned relationships.

London (2003:66) suggests that public health professionals include the human rights dimension to interventions aimed at health problems of farm workers, that farm workers themselves be self-organised and demand that their needs be addressed. According to Mann et al. (1994:11-18) there is recognition of other factors at play in the realisation of physical, mental and social well-being in modern health concepts, however, little prioritisation has been given to identifying and understanding the modalities of those imperatives. They proceed to identify the impact of health policies, programmes and practices on human rights; the impact of violations of rights and dignity on health as well as potential benefits in the health and human rights fields upon their identification; and they present a case outlining that the promotion and protection of human rights is inseparable from that of health as both health and human rights are complementary to defining and advancing human well-being.

GUIDELINES FOR PROMOTION OF BIOPSYCHOSOCIAL HEALTH

The above-stated empirical observations are multidisciplinary and multi-sectoral and they cut across a wide range of sociopolitical and current issues in the South African context. The recommendations that follow are thus also premised on the dynamic relationships between physical health, psychological well-being and quality of life of rural communities, and more specifically, those of farm workers.

Given the report on the literature analyses and empirical findings, the following guidelines can be suggested for practical implementation, interventions, and future researches. Such guidelines

would be grouped into operational intervention guidelines and administrative/bureaucratic intervention guidelines.

Operational Intervention Guidelines

On basis of the findings about the psychological well-being of the farm worker communities whereby it was observed that more than their urban counterparts (Vorster et al., 2000:512-513), farm workers suffer mental and behavioural problems such as depression, negative affect, anxiety, alcohol and substance abuse, etc. (Thekiso et al., 2008a:26), it is hereby recommended that the role of factors in the community that contribute to this state of being, be addressed with the objective of improving their quality of life towards addressing limitations to the possibilities in the lives of the farm workers. In an attempt to make full use of the limited health care resources that are available to the South African farm workers, it is hereby recommended that the services of the rural/"visiting" health nurses or community social workers be reinforced by designing short-training modules that would empower them to easily identify situations of depression, anxiety, alcohol and substance abuse, and other relevant psychological and spiritual needs (Ide, 2001:1). Alternatively, or as a supplement to such efforts, a new pool of community health workers could be educated and trained in the identified areas of need.

In the South African context, such education and training could be done through the widely supported and government subsidised programmes known as the Health and Welfare Sector Education and Training Authority (HWSETA, 2008:1). The trainees or health workers that successfully undergo training in the proposed modules would receive the National Qualification Framework (NQF) credits and qualification that enjoys national (South African Qualification Authority/SAQA) (SAQA, 2008) and international recognition. In such population-specific training modules, specific focus could be on areas that include education and training on: (i) sensitising the rural health workers to the signs of depressive disorders (Mulder et al., 2000:29), anxiety, trauma and other rural or farm-worker population-specific mental health problems; (ii) the on-site administration and interpretation of the screening depression scales (Zung, 1997), the anxiety

self-rating scale (Komor, 1999), and other such related instruments; (iii) identifying and supporting of persons with mental illness in the community; (iv) identifying and supporting of abused children and women; (v) implementing health promotion in the community; (vi) providing information about HIV/AIDS and treatment options in community; (vii) assisting the rural health workers to be more sensitive to the concerns that are more gender- and role-specific, and other ethical concerns associated with farm worker circumstances. The primary objective of such education and training interventions would be to "*integrate a range of awarenesses and competencies to practice the roles of health promoter, health provider and health networker within a community development context*" (SAQA, 2008:1).

Following the proper screening of the farm worker, the next important step would be to have at disposal improved referral channels and effective use of alternative practitioners (Vermont Department of Health, 2006:4). The development of such channels is a necessary and indispensable next step following successful screening and identifying of cases requiring attention. The screening practitioners need to have at their disposal lists of relevant people (for example counselling-trained religious ministers) and other relevant practitioners, health centres and other appropriate places as dictated upon by the outcome of situational assessment. Psychology internship and community psychology programmes could be used to provide crisis intervention and counselling services.

Mental and physical health care providers are mainly concentrated in the urban areas, inaccessible to the farm and rural communities, and this is even more evident, and most unfortunately so, when it comes to psychologists and psychiatrists. It would be of great assistance to obtain empirical evidence regarding the availability of mental health professionals to the service of rural residents. Also important may be evidence regarding the instances of rural residents receiving psychological services from primary care workers who may be poorly prepared to recognise and treat mental illness and behavioural disorders. Given the reported unavailability of trained mental health providers, it may be crucial to determine how often the rural

individuals are forced to seek mental health services from the “de facto mental health system”, including religion ministers, self-help groups, family or friends (Fox, Merwin, & Blank, 1995:450).

At primary health prevention level there is recommended development of the on-site support programmes that complement already-existing programmes such as the mobile primary health care clinic. The support programmes may include training programmes aimed at addressing the interpersonal skills of farm workers and farm managers or farmers, human resource management of farm managers or farmers, encouragement of physical activity, proper diet and nutrition, and the development of effective coping strategies. In the execution of the afore-mentioned and suggested strength-building focused programmes, post-graduate psychology students could be used as facilitators.

It is reported that in South Africa about 2.2 million are food insecure (Ministry of Agriculture, 2006:1) and about 14 million households are vulnerable to food insecurity (Machethe, 2004:1) and uncertain where their next meal will come from. The South African government's major hunger relief and nutrition programmes, include the national school feeding scheme programme and indigence food parcels offered by the Department of Education and the Department of Social Services, respectively. However, these very commendable government health care and nutrition programmes, often do not reach the farm workers (Lutz-Tveite, 2007:1-3). The question of food and nutrition insecurity is a social and political problem in South Africa and Southern Africa, and has for long been left to natural scientists and economists, whereby it now in addition evidently requires social perspectives to address the underlying problems at individual, household and community levels (Lemke, 2005:845). On the basis of the reported problems of dietary and nutritional deficiencies experienced by both adults and children in rural communities, it is important that nutrition education (Lemke, 2005:849) be expanded in order to teach consumers more about the importance of nutritional foods and good eating habits such as eating more fruit, vegetables, whole grains, beans and legumes, and other minimally processed foods (WHO, 2004:8). The government initiatives of community vegetable garden programmes, food parcels

and emergency food baskets need to be expanded to also reach the farm worker community. In areas where such programmes already exist, efforts need to be made to sustain them and intensify them to the households' levels. In the current global context of major food security problems, it may be important that the farm workers also be prioritised under the government's "Poverty War Room" initiative (Mbeki, 2008:1).

Findings on the physical activity of the rural communities were observed to be lower than the existing public health recommendations (Lambert & Kolbe-Alexander, 2005:25) thereby indicating the apparent need in this community. In studies whereby both urban and rural populations were investigated, it emerged that men and urban dwellers were more physically active than people in the rural areas (Vorster et al., 2005:488; Lambert & Kolbe-Alexander, 2005:25). Thekiso et al. (2008a:18) further observed that the general lack of primary health education seems to play a role in the reported physical inactivity among the rural communities as observed in their lower physical engagement which is also not necessarily performed as a target of fitness. In the same study there were reported frustrations with infrastructure required to promote physical activity as well as the lack of an environment conducive for such related activities. It is therefore stated that health interventions include the element of physical activity in their content and focus.

Administrative/Bureaucratic Intervention Guidelines

As on March 2006, the Commission on Rural Health Strategy (Department of Health, 2006:4) declared the absence of an agreed upon definition of the term "rural" in South Africa. The current confusion in the South African context is largely due to the new demarcation and classification of areas following the democratic government's attempts to properly integrate societies previously separated by artificial racial borders. There is as a result blurred dividing lines between city, peri-urban, large town, small town, farm and deep rural areas as all areas now fall under a municipality, whereas in the past the municipal term was reserved only for large urban towns/cities predominantly occupied by whites with adjacent black townships and everything else was considered rural (Department of Health, 2006:5). The distinctions between rural and urban

are often arbitrary, may vary across countries, and households may be multispatial (Tacoli, 2007:1-2). For the purposes of proper public health care planning and interventions for the benefit of the most needy areas/communities, it is argued that the definition of rural be constructed in such a way as to include the low population density and sparse populations, geographical distance from large metropolitan areas, isolation, dense social networks, culture of self-sufficiency, and fewer economic and manpower resources, whereby the definition will also include people living in tribal areas and people living on commercial farms. Such a classification may contribute towards making it difficult for the populations that are in real need to fall through the cracks when targeted plans are made to address exactly such situations of need. The Department of Health's (2006:2-6) intention to pursue targeted interventions and the suggestion to include dominant settlement pattern and access to amenities in criteria for categorisation for rurality is perceived as a positive attempt towards addressing health care problems of the rural communities.

In an attempt to respond to the problems of health and other related needs of the said communities, there needs to be clear knowledge of the demographics of the target population in order to respond appropriately to the needs of various rural categories in a more targeted manner. The Strauss Commission (Coetzee, 1997: 1-2) on the provision of rural financial services, made the following differentiations: women farm workers, male farm workers, the landless, unemployed rural poor, pensioners, small holder farmers, contract farmers, rural business women, businessmen/small scale employers and large scale rural employers (including commercial farmers). It is recommended that the classification of the demographic information about rural communities be made in ways that allow for the more specific collection of information, in order to inform more specific interventions. It is therefore suggested that such classifications be made in categories that provide information on the above-mentioned and the following: respective farm worker age groups, the landless, unemployed rural poor, pensioners, and children (Coetzee, 1997:1-2). The use of this demographic information when conducting rural surveys would provide crucial statistical information that would assist

bureaucrats and policy makers as they plan the distribution of the essential but limited resources amongst these poorest of the poor.

It is further recommended that any future policy making aimed at improving farm and rural health care delivery be considerate of financing and reimbursement that would be flexible and would eliminate the red tape of passing through various spheres of government and departmental levels; promoting acquisition of rural specific data and research; allowing targeted funding that establishes culturally specific outreach programmes; and opening a door of possibility to optimal utilisation of technology in bringing health care services to the people.

The spatial nature of the rural communities themselves, whereby small groups of people are spread across the vast spaces of land not only causes isolation, but also poses serious challenges of planning and bringing of services to the people (Slama, 2004:9-11). Planning and bringing of services to the people thus becomes a financial and a bureaucratic nightmare. The three tiers of government system in South Africa, coupled with its decentralisation of resources and responsibilities aimed at strengthening local authorities, presents an opportunity for meaningful interventions on addressing the dire situation of rural farm worker communities. Local authorities thereby have an opportunity to assume their significant function of supporting economic development and poverty alleviation as well as being infrastructure and services providers (Tacoli, 2007:9). However, the local authorities' intervention capacity seems to be frequently obscured by the "red tape" that involves supply-chain processes through the provincial tier of government. As a result issues of social infrastructure, such as health and education, are left to suffer at the hands of bureaucracies. It is against this background that the issues pertaining to the revision of constitution of provinces in their current form are supported with the view to see a shift of authority from central to local level thus allowing more flexible and responsive approaches to regional planning.

On the basis of the glaring rural disparities and existing rural needs that include physical health, mental health and social well-being needs; unavailability and inaccessibility of needed services; physical infrastructural backlogs; and the lack of resources to make services available to maximum number of people who require them, there is imminent need to consider optimal utilisation of already existing social amenities, for example school grounds or underutilised buildings in the rural areas, for the creation of on-site primary health care facilities where there would be less need to erect new infrastructure for electrical, water and sewer reticulation connections. Such multi-purpose use of resources may contribute to the keeping of an educated and healthy rural workforce which would benefit both the economy and environment in the developing countries (Lutz-Tveite, 2007:1, 2, 4).

The access to health care facilities is a major challenge in bringing services to the farm worker communities. This challenge is inseparable from general infrastructure-related problems confronting the farm workers with negative impact on their health and quality of life. For example, the backlogs in the physical infrastructure, such as in the lack of proper housing, transport, road, electrification, sanitation, waste disposal, and telecommunication infrastructure (StatsSA, 2002:26-59). It is possible that claims of universal health care planning may be misleading, as in the case of the Peruvian system whereby Amnesty International strongly refutes such claims by highlighting that the rural communities are unfairly treated as they have to travel long distances and after reaching the 'free' medical care facility they then have to pay for their medicine (Lutz-Tveite, 2007:2). Given the magnitude of the rural health problems along with the challenges of limited resources it is probably inconceivable to assume that it will be practical for the required facilities to be simultaneously erected or deployed at all the needy areas. It is against this background that it is hereby recommended that where possible, Rural Health Clinics be established and where not possible, School Health Clinics be piloted as a model for service delivery in rural areas. It is further recommended that there be developed a Rural Health Office within the Department of Health which will primarily address rural health care issues and also facilitate interdisciplinary service delivery.

The recommended Rural Health Office would have very strong working relationship with the Department of Agriculture and Land Affairs' Extension Workers/Officers division, the Department of Labour's Occupational Inspectorate division, rural/farm organisations and organised labour, and other farm and farm worker programmes. Furthermore, these will need to be formed along with Rural Health Forums operating under the coordination of the Rural Health Office, whereby the relevant role players are represented and efforts are combined to develop a consolidated rural chronic Disease Education and Prevention programmes, and also begin to address the complex issues that prevent rural communities from accessing adequate health care services.

In the context of areas under tribal authorities, the involvement of Communal Property Associations, Local Municipalities and District Municipalities may also be indicated. The Rural Health Office would have key performance areas that would include, but would not be limited to, primary health care and community mental health. The establishment of local health committees will also be recommended. It is acknowledged that communities need to be fully involved and committed in solving problems that affect their lives, that they need to ensure success within their own capacity, and need to also avoid reliance on the crutch provided by external help but rather treat any external assistance as a necessary push in the right direction and depend on own initiative. Precautions also need to be taken against money 'disappearing into the pockets of bureaucrats'.

In a response to the question of Food Security and Land Reform programmes, it may prove essential to ensure that public policy effectively addresses the issues of prosperous farming (Farm & Food Policy Project, 2007:3) whereby focus is on: challenges of farm succession and viable farm business establishment; challenges of entry and success; difficulties of obtaining credit and insurance; mentoring and training opportunities; and entrepreneurial agriculture.

On the HIV/AIDS question, the global number of people living with the disease has decreased from about 40 million to about 33 million people in the world, and with India revising its numbers of infected people; South Africa may have become a country with the highest number of infected people in the world (New York Times, 2007:1). In the ensuing public discourse about the pandemic, the role of nutrition in the disease gains acknowledgement in all manners of ways that often leave the infected at the periphery (United Nations, 2008:2; ASSAf, 2007:v; Mbeki, 2007:1; Lemke, 2005:845-6). Literature on the subject demonstrates the inaccessibility of nutrition to the most poor in the society, the disproportionate effect on women, and the challenges to established socio-cultural and economic practices of the society. It is suggested that there be action that is integrated, gender sensitive, that combines labour-saving and improved food production technologies, HIV/AIDS awareness and prevention campaigns, vulnerability assessment and mapping systems, education, social analysis, with the participation and empowerment of women as the cornerstones (United Nations, 2008:3). Given that there are already numerous government programmes and other interventions by the broader civil society aimed at addressing the HIV/AIDS situation in the rural areas, special attention may need to be focused on the improvement and better use of technology and other media used for the transmission of the intended prevention and educational campaigns, which often seem inaccessible to the rural communities. The HIV/AIDS campaigns may require to be tailored to be sensitive to the farm community dynamics.

CONCLUSION

The aim of this article was to provide guidelines for interventions for health promotion and fulfilment of needs of farm workers in particular and the rural communities in general, in the South African context. This was based on the empirical research showing that these communities presented with unsatisfactory levels of physical and psychosocial well-being and were on top of that not in a favourable position to bring about significant changes to assuage their predicament. The range of their needs included, *inter alia*, food insecurity and related nutritional concerns as well as disease and fitness challenges and in general inadequate knowledge, skills, facilities and

funds by means of which to address the existing problems. A brief assessment of the existing rural interventions and programmes was made. Guidelines were put forward for integrated interventions to promote health and well-being of people in these communities.

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Section 5: Conclusion and Recommendations

The aim of the study was to explore the psychological well-being, physical health and quality of life of farm workers in South Africa. This objective was achieved in a structure of three manuscripts by firstly, conducting a review of literature on the state of rural communities as reported in studies conducted in South Africa; secondly, conducting a mixed methods empirical study that describes the psychological well-being, physical health status and quality of life in a group of farm workers in the North West Province, and exploring the relationships among these variables in this specific group; and thirdly, providing guidelines for the promotion of biopsychosocial health of farm workers. The primary reason for this exploratory study was in response to the THUSA study findings highlighting the desperate situation of farm workers in comparison to people from various strata of urbanisation in areas of psychological well-being and physical health (Vorster *et al.*, 2000). Due to the lack of adequate information and baseline data on the reasons and factors contributing to the farm workers' described state of affairs, it was argued that there was need for studies on the lives of farm workers from a health promotion perspective.

The findings, as represented in the main conclusions of the three manuscripts, indicate factors such as the following: the rural communities generally suffer poor socioeconomic status, poor access to services, physical infrastructure problems, food insecurity and nutritional problems, physical and mental health problems, and violence and violation of their human rights (Manuscript 1); farm workers, in a specific region, experience poor states of physical health, nutritional deficiencies, higher outcomes of poor mental health and poor quality of life (Manuscript 2); and, a dire need for specific operational and administrative/bureaucratic intervention guidelines, as presented here by the researcher, to be taken into consideration in the promotion of biopsychosocial health of the farm workers (Manuscript 3).

In the endeavors to promote health of the communities as defined by the WHO, attempts need to be made to particularly assist individuals or groups “*to identify and realize aspirations, to satisfy needs, and to change or cope with the environment*” (Ottawa-Charter on Health Promotion, 1986:1). The farming areas as characterised by

low population density, limited and fragile economic base, cultural diversity, high level of poverty, limited access to cities demonstrably have incidents of serious mental and behavioural health problems such as depression, suicide, alcohol and substance abuse which are equal to or greater than urban areas. Equally troubling is the insufficient volume and range of services available to treat mental and behavioural health problems in farm areas. Not only do rural areas have shortages of health care providers, including mental health professionals, but they also greatly lack the necessary health infrastructure and other social and physical infrastructure. It is against this background that it is stated for practical applications that health professionals and health workers, policy makers and bureaucrats, human rights activists and rural/farm employee organisations as well as the broader social movement and other interested/affected parties need to jointly contribute to health programmes aimed at addressing the challenges facing rural communities in general, and farm workers in particular (Manuscript 1).

In a more specific transdisciplinary assessment of the farm workers' health and needs situation, the picture that emerged from manuscript 2 further detailed a farm worker community with lower than required nutritional intakes, low fruit and vegetable consumption, and excessive alcohol consumption. Furthermore, they reported experiencing life as unpredictable, unmanageable and meaningless, as well as unsatisfactory concomitant with decreased vitality. They also reported experiences of low positive-negative affect balance as well as low levels of satisfaction of the needs for autonomy, competency and relatedness. In general, poor quality of life emerged as a central issue. The reporting included the existence of structural impediments in a form of actual physical distance, poor road and transport infrastructure and inaccessibility of other critical services which literally isolate and disconnect the rural community from the broader society. Notable, in the same study, was the differences between the experiences of men and women whereby women seemed to suffer the most. The findings shed light on the situation of farm workers' lives from a transdisciplinary approach, together with integration of qualitative and quantitative research paradigms. It, at the same time, confirms the study's expectations and the THUSA-study findings that farm workers have poor physical health and nutritional status as well as mental health profiles. The mean scores for symptomatology are observably a bit higher, and mean scores for

psychological well-being, physical health profile and the general quality of life are a little lower than those reported for other similar South African groups. This is supported by other research findings that the farm workers are an underserved population that is caught in a trap of poverty and destitution, with structural problems that cause isolation and hamper development, with compelling psychosocial, health and economic needs. These observations provide implications for theoretical understanding of rural and farm contexts as well as sound basis for practical applications in dealing with these affected communities.

The observations regarding conceptualisation of rurality was highlighted as contributory factor to the current confusion of service delivery in the South African context due to the new demarcation and classification of areas following the democratic government's attempts to properly integrate societies previously separated by artificial racial borders. As a result there developed blurred dividing lines between city, peri-urban, large town, small town, farm and deep rural areas as all areas now fall under a municipality, whereas in the past the municipal term was reserved only for large urban towns/cities predominantly occupied by whites with adjacent black townships and everything else was considered rural (Department of Health, 2006). Since it is arguably stated that the distinctions between rural and urban are often arbitrary, may vary across countries, and households and may be multispatial (Tacoli, 2007), the current study makes a conceptual-theoretical contribution to the resolution of the problem in the South African context.

Further empirical investigation is recommended to explore the dynamics of rural social context and health of rural communities within the conventional conceptions of space and place (Stockdale et al., 2007; Chiu & West, 2007). That is, an investigation will focus on the role of social context in the promotion or frustration of the goals attainment and need satisfaction of communities. Such an investigation would further focus on the relationships between physical health and psychological well-being as indicators in the farm and rural contexts and thus shed more light on the subject of biopsychosocial health promotion. This would furthermore substantively contribute to the conceptual framework and further research (Lemke, 2005:848) that focuses on the household triangle that consists of the attitudes towards life in general, livelihood

resources and capabilities; the relationships between household and its micro-environment; and the links and interdependences with the meso-environment that represents the underlying causes for nutrition insecurity.

It is recommended that further research be conducted to investigate and understand possible hindrances to the pursuit of successful implementation, monitoring and evaluation of programmes, such as the Vuka South Africa – Move for Health, promoting physical activity (Department of Health, 2005:1), or the WHO's Global Strategy on Diet, Physical Activity and Health (WHO, 2004:5) for chronic diseases of lifestyle, for which South Africa is a signatory. The objective of this strategy is to get member states to have in their agenda the prevention and control of chronic lifestyle disease through education on health and fitness benefits of exercise through implementation of physical activity programmes (Lambert & Kolbe-Alexander, 2005:30).

It is furthermore argued that claims of an universal health care plan may be misleading, as in the case of the Peruvian system whereby Amnesty International strongly refutes such claims by highlighting that the rural communities are unfairly treated as they have to travel long distances and after reaching the 'free' medical care facility they then have to pay for their medicine (Lutz-Tveite, 2007). Similar arguments could also be made regarding the rural or farm worker female population that seems to be the most adversely affected. The situation thus calls for more targeted interventions to specifically address the problems of the specifically affected sectors in the population.

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